The Town of East Gwillimbury

Stormwater Management Master Plan Municipal Class Environmental Assessment

W10-487

November 2012

COLE ENGINEERING

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Executive Summary

Introduction

The Town of East Gwillimbury (the Town, "Owner") has retained Cole Engineering Group Ltd. (Cole Engineering) to prepare a Stormwater Management Master Plan (SWMMP) in accordance to the Lake Simcoe Protection Plan 2009 by the Province of Ontario, through Phases 1 and 2 of a Master Plan Municipal Class Environmental Assessment (Class EA). The Town is located just south of Lake Simcoe and is bound by the Town of Georgina to the north, the Regional Municipality of Durham to the east, the Town of Newmarket and Town of Whitchurch-Stouffville to the south and the Township of King and County of Simcoe to the west. The study area is approximately 25,000 hectares (62,000 acres) and is mainly rural with the exception of the community villages of Holland Landing, Queensville, Sharon, Green Lane West and Mount Albert. The Town drains to four (4) subwatersheds: Black River subwatershed, Maskinonge River subwatershed, East Holland River subwatershed, and West Holland River subwatershed. Parts of the Greenbelt and the Oak Ridges Moraine are within the Town boundary but are mostly outside of the main settlement areas. There are existing Stormwater Management (SWM) works in place that consist of dry and wet ponds. The intent of the SWMMP is to develop the practical and implementable framework which balances the requirements of proposed and existing development with infrastructure requirements, economic, social and environmental constraints and opportunities.

SWMMP Plan Strategy

The objectives of the SWMMP is to investigate opportunities to prevent flooding, mitigate changes in water balance and reduce phosphorus loadings to Lake Simcoe, as well assess erosion issues and maintain / improve water quality. The report examines the existing environmental characteristics of the Town, land use changes, peak flow impacts, phosphorus loadings, water budget, and erosion analysis. Cole Engineering has also evaluated the potential impacts of climate change by developing a sensitivity analysis. Based on the results of each analysis, recommendations and the preferred alternative were developed for each settlement area. In addition, recommended SWM guidelines were established for future development within the Town.

An assessment of stormwater peak flows was conducted from existing and future conditions to evaluate the environmental impact of the future development in the Town. Subcatchment areas within the Town settlement areas were modelled under the 2 to 100-year storm events. Results indicate a general increase in peak flow as a result of the development proposed from the Official Plan. The current "post-to-pre" approach in terms of stormwater quantity control was applied to post-development drainage areas subject to increases in imperviousness from the future conditions model. As such, several drainage areas are required to be overcontrolled to unit flow control criteria in the event the "post-to pre" approach was not sufficient. This scenario was mostly evident in the East and West Holland River subwatersheds where development has been intensified. It is recommended however, that the "post-to-pre" approach be continued to be imposed for new development in the Black River and Maskinonge River where most peak flows are reduced. It is recommended that a detailed unit flow study is to be investigated (specifically within the Holland River) and implemented in the future.

A comparison of phosphorus loadings is required to assess the environmental impact of development in terms of phosphorus on Lake Simcoe. All settlement areas are expected to see an increase in phosphorus loads as development increases. An integrated treatment train approach is recommended to mitigate the accumulation of phosphorus from proposed development (i.e. bioretention, infiltration trenches, permeable pavement, and perforated pipe systems). It is noted that specific mitigation measures to be used to reduce phosphorus accumulation are to be confirmed on a site specific basis at the functional design stages of development.

A water balance assessment was developed as a part of the study to establish the infiltration deficit as a result of future development. Soil type along with land use was utilized to calculate water balance for the pre and post development conditions. On an individual settlement basis an infiltration rate was formulated based on post development infiltration rates. Results of the analysis indicate that due to soil restrictions and land constraints, the use of Best Management Practices were recommended where applicable on a site specific basis (i.e. soakaway pits, bioretention, infiltration trenches and chambers, permeable pavement, and grassed swales).

Erosion analysis was based on the current creek survey data developed by the LSRCA in 2008. Most concern was due to stream bank erosion, sediment build up in the watercourses, and unrestricted livestock access. Traditional BMP measures, bank stabilization and riparian vegetation are recommended to decrease sedimentation and reduce flows. A detailed erosion analysis of creeks within the Town did not take place as a part of this study and the Town is recommended to investigate the opportunity for individual erosion assessments where future development will take place.

A sensitivity analysis was conducted to determine the potential impacts of climate change. Although the definition of climate change is still undefined, Cole Engineering has developed hydrologic models to determine the impacts on existing stormwater management facilities (SWMFs) if the effects of change would increase / decrease rainfall intensity, increase / decrease storm duration and under the application of wet and dry soil conditions. The results indicate that the changes in the conditions of storm events and hydrologic parameters on the existing SWMFs in the Town are generally sensitive in terms of peak outflows and storage volumes. A number of assumptions were made in regards to the effects of climate change on SWM and it is recommended that further study be developed to accurately assess climate change impacts.

As part of this project a software tool called SWMSoft has been utilized to develop an inventory of all the existing SWMFs. With the use of this program, a maintenance schedule has been established to allow for all facilities to meet current Enhanced standards. The Town will be able to use this software to determine when facilities will need to be retrofitted and an approximate cost of the work needed. There are currently four (4) SWM ponds that are required to be tended to immediately in order to meet standards.

Public Information Centre / Stakeholder Consultation

A notice of commencement and notice of Public Information Centre (PIC) were completed as part of this study and were posted on the “Our Town News” section of the Town’s website and published in the Town’s newspaper, the Era Banner. In addition, the notices were mailed directly to affected stakeholders.

One (1) Public Information Centre (PIC) took place during the project. The PIC was held on March 3, 2011 to present the alternative strategies identified. It was attended by six (6) people mostly consisting of Town Council and Staff. The Project Team including representatives from Cole Engineering and the Town were in attendance to answer any questions that participants had.

The PIC presented the following elements:

- Study Overview & Background;
- Problem / Opportunity Statement;
- Overview of the Municipal Class Environmental Assessment Process;
- Alternative Solutions Being Considered; and,
- Next Steps.

No comments were received from public consultation and a notice of completion of this project is targeted at the second quarter of 2011.

SWM Recommendations

Future SWMFs will be designed to Ministry of the Environment (MOE) standards:

- Stormwater Quality Control: Enhanced – 80% TSS removal, 80% TP removal;
- Stormwater Quantity Control: Post-development peak flows to be reduced to pre-development levels for all storm events up to and including the 100-year storm. Unit-flow rates are to be applied for specific drainage areas requiring over-control to meet pre-development peak flows; **
- The Regional Storm should be controlled to the pre-development peak flow rate level *if* noted in the subwatershed study (LSRCA Technical Guidelines for Stormwater Management Submissions, November 2010);
- Site specific erosion control and detention time calculations based on individual fluvial assessment of the receiving stream (i.e. 24hr, 48hr, 72hr, etc.);
- Future developments will follow the guidelines as outlined in the Lake Simcoe Protection Plan (LSPP);
- BMPs will be implemented where applicable to establish a treatment train approach (i.e. source, conveyance and end-of-pipe treatment);
- Where opportunities exist, implement enhanced vegetation for shading, bottom draw outlets, cooling trenches at SWMF locations to reduce stormwater temperature;
- Where opportunities exist, reduce phosphorus discharge, improve infiltration and reduce erosion potential within settlement areas and expansion of settlement area boundaries;
- Where opportunities exist, implement rural retrofits for applicable areas outside of existing settlement boundaries; and,
- Proceed with retrofit opportunities and maintenance operations of select SWM facilities as identified by the LSRCA and the SWM Master Plan.

** It is recommended that an investigation regarding the implementation of unit flow criteria should be conducted in the future for the East and West Holland River subwatersheds to establish a reduction of peak flows.

Preferred Alternative

The preferred alternative in each settlement area is the Traditional SWM with BMP Implementation Strategy. Based on the future land use, the preferred alternative is to be combined with Traditional SWM with Urban or Rural Retrofits Strategy. The proposed BMP implementation and Urban / Rural Retrofits will be determined on a site specific basis at the functional design stages of development.

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1.0 Introduction

1.1. Background

In November 2010, the Town of East Gwillimbury (the Town, "Owner") initiated a "Master Plan" Municipal Class Environmental Assessment (Class EA) to develop plans and strategies to govern the Stormwater Management (SWM) and practices within the Town limits. The intent of the Stormwater Management Master Plan (SWMMP) is to prepare a practical and implementable framework which balances the requirements of proposed and existing development with infrastructure requirements, economic, social and environmental constraints and opportunities. The Lake Simcoe Protection Plan was introduced by the Province of Ontario in June of 2009, and it called for all settlement areas to prepare and implement comprehensive SWMMP that would improve the management of stormwater for both existing and planned development. This report is prepared in the spirit of the Comprehensive Stormwater Management Master Plan Guidelines as well as with the Class EA which is described further in **Section 2.0**.

1.2. Location

The Town is located just south of Lake Simcoe and is bounded by the Town of Georgina to the north, the Regional Municipality of Durham to the east, the Town of Newmarket and the Town of Whitchurch-Stouffville to the south and the Township of King and County of Simcoe to the west. The study area is approximately 25,000 hectares (62,000 acres) and is mainly rural with the exception of the community villages of Holland Landing, Queensville, Sharon, Green Lane West and Mount Albert. The study area is illustrated below in **Figure 1-1**.

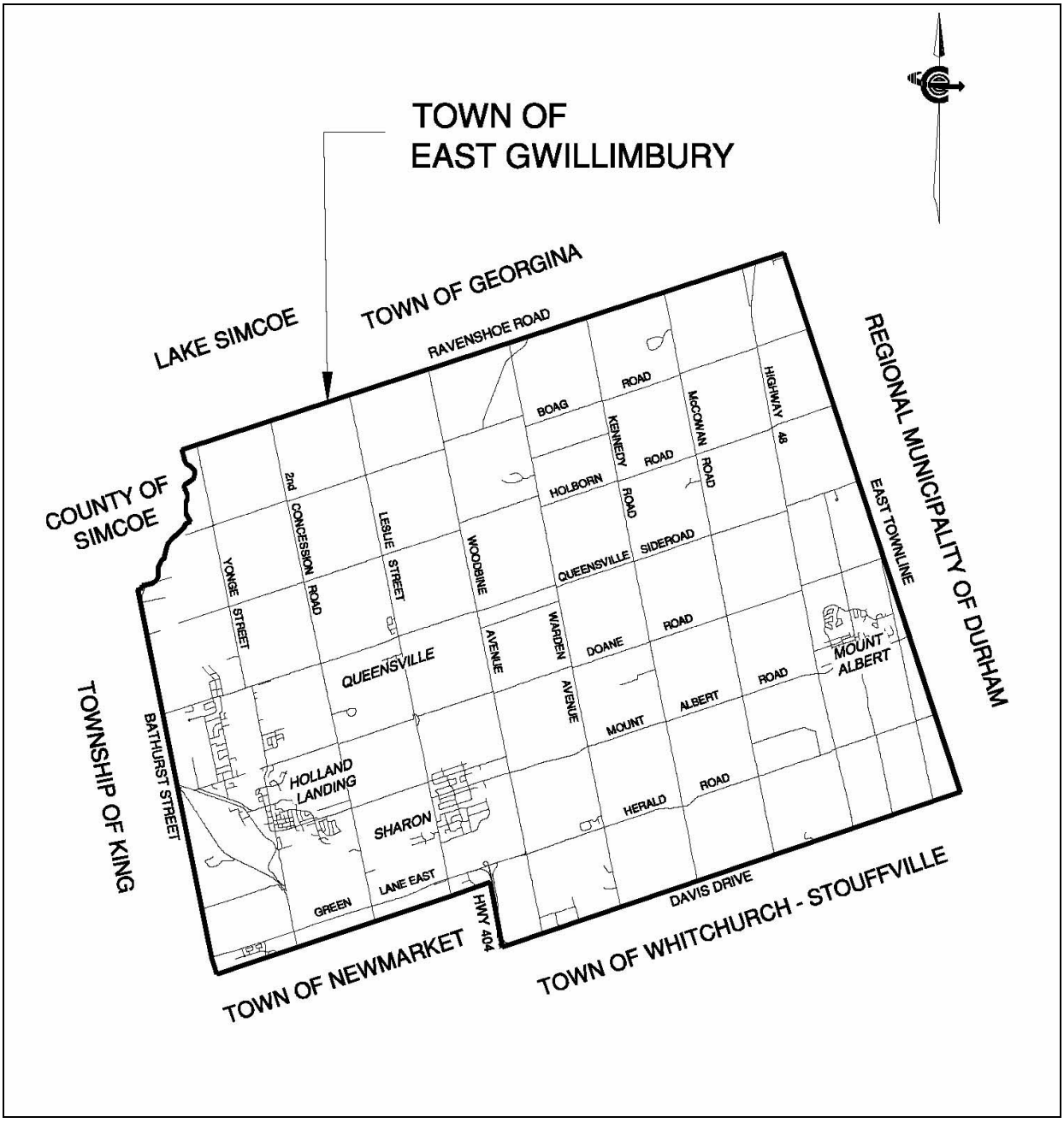


Figure 1-1 – Study Area

1.3. Study Overview

In 2010, the Town developed a Consolidated Official Plan (OP) Document outlining the proposed developments and standards to the year 2031. The OP's purpose is to provide direction and a policy framework for managing growth and land use decisions over the proposed planning period. It is expected that the Town will grow in population from 23,000 to 86,400 residents and the planned policy is to ensure appropriate growth towards a sustainable community. The Town's Thinking Green! Sustainability Strategy and Development Standards provides a foundation and guiding objectives for the policy and framework of the official plan. The five (5) pillars of the Strategic Plan adopted by the Town in 2005 outline the Council's vision for the future.

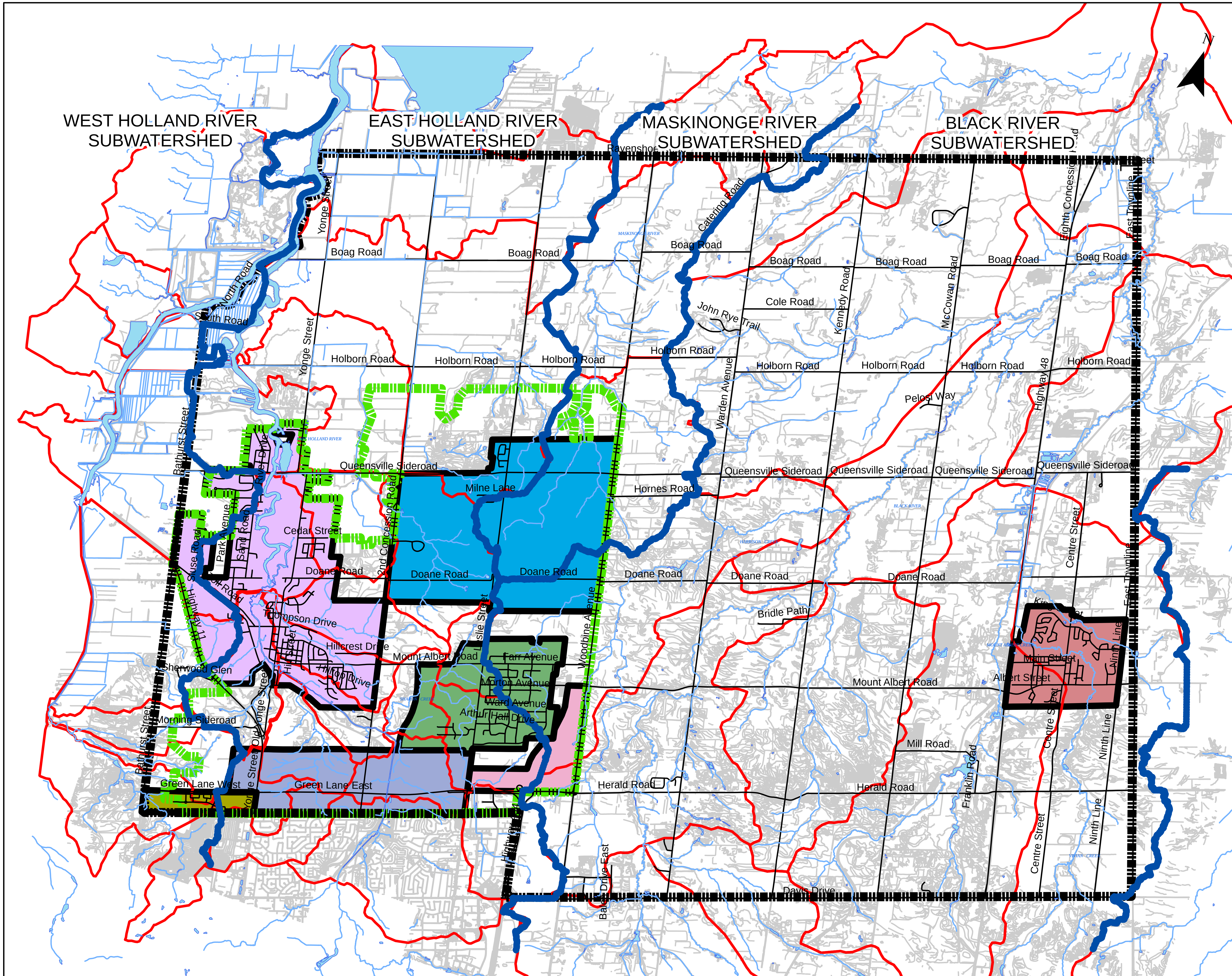
The five (5) pillars are as follows:

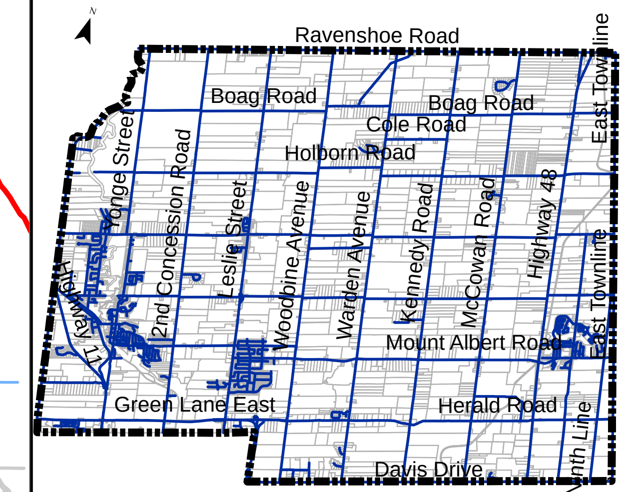
1. Protecting and Enhancing the Natural Environment;
2. Providing and Advocating for Quality Programs and Services to the Community;
3. Investing in Municipal Infrastructure;
4. Managing Growth to Ensure a Sustainable Community; and,
5. Supporting a Municipal Organization Focused on Excellence.
6. The Town's consolidated OP will provide a framework for the development of the SWMMP and outline existing constraints and opportunities for the implementation of SWM for existing and planned developments.

The Town is part of four (4) major subwatersheds within the Lake Simcoe Watershed:

1. The West Holland;
2. East Holland;
3. Maskinonge River; and,
4. Black River sub-watersheds.

The main drainage sheds are the Black River and East Holland River and the associated tributaries which ultimately drain to Lake Simcoe. The subwatershed boundaries and existing subcatchment areas are illustrated below in **Figure 1-2**.


WEST HOLLAND RIVER SUBWATERSHED
EAST HOLLAND RIVER SUBWATERSHED
MASKINONGE RIVER SUBWATERSHED
BLACK RIVER SUBWATERSHED
Yonge Street
Boag Road
North Road
South Road
Holborn Road
Queensville Sideroad
Milne Lane
Hornes Road
Cedar Street
Doane Road
2nd Concession Road
Bathurst Street
Park Avenue
River Drive
Thompson Drive
Hillcrest Drive
Mount Albert Road
Farr Avenue
Morton Avenue
Ward Avenue
Arthur Hall Drive
Woodbine Avenue
Sherwood Glen
Morning Sideroad
Green Lane West
Green Lane East
Herald Road
Bathurst Street
Catering Road
John Rye Trail
Cole Road
Kennedy Road
McCowan Road
Warden Avenue
Pelosi Way
Bridle Path
Highway 48
Eighth Concession Road
East Townline
Centre Street
Main Street
Albert Street
Ninth Line
Mill Road
Franklin Road
Davis Drive
Baker Drive East
Highway 404
Highway 11
N


Ravenshoe Road
Boag Road
Cole Road
Holborn Road
Yonge Street
2nd Concession Road
Leslie Street
Woodbine Avenue
Warden Avenue
Kennedy Road
McCowan Road
Highway 48
East Townline
Mount Albert Road
Green Lane East
Herald Road
Davis Drive
Ninth Line
Highway 11

KEY MAP
SCALE: 1:250,000

LEGEND

- WATERSHED BOUNDARY
- TOWN BOUNDARY
- CENTRAL GROWTH AREA
- SUBCATCHMENT AREAS

COMMUNITY AREA

- GREEN LANE EAST COMMUNITY PLAN
- GREEN LANE WEST COMMUNITY PLAN
- HOLLAND LANDING - RIVER DRIVE PARK COMMUNITY PLAN
- MOUNT ALBERT COMMUNITY PLAN AREA
- QUEENSVILLE COMMUNITY PLAN
- SHARON COMMUNITY PLAN AREA

NOTES:

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Town of East Gwillimbury
Our town, Our future

SCALE: 1:70,000

0 625 1,250 2,500 3,750 5,000 Meters

STORMWATER MANAGEMENT MASTER PLAN
DRAINAGE AREAS AND SUBWATSHED BOUNDARIES

FIGURE 1-2 **DATE: JAN 2012**

1.4. Previous Studies

A number of previous studies have been developed within the study area.

These studies include:

- Queensville Community Master Plan Volume II – Master Drainage Plan - Town of East Gwillimbury, revised June 2000;
- Sharon Community OPA – 55 SWM Study - Town of East Gwillimbury, revised June 2005;
- Sharon Community Plan Master Environmental and Servicing Plan – MMM Group, February 2010;
- Growth Plan for the Greater Golden Horseshoe – Ministry of Public Infrastructure Renewal, 2006;
- Report on the Phosphorus Loads to Lake Simcoe – Lake Simcoe Conservation Authority, 2004-2007;
- Lake Simcoe Basin SWM and Retrofit Opportunities – Lake Simcoe Conservation Authority, 2007;
- Hydrology Report (Final) – Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds, CCL, June 30, 2005;
- Hydraulic Report (Final) – Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds, CCL, July 11, 2005;
- Black River Hydraulic Model Update – Completed as part of the Regulation Limit Mapping, LSRCA, 2005;
- West Holland River Subwatershed Plan – Lake Simcoe Region Conservation Authority, 2010;
- East Holland River Subwatershed Plan – Lake Simcoe Region Conservation Authority, 2010;
- Maskinonge River Subwatershed Plan – Lake Simcoe Region Conservation Authority, 2010; and,
- Black River Subwatershed Plan – Lake Simcoe Region Conservation Authority, 2010.

Key aspects of existing master plans within the Town are summarized below.

1.4.1. Queensville Community Master Plan, June 2000

Recommended Master SWM Plan Practices:

- General surface storage, vegetative, soft measures, special purpose and conservation / restoration classes to address stormwater quality concerns;
- Other management concerns pertaining to erosion control, water quantity control, and groundwater recharge impacts;
- Conveyance – dual drainage principle (minor and major stormwater drainage systems), 5 year flow;
- Lot Level Controls – Drainage swales, Dry swales (Soakaway Pits), Reduced Lot Grading to Maximize depression storage for groundwater recharge; and,

- End-of-pipe – Off-line SWMFs (provide water quality, erosion, quantity control), on-line SWMFs, on-site detention (industrial blocks), OGS, phosphorus control, Enhanced control.

Design Guidelines:

- Water Quality – Based on aquatic life, Enhanced (80% TSS Removal);
- Water Quantity – No increases to peak flow above pre-development level, where possible 10-15% over control;
- Erosion Control – storage of first flush (25mm rainfall volume 2-hour duration) for 24 hours; and,
- Infiltration encouraged.

It should be noted that the Queensville Community Master Plan (June 2000) was completed before the implementation of the Lake Simcoe Protection Plan (2009).

1.4.2. Sharon Community Plan – Master Environmental Servicing Plan (MESP), February 2010

Design Guidelines:

- Storm drainage conveyance system will be dual drainage (major and minor);
- Pipes will be sized to accommodate flows from a 1 in 5 year event at or below 90% of pipe capacity;
- Velocities 0.6 m/s, remaining under velocity of 3.0 m/s;
- Overland flow routes convey storm flows in excess of the 1 in 5 year event;
- Enhanced Water Quality;
- The SWM Strategy focuses on end-of-pipe solutions;
- 10 SWMF proposed west side of Leslie (all off-line); and,
- One (1) retrofit is proposed for water quality (East Holland River Subwatershed Study).

1.5. Data Gaps

The data collected for this project is from a combination of sources including the Town, LSRCA and a variety of other sources. Previous studies, models, files and other data required for this study is based on the information given. It should be noted that within those studies there are some gaps in available information as well as reports that have yet to be completed or reports that are unavailable to the public. Examples of data gaps are:

- Existing storm sewer information;
- Drainage area information outside of settlement areas;
- Uncontrolled outlets; and,
- Existing SWM Pond IDs and reports.

Cole Engineering has done its best to gather all the information available to bring this report together. Further and more detailed studies may need to be completed in order to fill in the missing information.

1.6. Problem and Opportunity Statements

The last four (4) decades of research, monitoring, and scientific studies show how human-related activities, including urban and rural uses, recreation and agriculture, have impaired the health of the Lake Simcoe watershed ecosystem through direct and indirect changes (LSPP, 2009). Further to the objectives identified in the Lake Simcoe Protection Plan, SWM policies call for comprehensive master plans to improve the management of stormwater for both existing and planned development.

Since the implementation of the Lake Simcoe Protection Plan, the Town has retained a consultant (Cole Engineering) to develop a SWMMP to define all anticipated works necessary to maintain, expand and improve the existing storm drainage system (including SWM ponds) while protecting the valued natural resources both within and beyond Town limits. The SWMMP will be prepared in accordance with the Class EA and be available for public review.

This project presents an opportunity to improve the management of stormwater for both existing and planned development which is based on changes in land use as outlined in the Consolidated OP 2031 for the Town (June 2010). An opportunity exists to implement a drainage strategy within the Town to meet the requirements as set out in the Lake Simcoe Protection Plan. While implementing drainage improvements, there will be opportunities to minimize ongoing erosion and sedimentation, phosphorus loadings and changes in water balance which may cause a negative impact on the Lake Simcoe watershed.

1.7. Objectives of the Project

The primary objective of the project is to meet the requirements of the Lake Simcoe Protection Plan (specifically *Policy 4.5 SA*) while considering the intentions of the Town's OP.

The objectives of each plan in detail are described below:

Objectives of the Lake Simcoe Protection Plan

The objectives of the Plan as set out in the Lake Simcoe Protection Act, 2008 are to:

- Protect, improve or restore the elements that contribute to the ecological health of the Lake Simcoe watershed, including, water quality, hydrology, key natural heritage features and their functions, and key hydrologic features and their functions;
- Restore a self-sustaining coldwater fish community in Lake Simcoe;
- Reduce loadings of phosphorus and other nutrients of concern to Lake Simcoe and its tributaries;
- Reduce the discharge of pollutants to Lake Simcoe and its tributaries;
- Respond to adverse effects related to invasive species and, where possible, to prevent invasive species from entering the Lake Simcoe watershed;
- Improve the Lake Simcoe watershed's capacity to adapt to climate change;
- Provide for ongoing scientific research and monitoring related to the ecological health of the Lake Simcoe watershed;
- Improve conditions for environmentally sustainable recreation activities related to Lake Simcoe and to promote those activities;

- Promote environmentally sustainable land and water uses, activities and development practices;
- Build on the protections for the Lake Simcoe watershed that are provided by provincial plans that apply in all or part of the Lake Simcoe watershed, including the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan, and provincial legislation, including the Clean Water Act, 2006, the Conservation Authorities Act, the Ontario Water Resources Act, and the Planning Act; and,
- Pursue any other objectives set out in the Lake Simcoe Protection Plan.

Objectives of Policy 4.5-SA of the Lake Simcoe Protection Plan

Within five (5) years of the date the Plan comes into effect, municipalities, in collaboration with LSRCA, will prepare and implement comprehensive SWMMP's for each settlement area in the Lake Simcoe watershed. The SWMMP's will be prepared in accordance with the Class EA guidelines and will include:

- A characterization of existing environmental conditions on a subwatershed basis, consistent with any relevant subwatershed evaluations, if available;
- An evaluation of the cumulative environmental impact of stormwater from existing and planned *development*;
- A determination of the effectiveness of existing SWM works at reducing the negative impacts of stormwater on the environment, including consideration of the potential impacts of climate change on the effectiveness of the works;
- An examination of any stormwater retrofit opportunities that have already been identified by the municipality or the LSRCA for areas where stormwater is uncontrolled or inadequately controlled;
- The identification of additional SWM retrofit opportunities or improvements to existing SWM works that could improve the level of treatment within a particular *settlement area*;
- A description of existing or planned programs for regular maintenance of SWM works;
- An identification of the recommended approaches for SWM in each *settlement area;* and,
- An implementation plan for the recommended approaches.

Objectives of the Town's Official Plan

The policies of the Official Plan (OP) as it pertains to SWM are to promote and implement effective SWM that will help to reduce erosion; avoid downstream flash flooding; reduce nutrient, siltation and sediment loading; sustain fish habitat; and help to improve the quality of Lake Simcoe and its tributaries. Primary SWM objectives include:

- Ensuring that SWM systems are designed and constructed in accordance with sound environmental and engineering best practices;
- Pursuing and implementing sound SWM practices that will ensure adequate protection from flooding and erosion, maintain and/or improve water quality and enhance the environmental, aesthetic and recreational potential of watercourses; and,
- Reducing phosphorus loading to Lake Simcoe and its tributaries.

From review of the objectives as set out in each plan, the Town's SWMMP objectives are to:

- Investigate opportunities to prevent flooding within the Town;
- Identify existing erosion concerns and recommend erosion control measures;
- Investigate opportunities to maintain and/or improve water quality;
- Investigate opportunities to reduce phosphorus loadings to Lake Simcoe; and,
- Investigate opportunities to mitigate changes in water balance.

It is noted that a key objective of the Master Plan is to comply with the LSRCA Guidance document on 'Comprehensive SWMMP Guidelines' completed in April 2011. This Master Plan and the requirements herein are subject to the guidelines and criteria as outlined in this document.

1.8. Purpose of the Project File

This Project File documents the planning and design process followed and conclusions reached for the Town's SWMMP EA Study. In accordance with the Municipal Class EA planning and design process, the problems and opportunities associated with this study were investigated and documented. Subsequently, a number of alternative solutions were identified and evaluated. This information was presented to stakeholders at a Public Information Centre (PIC) on March 3, 2011. The Project File documents the EA process followed and is structured for ease of public review. In addition to the alternative evaluation, a detailed assessment of existing conditions was developed to meet the requirements of the Lake Simcoe Protection Plan (LSPP). The project file is intended to meet (where appropriate) the objectives as set out in the LSPP, the Town OP and the Municipal Class EA document.

2.0 Planning Context and the EA Planning Process

2.1. Municipal Class EA

The Municipal Class EA (2007) planning and design process was followed for this project as it allows the Town to meet the requirements of the Ontario Environmental Assessment Act (OEAA) for municipal infrastructure without having to either undertake an Individual Environmental Assessment or request a specific exemption for the project. The Class EA is a planning process approved under the OEAA for a class or group of undertakings including municipal infrastructure. Municipal projects included in the Class EA may be implemented without further approval under the OEAA, provided that the approved Class EA planning and design process (**Figure 2-1**) is followed.

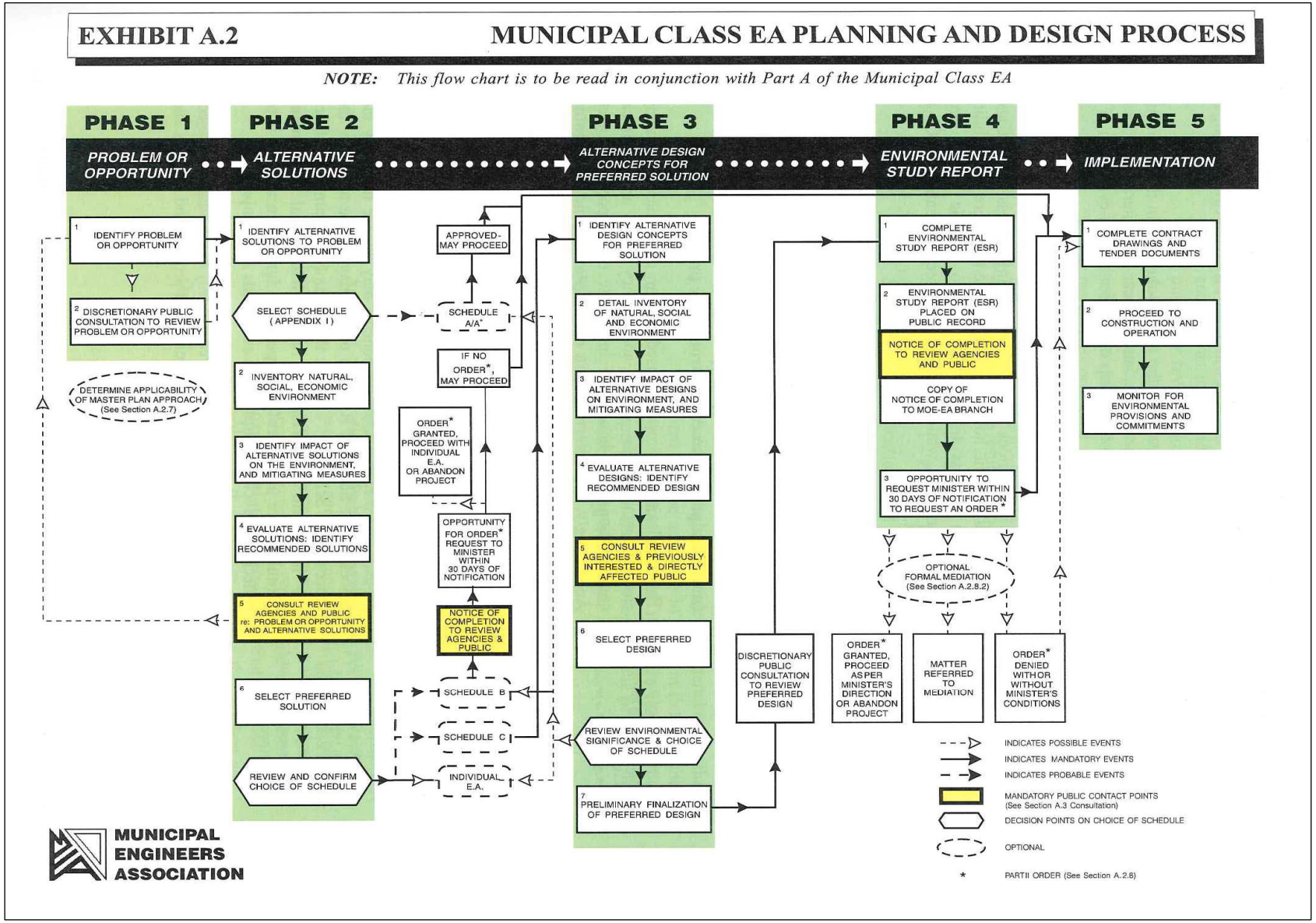


Figure 2-1 – Municipal Class EA Process

2.1.1. Four (4) Project Schedules

Since projects undertaken by municipalities vary in their environmental effects, the Class EA classifies these projects into four (4) schedules according to their environmental significance:

1. **Schedule 'A'**: Projects are limited in scale, have minimal adverse effects and include the majority of municipal maintenance and operational activities. These projects are approved and may proceed directly to Phase Five for implementation without following the other phases.
2. **Schedule 'A+'**: Projects are limited in scale and have minimal adverse effects. These projects are approved and may proceed directly to Phase Five for implementation without following the other phases. However, the public is to be advised prior to project implementation though there is no ability for the public to request a Part II Order.
3. **Schedule 'B'**: Projects have the potential for some adverse environmental effects. The municipality is required to undertake a screening process (Phases One and Two) involving mandatory contact with directly affected public and relevant review agencies to ensure that they are aware of the project and that their concerns are addressed. Schedule 'B' projects require that a Project File report be prepared and submitted for review by the public and review agencies. If there are no outstanding concerns, then the municipality may proceed to Phase Five for implementation.
4. **Schedule 'C'**: Projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA Document (Phases One to Four). Schedule 'C' projects require that an Environmental Study Report be prepared and submitted for review by the public and review agencies. If there are no outstanding concerns, then the municipality may proceed to Phase Five for implementation.

2.1.2. Master Plan Classification

As the Master Plan process does not fall into a specific schedule, they are specified as "long range plans which integrate infrastructure requirements for existing and future land use with environmental assessment planning principles. These plans examine an infrastructure system(s) or group of related projects in order to outline a framework for planning for subsequent projects and/or developments."

Section A.2.7 of the Municipal Class EA document states:

"At a minimum, Master Plans address Phase 1 and 2 of the Municipal Class EA process".

Since the Town's SWMMP Class EA is a high level document relating to the future planning of SWM guidelines and principles, it is classified as a Master Plan project.

2.1.3. Master Plan EA Process

The following activities were carried out for this Study.

Phase One: Identify the Problem / Opportunity

This phase involves identifying the problem / opportunity to be addressed through the study and describing it in sufficient detail to lead to a clear problem / opportunity statement.

Phase Two: Identify and Evaluate Alternative Solutions to the Problem / Opportunity

This phase involves six (6) steps:

1. Identify reasonable alternative solutions to the problem / opportunity (**Section 8.0**);
2. Prepare a general inventory of the existing natural, social and economic environments in which the project is to occur (**Section 3.0**);
3. Identify the net positive and negative effects of each alternative solution, including mitigating measures (**Section 4.0**);
4. Evaluate the alternative solutions (**Section 9.4**);
5. Consult with review agencies and the public to solicit comment and input (**Section 11**); and,
6. Select or confirm the preferred solution(s).

It is noted that the evaluation and selection of a preferred solution is developed on a settlement area basis and is subject to individual site specific analysis during later phases of the EA process. All preferred solutions are to be confirmed at the detailed design stage.

2.2. Public Consultation

In order to fulfill the requirements for a Municipal Class EA, a Public Information Center (PIC) was held on March 3, 2011 at the East Gwillimbury Town Center in Sharon. **Section 11** describes the public consultation process in detail.

3.0 Existing Conditions

3.1. General

This chapter will summarize existing environmental conditions within the Town. It should be noted that for the purpose of this study, existing environmental conditions were based on a review of existing information and documentation specifically the Town consolidated OP 2031. The existing information reviewed is outlined in **Section 1.4** of this report. Further information on the characterization of existing environmental conditions can be found in the Town consolidated OP 2031.

3.2. Natural Environment

3.2.1. Natural Heritage

Natural Heritage features within the Town are identified as wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes and significant woodlands, all of which need to be protected for the long term. Many of these areas are identified within the Oak Ridges Moraine and Greenbelt areas within the Town (**Figure 3-1**). Protected countryside, which includes the Oak Ridges Moraine and the Greenbelt, represents approximately 75% of the Town. In the OP, the Town supports permanent protection of the Natural Heritage System, key features of the Oak Ridges Morraine and Greenbelt, and the supplementary environmental corridors (**Figure 3-2**).

LAKE SIMCOE

TOWN OF GEORGINA

WEST HOLLAND RIVER SUBWATERSHED

EAST HOLLAND RIVER SUBWATERSHED

MASKINONGE RIVER SUBWATERSHED

BLACK RIVER SUBWATERSHED

TOWNSHIP OF KING

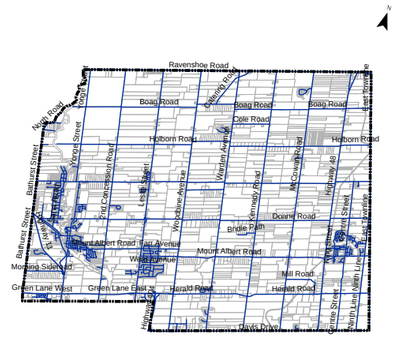
DURHAM

TOWN OF NEWMARKET

TOWN OF WHITCHURCH-STOUFFVILLE

HWY 404

N



KEY MAP
SCALE: 1:150,000

LEGEND

- SUBWATERSHED BOUNDARY
- TOWN BOUNDARY
- CENTRAL GROWTH AREA
- HYDRO CORRIDOR
- PROVINCIAL FREEWAY ROUTE (APPROVED)
- GREEN LANE WEST COMMUNITY PLAN
- HOLLAND LANDING - RIVER DRIVE PARK COMMUNITY PLAN
- MOUNT ALBERT COMMUNITY PLAN AREA
- QUEENSVILLE COMMUNITY PLAN
- SHARON COMMUNITY PLAN AREA
- HWY 404 EMPLOYMENT AREA
- GREEN LANE CORRIDOR COMMUNITY PLAN
- WATERCOURSE
- WATERBODY

GREENBELT

- OAK RIDGES MORAINE (ORM)
- PROTECTED COUNTRYSIDE

NOTES:

AS PER THE TOWN OF EAST GWILLIMBURY CONSOLIDATED OFFICIAL PLAN 2031

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SCALE: 1:30,000

0 450 900 1,800 2,700 3,600 Meters

STORMWATER MANAGEMENT MASTER PLAN

LOCATION MAP

FIGURE 3-1 **DATE: JAN 2011**

3.2.2. Natural Hazards

Natural hazards within the Town consist of erosion prone areas and areas within the floodplain. These areas present a natural threat to human safety and the environment. If stormwater is left uncontrolled the risk may increase. The floodplain areas were obtained from the LSRCA. Flooding risks generally occur around watercourses. The Town has numerous wetland areas. These wetlands are largely concentrated in the Holland Marsh area, part of the East Holland subwatershed. Wetlands are often subject to more than one hazard such as flooding, erosion and subsidence which make them poor sites for development. Many of these wetlands are deemed Provincially Significant wetlands in which the Provincial Policy Statement states that "Development and site alternation shall not be permitted on significant wetlands." Significant wetlands, existing flood and erosion hazards are outlined in **Figure 3-2**.

N

MASKINONGE RIVER

EAST HOLLAND RIVER

SHARON CREEK

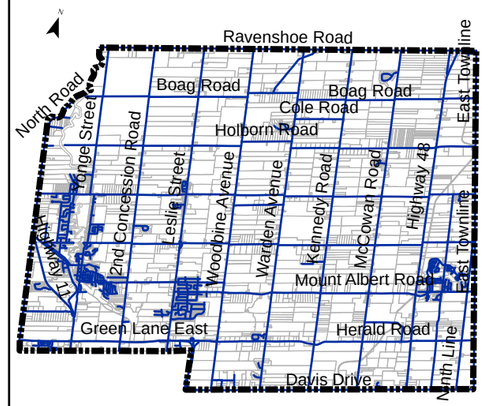
BLACK RIVER

HARRISON CREEK

MOUNTAIN ASH CREEK

VIVIAN CREEK

KEY MAP
SCALE: 1:250,000



LEGEND

- TOWN BOUNDARY
- BIG WOODS
- REGIONALLY SIGNIFICANT FORESTS
- EROSION SITES
- PROVINCIALLY SIGNIFICANT WETLANDS
- ENVIRONMENTALLY SIGNIFICANT AREA (BIOLOGICAL)
- ENVIRONMENTALLY SIGNIFICANT AREA (PHYSICAL)
- SIGNIFICANT VALLEYLANDS
- HIGH AQUIFER VULNERABILITY
- MASKINONGE RIVER SIGNIFICANT GROUNDWATER RECHARGE
- PEFFERLAW INFILTRATION AREA
- VIVIAN INFILTRATION AREA
- FLOODPLAIN

NOTES:

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SCALE: 1:70,000

0 625 1,250 2,500 3,750 5,000 Meters

STORMWATER MANAGEMENT MASTER PLAN

NATURAL HAZARDS AND NATURAL HERITAGE AREAS

FIGURE 3-2 **DATE: JAN 2012**

3.2.3. Groundwater Vulnerability

Groundwater vulnerability is also stated as aquifer vulnerability and refers to the shallow groundwater aquifer's susceptibility to contamination from both human and natural sources. The vulnerability of groundwater to contamination depends on soil types, water table elevation, contaminant concentration and the confined / unconfined nature of the aquifer. These areas need to be protected in order to reduce contamination and protect the groundwater. Measures to infiltrate stormwater that are in these areas require detailed studies to ensure that they are not impacting the Town's groundwater. Groundwater vulnerability sites within the Town are illustrated above in **Figure 3-2**.

3.2.4. Groundwater Recharge / Discharge

Discharge potential occurs in areas where the static water table intersects the ground surface. Groundwater discharge areas are often in low topographic areas and can be observed above in **Figure 3-2**. Discharge rates vary throughout the year due to seasonal and longer term changes in recharge and groundwater potentials. Groundwater is replenished as precipitation or snowmelt infiltrates into the ground surface. Significant recharge areas can be described as areas that can effectively move water from the surface through the unsaturated soil to replenish available groundwater resources. Once again infiltration measures in recharge areas require analysis to ensure minimal impact to groundwater. These areas within the Town are also indicated above in **Figure 3-2**.

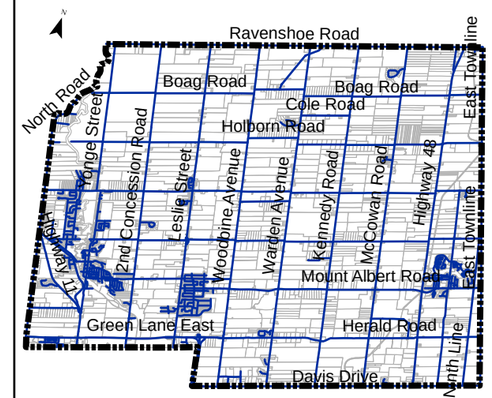
3.2.5. Well Head and Intake Protection Zones

Wellhead Protection Areas are zones established by the Region of York that are in the vicinity of domestic water supply wells. They are in place to protect groundwater quality from degradations and to ensure sources of water are not compromised in the future as a result of land use decisions. These areas are displayed by *time-of-travel zones* which represent the travel time for groundwater to reach the municipal well.

Wellhead protection areas are based on time travel zones as follows:

- 100 metre pathogen zones around each wellhead; and,
- Time of travel zones of 0 to 2 years, 2 to 5 years, 5 to 10 years and 10 to 25 years.

As per the Town's OP: "the storage or use of pathogen threats by new land uses, including the siting and development of SWM ponds and rapid infiltration basins or columns, except for storage of manure or personal family use, is prohibited within the 100 metre pathogen zone around each municipal well and may be restricted within the 100 metres to two (2) year time of travel zone". The wellhead and intake protection zones within the Town are located below in **Figure 3-3**.



KEY MAP
SCALE: 1:250,000

LEGEND

TOWN BOUNDARY

WELLHEAD PROTECTION AREA

- 10 YEAR ZONE
- 25 YEAR ZONE
- 2 YEAR ZONE
- 5 YEAR ZONE

GREENBELT

- OAK RIDGES MORAINE (ORM)
- PROTECTED COUNTRYSIDE

NOTES:

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SCALE: 1:70,000

0 650 1,300 2,600 3,900 5,200 Meters

STORMWATER MANAGEMENT MASTER PLAN

WELLHEAD PROTECTION ZONES

FIGURE 3-3 **DATE: JAN 2012**

3.2.6. Watercourses / Waterbodies

Significant watercourses within the Town include Holland River, Sharon Creek, Harrison's Creek, Vivian Creek, Mount Albert Creek, Maskinonge River, and Black River (**Figure 3-1**). Cook's Bay is situated NW to the Town, which connects to Lake Simcoe. In addition, other significant waterbodies include Soldier's Bay, Roger's Reservoir and Franklin Pond.

3.2.7. Significant Valleylands

Valleylands are considered to be the "backbone" of a watershed as it supports many important ecological functions such as channelling water and wildlife, and providing a connection between natural heritage features. Valleylands are natural depressions often associated with a river or a stream. In the town of East Gwillimbury, all four (4) subwatersheds contain valleylands. The largest valleyland is within the Black River subwatshed just north of the Oak Ridges Moraine associated with the main branch of the Black River (**Figure 3-2**). Within Secondary Plan Areas the Town identifies valleylands as follows;

- Width of 25m;
- Length of 50m;
- Slope of 15%; and,
- Height of 5 m.

Areas that meet these criteria within the settlement areas are not to be developed or have any type of site alteration. Field investigations are recommended to determine location and appropriate top-of-bank boundary.

3.2.8. Big Woods Policy Areas and Regionally Significant Forests

Regionally Significant forests within the Town consist of Brown Hill Regional Forest as well as Bendor & Graves Regional Forest. The Town has laid out policies to maintain a large percentage of woodland cover and plans for future replacement efforts. The Town has identified where there is a high percentage of woodland cover (**Figure 3-2**). In order to maintain these areas the Town has created the Big Woods Policy to ensure no net loss of woodland cover in these areas. The goal as set out in the OP is to promote and establish programs in increase forest cover of the Town to 30%.

3.2.9. Storm Water Quality and Quantity

To ensure the health and sustainability of the subwatersheds in both the Town and downstream areas, SWM practices are put in place.

The Town's OP outlines the future objectives in regards to SWM and is as follows:

- Ensure that SWM systems are designed and constructed in accordance with sound environmental and engineering best practices;
- Pursue and implement sound SWM practices that will ensure adequate protection from flooding and erosion, maintain and/or improve water quality and enhance the environmental, aesthetic and recreational potential of watercourses; and,

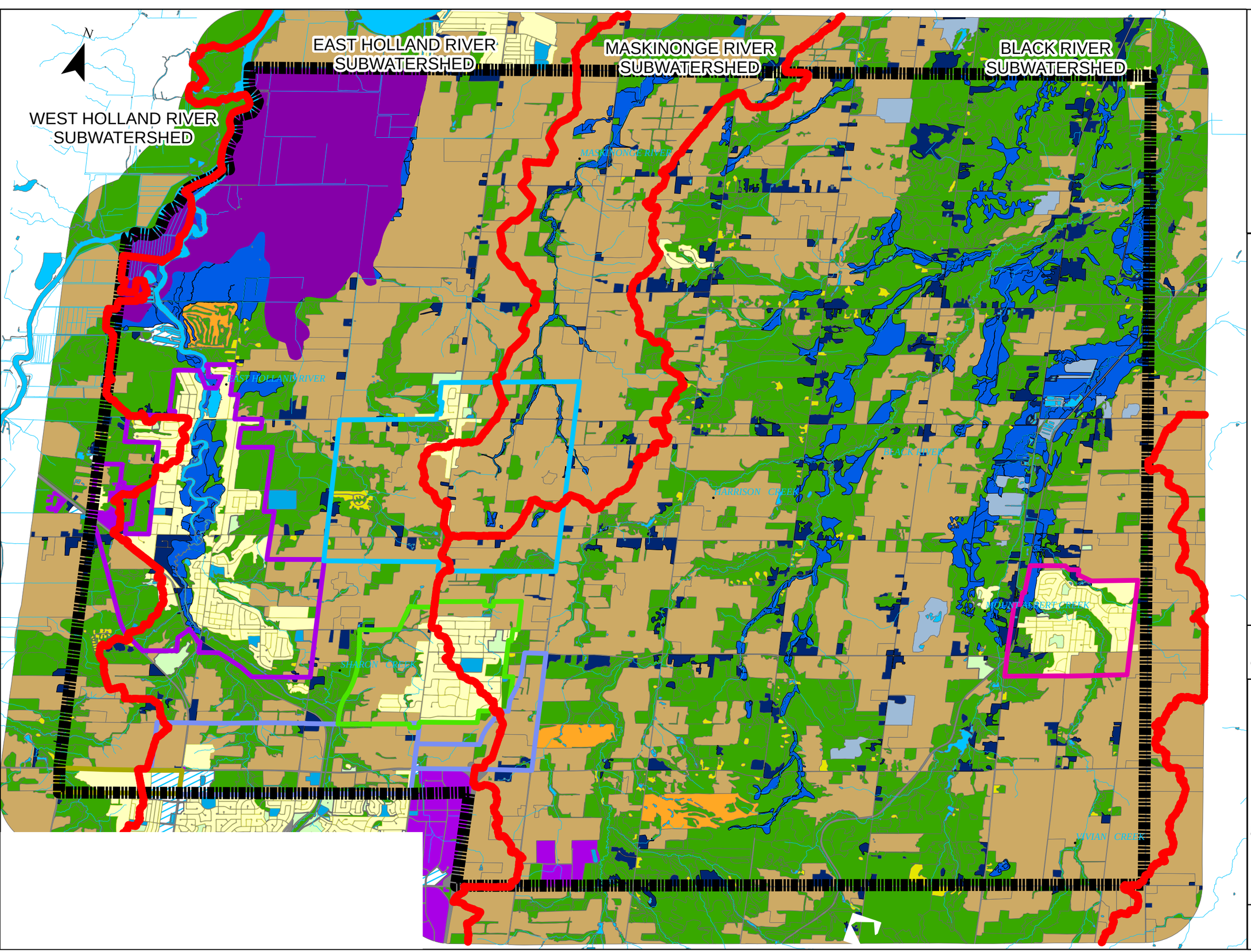
- Reduce phosphorus loading to Lake Simcoe and its tributaries.

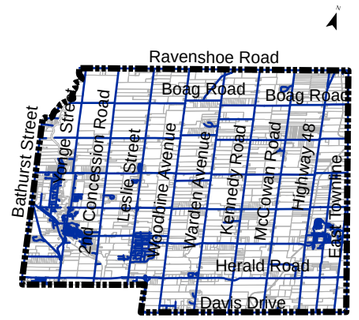
Currently, there are no specific SWM standards set in place for the Town. As a part of this study, the development of policies and guidelines for management of the Town's storm drainage system based on current SWM Best Management Practices (BMPs) and development policies and guidelines to apply to future development has been established and further discussed in **Section 12.1.4**.

3.3. Socio-Economic Environment

3.3.1. Agricultural Lands

More than 25% of the Town is farmland and is important to the livelihood of many residents. Agriculture use is mostly for row crops as well as specialty crops grown in the marshes of Holland Landing. Lands designated for agriculture use by the Town are outlined below in **Figure 3-4**.





KEY MAP
SCALE: 1:350,000

LEGEND

- SUBWATERSHED BOUNDARY
- TOWN BOUNDARY
- HOLLAND MARSH
- PROVINCIALLY SIGNIFICANT WETLANDS

LANDUSE

- ACTIVE AGGREGATE, PEAT EXTRACTION
- COMMERCIAL
- ESTATE RESIDENTIAL
- GOLF COURSE
- INDUSTRIAL
- INSTITUTIONAL
- INTENSIVE AGRICULTURE; NON-INTENSIVE AGRICULTURE
- MANICURED OPEN SPACE
- NATURAL HERITAGE FEATURE
- RAIL ROAD
- RURAL DEVELOPMENT
- LOW DENSITY RESIDENTIAL

COMMUNITY AREA

- GREEN LANE EAST
- GREEN LANE WEST
- HOLLAND LANDING
- MOUNT ALBERT
- QUEENSVILLE
- SHARON

NOTES:

Landuse data provided by the Lake Simcoe Region Conservation Authority

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SCALE: 1:60,000

0 450 900 1,800 2,700 3,600 Meters

STORMWATER MANAGEMENT MASTER PLAN
EXISTING LAND USE

FIGURE 3-4 **DATE: JAN 2012**

3.3.2. Land Use

The Town encompasses a mix of land uses including fully serviced urban areas, partially-serviced suburban areas, rural hamlets, estate residential subdivisions and rural agricultural land. The urban areas of East Gwillimbury consist of Green Lane Corridor, Holland Landing, Mount Albert, Queensville and Sharon. A detailed discussion of existing and future land use is provided in **Section 4.2**.

3.4. Municipal Infrastructure

3.4.1. Inventory of Stormwater Management Facilities (SWMF)

The existing SWMF in the Town were inventoried and surveyed by Cole Engineering as a part of this study. Existing SWMF that were accessible and approved by the Town were surveyed and characterized. The most common types of SWMFs in the Town include wet ponds, dry ponds and artificial wetlands. **Section 7.0** further describes the survey process and the database inventory (SWMSoft) utilized. The existing pond inventory is illustrated below in **Figure 3-5**.

WEST HOLLAND RIVER SUBWATERSHED

EAST HOLLAND RIVER SUBWATERSHED

MASKINONGE RIVER SUBWATERSHED

BLACK RIVER SUBWATERSHED

DRY QUANTITY CONTROL POND

CURRENT EA IN PROGRESS

FUTURE RETROFIT

RETROFIT UNDER CONSTRUCTION

FUTURE UNDER CONSTRUCTION

IMAGE: First Base Solutions Inc, 2009 Orthophotography

KEY MAP
SCALE: 1:175,000

LEGEND

- COMPARISON POINTS
- UNCONTROLLED OUTFALL RETROFIT OPPORTUNITY
- EXISTING POND RETROFIT OPPORTUNITY
- PERMANENT FACILITIES UNDER PRIVATE OWNERSHIP
- CURRENT TOWN RETROFIT PROJECTS
- SUBWATERSHED BOUNDARY
- TOWN BOUNDARY
- SETTLEMENT AREA

SURVEYED SWM FACILITY IN SWMSOFT

- DRY POND
- WET POND

STORMWATER DRAINAGE AREA

- LEVEL 1 CONTROL
- QUANTITY CONTROL
- UNCONTROLLED
- WATERCOURSE

18 POND ID

NOTES:

IT IS NOTED THAT DATA GAPS EXIST FOR DRAINAGE AREAS FOR SWM PONDS SURVEYED OUTSIDE OF SETTLEMENT BOUNDARIES.

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SCALE: 1:25,000

0 305 610 1,220 1,830 2,440 Meters

STORMWATER MANAGEMENT MASTER PLAN

STORMWATER MANAGEMENT FACILIITES

FIGURE 3-5 DATE: JAN 2012

3.4.2. Transportation Network

Expansion of Highway 404 is underway and the link between Highways 400 and 404 has been proposed. The extension would improve the capacity of the transportation network in northern York and Simcoe County to meet the forecasted increase in commuter and recreational travel needs. The alignment for the proposed link is conceptual in order to recognize a future route approved by the Provincial accordance with the Environmental Assessment Act and related Controlled Access Highway designation (**Figure 3-1**).

3.4.3. Municipal and Private Services

Throughout the communities of Queensville and Sharon municipal water is available as well as in Bales Drive Industrial Park, located southeast of Sharon. For Mount Albert, municipal water is not currently available for parts of Princess and Albert Streets. Municipal water is not currently available for the areas east of the Holland River and north of Doane Road in Holland Landing.

There are future plans for municipal sewers for the communities of Queensville and Sharon. There are no sewer services currently available for the Bales Drive Industrial Park, located southeast of Sharon. Municipal sewers are installed north of Mount Albert Road, excluding Samuel Harper Court, Haig Crescent and parts of Princess and Albert Streets in the community of Mount Albert. In Holland Landing, municipal sewers are currently located east of Holland River and south of Doane Road. Currently, no municipal sewers are available east of the Holland River and north of Doane Road. In the future, plans are being made for municipal sewers to be installed west of Holland River and south of Holland Landing Road**.**

3.4.4. Utility Corridors

A high voltage transmission line runs through the Town and is illustrated in **Figure 3-1**. Any future high voltage transmission lines should be relocated on the basis of a comprehensive study and in consultation with the Town. Utility infrastructure should be located to minimize any adverse social, land use, visual, environmental or safety impacts. Encouragement should be made to locate the new transmission lines along existing utility corridors or right-of-way (i.e. roads and railways) in order to minimize the fragmentation of properties. Where it is feasible, utility infrastructure should be buried within road allowances.

3.4.5. Summary of Environmental Conditions

The existing environmental conditions as described in **Section 3.0** provide a general characterization of the existing conditions which are consistent with the available subwatershed studies (i.e. East Holland River, West Holland River, Maskinonge River and Black River). Reference should be made to the LSRCA subwatershed studies for detailed information and evaluations on a subwatershed basis. In addition, reference should be made to the Town Consolidated Official Plan 2031 which provides further existing information on a planning perspective.

4.0 Evaluation of the Cumulative Environmental Impact of Stormwater

4.1. General

As set out in Policy 4.5 SA b. of the LSPP, an evaluation of the environmental impact of stormwater from existing and planned development is required based on the changes in land use from the future conditions of the Town's OP 2031.

4.2. Land Use Changes

4.2.1. Existing Land Use

The Town is primarily rural, with a large percentage of the Town's land area used of agricultural purposes. Existing settlement areas include Sharon, Holland Landing, Queensville, Mount Albert and Green Lane West. Existing land uses within the Town can generally be classified into a number of categories, including agriculture, open space, environmental, low-medium residential, institutional, commercial and employment. The existing land use within the Town is illustrated in **Figure 3-4**. The existing land use in each drainage area is summarized in **Appendix A.**

4.2.2. Future Land Use

As outlined in the Town's new Consolidated Official Plan (June 2010), the Town will transition from a rural community of communities to a connected urban area, surrounded by a protected countryside. The Protected Countryside includes the Oak Ridges Moraine and Greenbelt Plan Area, which represent approximately 75% of the Town's land area. While this area will be protected from development, the Town's Central Growth Area will grow into a balanced urban area with a mix of residential, institutional, commercial and employment uses. The future land uses in the Town are illustrated below in **Figure 4-1**. The future land use in each drainage area is summarized in **Appendix B**.

Due to the changes in land use, a comparison of the impacts of stormwater from in relation to peak flows, phosphorus, water budget and erosion will be assessed in the following sections.

N

WEST HOLLAND RIVER SUBWATERSHED

EAST HOLLAND RIVER SUBWATERSHED

MASKINONGE RIVER SUBWATERSHED

BLACK RIVER SUBWATERSHED

MASKINONGE RIVER

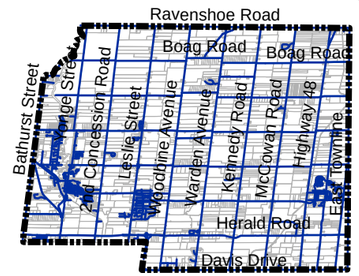
EAST HOLLAND RIVER

BLACK RIVER

HARRISON CREEK

SHARON CREEK

VIVIAN CREEK



KEY MAP
SCALE: 1:350,000

LEGEND

- SUBWATERSHED BOUNDARY
- TOWN BOUNDARY
- COMMUNITY PLAN AREAS
- WATERBODY
- WATERCOURSE
- HOLLAND MARSH
- WETLANDS
- EPA
- RECREATION AREAS
- MIXED USE RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- VILLAGE CORE AREAS
- POST SECONDARY INSTITUTION
- INSTITUTIONAL
- PRESTIGE EMPLOYMENT
- COMMERCIAL
- COMMUNITY COMMERCIAL
- GENERAL EMPLOYMENT
- NEIGHBOURHOOD COMMERCIAL
- AGGREGATE RESOURCE AREAS
- RURAL INDUSTRIAL AREA
- PRIME AGRICULTURAL AREA
- RURAL AREA
- ESTATE RESIDENTIAL AREA
- NEW SECONDARY PLAN AREAS
- OPEN SPACE
- OAK RIDGES MORAINE

NOTES:
AS PER THE TOWN OF EG CONSOLIDATED OP 2031.

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SCALE: 1:60,000

0 425 850 1,700 2,550 3,400 Meters

STORMWATER MANAGEMENT MASTER PLAN
FUTURE LAND USE

FIGURE 4-1 **DATE: JAN 2012**

4.3. Peak Flow Modelling

4.3.1. General

As part of Policy 4.5 SA of the LSPP, an assessment of stormwater peak flows from existing and future conditions is required to evaluate the environmental impact of the future development in the Town. The hydrologic models and reports received from LSRCA in February 2011 entitled *Hydrologic and Hydraulic Modeling For the West Holland River, East Holland River and Maskinonge River Watersheds* (CCL, 2005) and *Black River Hydraulic Model Update* (LSRCA, 2005) were reviewed and updated to include the revised land use in the Town.

It is noted that only the Future Condition hydrologic models were updated to evaluate the impacts of stormwater as part of this study. The Existing Condition model representative of land use from the end of year 2004 (CCL, 2005 and LSRCA, 2005) was unchanged.

4.3.2. Objectives

The objectives of the hydrologic model update are summarized as follows:

- Assess the changes in peak flows at each subcatchment from existing to future conditions;
- Verify if the future condition lumped approach (CCL, 2005) is required to be updated with the changes in land use within the Town;
- Apply an over control scenario if the future conditions lumped approach (CCL, 2005) does not meet post-to-pre criteria; and,
- Confirm the stormwater criteria and assumptions as outlined in the Hydrologic and Hydraulic Modeling For the West Holland River, East Holland River and Maskinonge River Watersheds (CCL, 2005) and Black River Hydraulic Model Update (LSRCA, 2005) are maintained with the future conditions update.

4.3.3. Model Background

The hydrologic model received from LSRCA which was reviewed and updated was modelled using Visual OTTHYMO Version.2.3. This modelling software allows users to model the storm effects and define the hydrologic input parameters of a given site area.

The main modelling inputs used in the update are described below:

- STANDHYD Command:
  - An area input command mainly used for impervious areas; and,
  - Impervious area input parameters may be assigned to this command.
- NASHYD Command:
  - An area input command mainly used for pervious areas; and,
  - Pervious area input parameters may be assigned to this command.
- ADDHYD Command:
  - An input command used to add two (2) areas together.

- ROUTE RESERVOIR Command:
  - A command used to represent a SWMF or control device; and,
  - The user may input a rating curve to represent a storage-discharge relationship of a SWMF.

It is noted that other existing modelling input commands (i.e. ROUTE CHANNEL and READHYD) were deemed acceptable and were not updated as part of this study.

4.3.4. Hydrologic Model Setup

To update the hydrologic model, an initial review was undertaken to determine the initial set up of the model. The received hydrologic model was developed using a number of approaches. The existing and future condition both incorporate the lumped approach described below:

1. Lumped Approach

All ponds within a subcatchment area are lumped (i.e. all ponds in a single catchment area were lumped into one single pond located at the outlet of the catchment). Under this approach, the discharge and active storage relationship for the lumped pond is determined through the sum of all ponds within a basin based on the return period (CCL, 2005).

Subcatchments are initially divided into two areas: the area that drains into the lumped ponds and the area that does not. The areas draining to the lumped ponds are attributed a numerical suffix of "1" after the subcatchment area ID and the areas not draining to the lumped ponds are given a numerical suffix of "2".

It should be noted that the *Hydrologic and Hydraulic Modeling For the West Holland River, East Holland River and Maskinonge River Watersheds* (CCL, 2005) states that: "the future development within any given subwatershed may include the *approved future development* (future development with approved servicing and SWM plans containing approved future SWMFs) and the *additional future development* (the future development without servicing / SWM plans available). Therefore, the lumped pond within a specific subcatchment under the future landuse condition should include the lumped pond under the existing landuse condition, the storage-discharge relations of the approved future SWMFs, and the to-be-designed SWMFs' storage-discharge relations for the additional future development". The report also states that all SWMFs for additional future development are assumed to be off-line. For more information, reference should be made to the approved *Hydrologic and Hydraulic Modelling For the West Holland River, East Holland River and Maskinonge River Watersheds* Report (CCL, 2005).

To populate each lumped pond (ROUTE RESERVOIR Command), flows and storage values are required to generate the rating curve input parameter. The flow and storage values (i.e. storage-discharge relationship) are developed using average unit flows and unit active storage requirements as described below:

1. a) Post-to-Pre Approach

The "post-to-pre" peak flow control criterion is required for the design of SWMFs for additional future development under the 1:2 to 1:100 year design storms (CCL, 2005). In this Study, the return period control peak flows (rating curve input parameters) were estimated through the average unit flow relationship as per **Table 4-1** below.

Table 4-1 – Average Unit Flow Requirements for SWMFs

Average Unit Flow (m3/s/ha)						
25 mm Storm	1:2 Year Storm	1:5 Year Storm	1:10 Year Storm	1:25 Year Storm	1:50 Year Storm	1:100 Year Storm
0.0034	0.0194	0.0361	0.0500	0.0669	0.0840	0.0978

As per Table C9-A in the Hydrologic and Hydraulic Modeling For the West Holland River, East Holland River and Maskinonge River Watersheds (CCL 2005).

The average storage required for the design of SWMFs for additional future development were estimated in this Study based on the linear regression analysis conducted in the Hydrologic Study (CCL, 2005). The generalized unit active storage requirements were based on the weighted imperviousness, storm return period and control drainage area as per **Table 4-2** below (CCL, 2005).

Table 4-2 – Generalized Unit Active Storage Requirements for SWMFs

Unit Storage (m^3/ha)							
Linear Regression Analysis Paramters	25 mm Storm	1:2 Year Storm	1:5 Year Storm	1:10 Year Storm	1:25 Year Storm	1:50 Year Storm	1:100 Year Storm
C1=Slope	1.867	2.422	2.136	2.106	1.915	1.553	1.201
C2=Intercept	38.173	32.362	86.332	123.051	174.221	227.826	280.180

As per Table C9-B in the Hydrologic and Hydraulic Modeling For the West Holland River, East Holland River and Maskinonge River Watersheds (CCL 2005).

Note: Unit Storage (m^3/ha) = **C1*IMP+C2 = Slope*IMP+Intercept**

It is noted that the "post-to-pre" approach utilized in the original model was adopted in this Study to update the hydrologic model to future conditions.

1. b) Over-Control Approach

In the event the post-to-pre approach does not meet pre-development flow rates, the over-control approach will be applied to the stage-storage-discharge relationships at each future conditions subcatchment. In this approach, revised flows and storage values will be applied *to replace* the average unit flows and unit active storage populated from the post-to-pre approach as discussed above. The resulting peak flows (now below pre-development levels due to the revised stage-storage-discharge relationships) for each storm event will determine the over-control unit-flow rates required for each applicable drainage area. Subsequently, based on the total proposed development area within the drainage area, an over-control unit-flow rate will be generated.

An example of the approach is provided in **Table 4-3** for subcatchment area 9210. It is noted the "over-control" approach is *not* applied to drainage areas already meeting pre-development levels with the application of the "post-to-pre" approach.

Table 4-3 – Over-Control Approach Application to Stage-Storage-Discharge Curve Example (9210)

Event	Post-to-Pre Approach		Over-Control Approach	
	DISCH (m^3/s)	STORAGE (ha·m)	DISCH (m^3/s)	STORAGE (ha·m)
	0.0000	0.0000	0.0000	0.0000
25mm	0.2400	0.5431	0.2000	2.0000
2-year	1.3500	0.5855	1.9000	7.0000
5-year	2.5000	0.9171	2.0000	7.5000
10-year	3.4700	1.1672	2.3000	8.0000
25-year	4.6400	1.4936	3.5000	10.0000
50-year	5.8200	1.8113	4.5000	13.0000
100-year	6.7800	2.1218	5.5000	14.0000

For the above example, with a proposed development area of 176.4 ha, the unit-flow-rate during the 100-year condition is approximately 0.025 $m^3/s/ha$ or 25 L/s/ha. The resulting peak flows and unit flow rates for all storm events are summarized in **Table 4-4** below.

Table 4-4 – Over-Control Approach Application Unit-Flow Rate Example (9210)

CONDITION (DEVELOPED AREA = 176.4ha)	PEAK FLOW (m^3/s)					
	STORM EVENT					
	2-YEAR	5-YEAR	10-YEAR	25-YEAR	50-YEAR	100-YEAR
Pre-Development	1.289	2.078	2.659	3.436	4.041	4.665
Post-Development (Uncontrolled)	16.874	23.724	28.316	34.230	38.702	43.242
Post-to-Pre Approach	8.021	9.711	11.387	13.600	15.259	16.942
Over-Control Approach	1.066	1.778	2.313	3.322	3.875	4.443
Unit-Flow Rate ($m^3/s/ha$)	0.006	0.010	0.013	0.019	0.022	0.025

It should be noted the purpose of the over-control approach is to reduce peak flow rates to below pre-development levels *should* the post-to-pre approach not meet the required quantity control criteria. The over-control approach and supplementary unit-flow-rates are further discussed in **Section 4.3.7**.

4.3.5. Methodology

The existing hydrologic model consists of analyzing the peak flows from individual subcatchments within each subwatershed (East Holland River, West Holland River, Maskinonge River and Black River). As growth within the Town is limited to the existing settlement area boundaries (i.e. Queensville, Sharon, Holland Landing, Green Lane and Mount Albert), adjacent subcatchment areas that drain into or from the settlement areas are analyzed.

The hydrologic modelling update will be conducted through the following steps:

- Identify existing subcatchment areas intersecting each settlement area (i.e. Queensville and Holland Landing); and,

- Divide subcatchment areas into i) Area within settlement area; and ii) External area outside of settlement area (**Figure 4-2**) below.

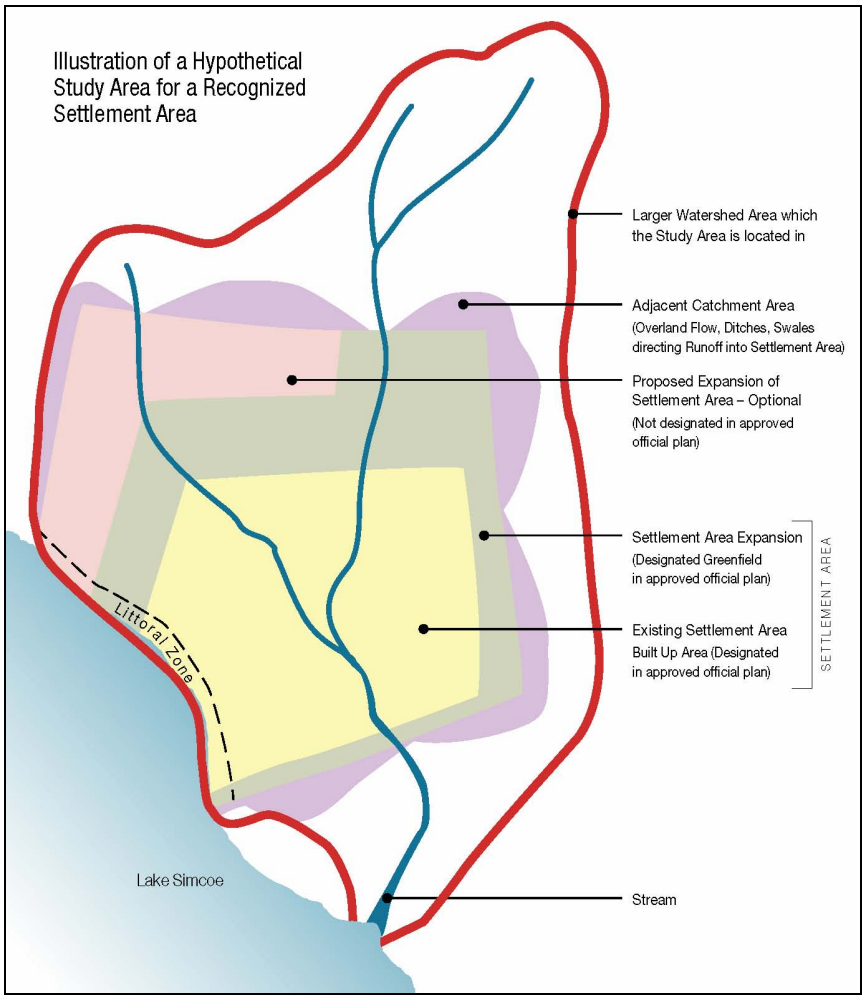

Figure 4-2 – Illustration of Adjacent Catchment Area to Settlement Area (Comprehensive SWM Master Plan Guidelines – April 2011)

- Revise hydrologic input parameters for all applicable drainage areas associated with the changes in land use from the Town's Consolidated OP 2031;
- If the imperviousness of a drainage area > 20%, a STANDHYD command will be implemented, otherwise a NASHYD command will be utilized;
- The existing command type of the external area will be maintained and the area adjusted for the external subcatchment areas; and,
- Compare the revised future peak flows to existing conditions and analyze results.

Due to the number of revisions to the hydrologic models, a numbering system is proposed for subcatchment areas added to the model. For example, if the subcatchment area 244 is located within the Queensville settlement area, the ID will end with a "9" and renumbered as 2449. The modelling numbering system is outlined in **Table 4-5**.

Table 4-5 – VO2 Modelling Numbering System

East Gwillimbury Settlement Area	Numerical Suffix
Queensville	9
Holland Landing	7
Sharon	3
Green Lane	4
Mount Albert	6

It should be noted that the numerical suffixes utilized in the hydrologic modelling and summarized above in **Table 4-5**, are arbitrary in nature and were chosen to not conflict with the existing numerical suffixes used in the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL 2005).

To evaluate the effects on peak flows from future development, a number of additional assumptions were made for the purpose of the hydrologic analysis:

- All areas of development within the settlement areas of the Town will be controlled using the "post-to-pre" approach and drain into its own pond (storage-discharge inputs determined from unit flow and unit storage calculations);
- The lumped ponds and storage-discharge inputs remain the same as well as methodologies for calculating hydrologic input parameters;
- If the subcatchment area within the settlement area is <u>less</u> than the area to the lumped pond, the settlement area will be <u>subtracted</u> out and an additional STANDHYD or NASHYD command will be input into the model (**Figure 4-3**) below;

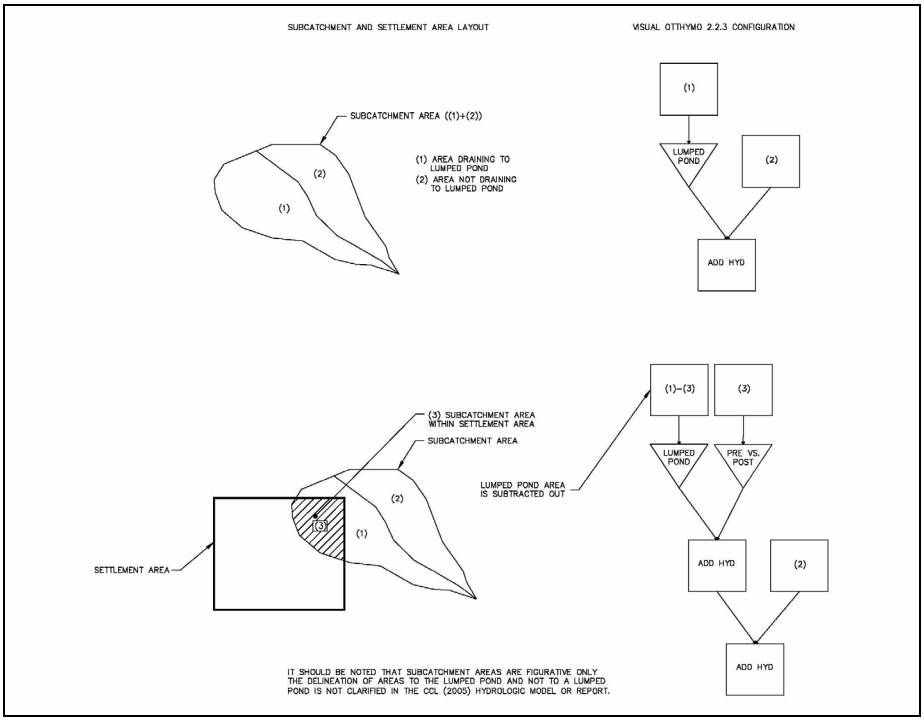

Figure 4-3 – Illustration of Settlement Area Layout and VO2 Configuration I

- If the subcatchment area within the settlement area is greater than the area to the lumped pond, the area to the lumped pond will be replaced (i.e. revised area, hydrologic parameters and numerical suffix). The difference in areas will be subtracted from the area not draining to the lumped pond (**Figure 4-4**) below; and,

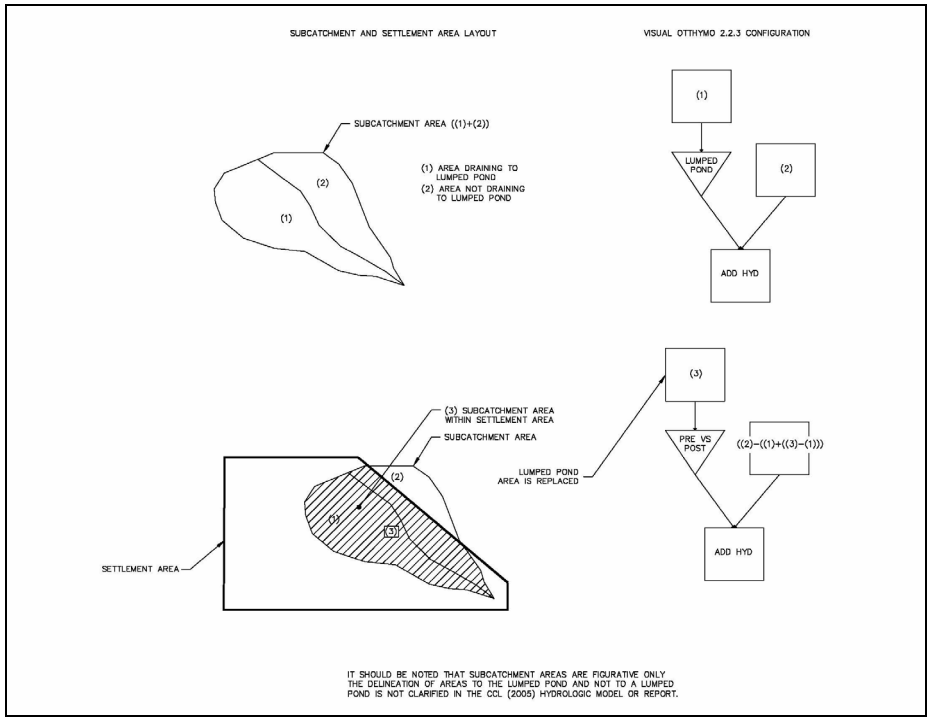

Figure 4-4 – Illustration of Settlement Area Layout and VO2 Configuration II

- All subcatchment areas within the settlement area will drain into its own "post-to-pre" ROUTE RESERVOIR command.

It should be noted that the Black Creek hydrologic model provided by the LSRCA does not include SWM controls (i.e. the lumped approach) and only the necessary pond inputs for the "post-to-pre" approach were input in the future conditions model.

4.3.6. Existing Conditions

The hydrologic model provided by LSRCA included the 12-hour SCS Type II storms for the Holland River and Maskinonge River subwatersheds and the 24-hour SCS Type II storms for the Black River subwatershed. The total rainfall for the subwatersheds during the 2-year to 100-year storm events are summarized below in **Table 4-6**, **Table 4-7**, and **Table 4-8**.

Table 4-6 – Total Rainfall in the Holland River Watershed

Event	12-Hour Holland River Design Storm Total Rainfall (mm)
2-year	42.00
5-year	54.40
10-year	62.70
25-year	73.10
50-year	80.80
100-year	88.50

Table 4-7 – Total Rainfall in the Black River Subwatershed

Event	24-Hour Black River Design Storm Total Rainfall (mm)
2-year	46.38
5-year	66.29
10-year	79.54
25-year	96.10
50-year	108.54
100-year	120.71

Table 4-8 – Total Rainfall in the Maskinonge River Subwatershed

Event	12-Hour Maskinonge River Design Storm Total Rainfall (mm)
2-year	42.00
5-year	54.40
10-year	62.70
25-year	73.10
50-year	80.80
100-year	88.50

An initial review of the existing conditions hydrologic model was conducted and no changes to the input parameters or storm files were made with the updates as a part of this study. The existing condition drainage area plan based on the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL, 2005) and Black River Hydraulic Model Update (LSRCA, 2005) is below as **Figure 4-5**. The existing condition hydrologic input parameters sorted by subwatershed are provided in **Table 4-9**.

TOWN OF GEORGINA

REGION OF DURHAM

TOWNSHIP OF KING

TOWN OF NEWMARKET

TOWN OF WHITCHURCH-STOUFFVILLE

WEST HOLLAND RIVER SUBWATERSHED

EAST HOLLAND RIVER SUBWATERSHED

MASKINONGE RIVER SUBWATERSHED

BLACK RIVER SUBWATERSHED

Ravenshoe Road

Boag Road

Cole Road

Holborn Road

Queensville Sideroad

Hornes Road

Doane Road

Mount Albert

Mount Albert Road

Morning Sideroad

Green Lane West

Green Lane East

Herald Road

Mill Road

Davis Drive

Yonge Street

Bathurst Street

Park Avenue

Highway 11

2nd Concession Road

Leslie Street

Woodbine Avenue

Warden Avenue

Kennedy Road

McCowan Road

Catering Road

Highway 48

Centre Street

East Townline

North Line

Ninth Line

HWY 404

9244 9242 9252 9342 9422 9238 9234 9236 9232 9226 9224 9216 9214 9218 9210 9416 9423 8254 8164 8148 8152 8501 524 518 515 516

1 1120.6
7 1373.8
6 1504.4
4 2672.7
3 2954.5
240 434.4
242 657.9
244 1908.7
342 1004.6
238 311.7
234 267.2
236 494.5
232 314.8
230 78.80
228 310.5
226 237.6
220 161.1
218 152.3
216 145.8
214 316.9
210 218.3
208 692.3
212 328.4
422 780.2
418 182.8
416 439.3
224 140.4
222 219.5
414 188.0

N

KEY MAP
SCALE: 1:250,000

LEGEND

- COMPARISON POINTS
- WATERSHED BOUNDARY
- TOWN BOUNDARY
- SUBCATCHMENT AREAS

COMMUNITY AREA

- GREEN LANE CORRIDOR COMMUNITY PLAN
- GREEN LANE WEST COMMUNITY PLAN
- HOLLAND LANDING - RIVER DRIVE PARK COMMUNITY PLAN
- MOUNT ALBERT COMMUNITY PLAN AREA
- QUEENSVILLE COMMUNITY PLAN
- SHARON COMMUNITY PLAN AREA
- HWY 404 EMPLOYMENT AREA

1 1120.6 SUBCATCHMENT ID / SUBCATCHMENT AREA (ha)

NOTES:

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SCALE: 1:73,588

0 550 1,100 2,200 3,300 4,400 Meters

STORMWATER MANAGEMENT MASTER PLAN
EXISTING DRAINAGE AREAS AND SUBWATERSHED BOUNDARIES

FIGURE 4-5 **DATE: JAN 2012**

Table 4-9 – Existing Condition Hydrologic Input Parameters

Catchment	Subwatershed	Drainage Area (ha)	CN	TP (hr)	Comment
244	East Holland River	1908.71	61	2.200	Drains northwest to Holland River
236	East Holland River	494.49	54	1.236	Drains northwest to Holland River
238	East Holland River	311.70	53	1.563	Drains northwest to Holland River
232	East Holland River	314.80	58	0.997	Drains northwest to Holland River
216	East Holland River	145.77	75	0.522	Drains northwest to Holland River
240	East Holland River	434.37	46	3.603	Drains northwest to Holland River
242	East Holland River	657.88	52	5.374	Drains northwest to Holland River
228	East Holland River	310.54	61	1.116	Drains northwest to Holland River
226	East Holland River	237.58	75	1.053	Drains northwest to Holland River
220	East Holland River	161.10	73	1.501	Drains northwest to Holland River
230	East Holland River	78.80	69	N/A	Drains northwest to Holland River
234	East Holland River	267.16	39	N/A	Drains northwest to Holland River
218	East Holland River	152.25	69	0.793	Drains northwest to Holland River
210	East Holland River	218.27	80	1.079	Drains northwest to Holland River
214	East Holland River	316.95	62	N/A	Drains northwest to Holland River
224	East Holland River	140.45	79	N/A	Drains northwest to Holland River
222	East Holland River	219.50	79	N/A	Drains northwest to Holland River
208	East Holland River	692.30	70	N/A	Drains northwest to Holland River
212	East Holland River	328.40	69	N/A	Drains northwest to Holland River
342	West Holland River	1004.58	54	2.565	Drains northwest to Holland River

Catchment	Subwatershed	Drainage Area (ha)	CN	TP (hr)	Comment
422	West Holland River	780.20	54	1.948	Drains northwest to Holland River
416	West Holland River	439.30	64	1.286	Drains northwest to Holland River
418	West Holland River	182.79	64	1.052	Drains northwest to Holland River
414	West Holland River	188.00	64	N/A	Drains northwest to Holland River
1	Maskinonge River	1120.6	62.5	2.244	Drains northeast to Maskinonge River
3	Black River	2954.54	64	13.100	Drains northeast to Black River Subwatershed
4	Black River	2672.69	53	10.700	Drains northeast to Black River Subwatershed
6	Black River	1504.44	73	12.200	Drains northeast to Black River Subwatershed
7	Black River	1373.84	73	10.700	Drains northeast to Black River Subwatershed

Note: A CN of N/A indicates a STANDHYD command

The existing conditions model and design storms (provided by LSRCA) were modeled to analyze the peak flows from the 2 to 100 year events. Existing conditions peak flow for each subcatchment area are summarized in **Table 4-10**. Detailed model output sorted by subwatershed is provided in **Appendix C**.

Table 4-10 – Existing Condition Peak Flows

Subcatchment Area (Comparison Point ID)	Subwatershed	Peak Flow (m^3/s)		
		2-year	5-year	100-year
Total Flow in Subcatchment Area 244 (9244)	East Holland River	3.274	5.505	13.625
Total Flow in Subcatchment Area 236 (9236)	East Holland River	1.022	1.753	4.497
Total Flow in Subcatchment Area 238 (9238)	East Holland River	0.520	0.893	2.301
Total Flow in Subcatchment Area 232 (9232)	East Holland River	0.870	1.488	3.790
Total Flow in Subcatchment Area 216 (9216)	East Holland River	1.235	2.043	4.797
Total Flow in Subcatchment Area 240 (9252)	East Holland River	0.304	0.523	1.357
Total Flow in Subcatchment Area 242 (9242)	East Holland River	0.402	0.685	1.747
Total Flow in Subcatchment Area 228 (9228)	East Holland River	0.879	1.493	3.743
Total Flow in Subcatchment Area 226 (9226)	East Holland River	1.169	1.920	4.479
Total Flow in Subcatchment Area 220 (9220)	East Holland River	0.592	0.975	2.291
Total Flow in Subcatchment Area 230 (8172)	East Holland River	2.277	5.478	14.897
Total Flow in Subcatchment Area 234 (9234)	East Holland River	2.402	3.511	7.740
Total Flow in Subcatchment Area 218 (9218)	East Holland River	0.743	1.247	3.023
Total Flow in Subcatchment Area 210 (9210)	East Holland River	1.289	2.078	4.665
Total Flow in Subcatchment Area 214 (9214)	East Holland River	3.693	6.812	20.817
Total Flow in Subcatchment Area 224 (9224)	East Holland River	4.872	6.985	16.438
Total Flow in Subcatchment Area 222 (8164)	East Holland River	5.052	7.127	13.404
Total Flow in Subcatchment Area 208 (8148)	East Holland River	16.017	23.444	54.869
Total Flow in Subcatchment Area 212 (8152)	East Holland River	7.249	10.779	27.704
Total Flow in Subcatchment Area 342 (9342)	West Holland River	1.208	2.057	5.230
Total Flow in Subcatchment Area 422 (9422)	West Holland River	1.144	1.954	4.992
Total Flow in Subcatchment Area 416 (9416)	West Holland River	1.251	2.108	5.193
Total Flow in Subcatchment Area 418 (9423)	West Holland River	0.600	1.014	2.512
Total Flow in Subcatchment Area 414 (8254)	West Holland River	2.277	3.718	11.915
Total Flow in Subcatchment Area 1 (8501)	Maskinonge River	4.905	8.001	19.073
Total Flow in Subcatchment Area 3 (515)	Black River	3.641	6.991	19.085
Total Flow in Subcatchment Area 4 (516)	Black River	2.718	5.388	15.685
Total Flow in Subcatchment Area 6 (518)	Black River	2.663	4.942	12.668
Total Flow in Subcatchment Area 7 (524)	Black River	2.719	5.050	12.958

Note: It is noted that peak flows are not directly additive due to varied time to peak.

4.3.7. Future Conditions

Future Conditions Drainage Characteristics

As stated in **Section 4.2**, the existing and future land uses within the Town are classified into a number of categories and mainly include agriculture, open water / wetlands, forest, open space, medium density residential, low density residential, estate lands, institutional, and commercial. To remain consistent with the original hydrologic model, the average imperviousness and directly connected imperviousness associated with each land use class were adopted from the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL, 2005). The average imperviousness values are summarized below in **Table 4-11**.

Table 4-11 – Land Use Classes and Imperviousness

Land Use Class	Avg. Imperviousness	Directly Connected Imperviousness
High Density Residential	55%	25%
Medium Density Residential	45%	15%
Low Density Residential	30%	10%
Estate Residential	15%	5%
Commercial / Industrial / Institutional	75%	70%
Rural Developments	65%	25%
General Urban Areas	45%	15%
Open Space / Recreational	0%	0%
Pasture / Agricultural / Woodlots / Forest	0%	0%
Wetland / Meadows	0%	0%

Note: As per Table 1. Land Use Classes and their Associated Average (CCL, 2005)

It is noted that for consistency purposes, the average imperviousness values were taken from the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL, 2005). The average imperviousness utilized from this study may be lower than representative of today's standards and the Town should investigate more recent imperviousness values from neighbouring municipalities when outlining the stormwater management standards. Detailed investigation of appropriate imperviousness values within the Town was not undertaken as a part of this study.

Similarly for rural areas, the same methodology for CN calculations were utilized for the revisions to the future conditions. The CN values associated with land use covers and hydrologic soil groups are provided in **Table 4-12**.

Table 4-12 – SCS Curve Number (CN II) for Land Use Classes and Hydrologic Soil Groups

Land Use Class	Hydrologic Soil Group			
	A Soils	B Soils	C Soils	D Soils
Forest / Woodlots	30	58	71	77
Agricultural / Crops	62	74	82	86
Pasture / Meadows	38	65	76	81
Wetland / Open Water	50	50	50	50
Lawn / Open Space	49	69	79	84
Impervious Area	98	98	98	98

Note: As per Table 2. SCS Curve Number (CNII) for Different Hydrologic Soil Groups and Landuse Covers (CCL, 2005)

The time to peak input parameter was calculated based on the methodology from the existing hydrological reports as well. An average of the results of five (5) times to peak (Tp) equations was utilized in conjunction with the subcatchment parameters (i.e. slope, length, width etc.). The equations consist of the HYMO two-parameter, HYMO three-parameter, Kirpich, Williams & Hann, and Bransby Williams and are described below (CCL, 2005):

HYMO two-parameter: $t_p = 0.016 * A^{0.31} * S^{-0.5}$

HYMO three-parameter: $t_p = 0.0086 * A^{0.422} * S^{-0.46} * (L/W)^{0.133}$

Kirpich Method: $t_p = 0.67 * 0.0195 * L^{0.77} * S^{-0.385} / 60$

Williams and Hann Method: $t_p = 6.54 * A^{0.39} * (S * 100)^{-0.50} / 60$

Bransby-Williams Method: $t_p = 0.67 * 0.057 * L / (S^{-0.50} * A^{0.10})$

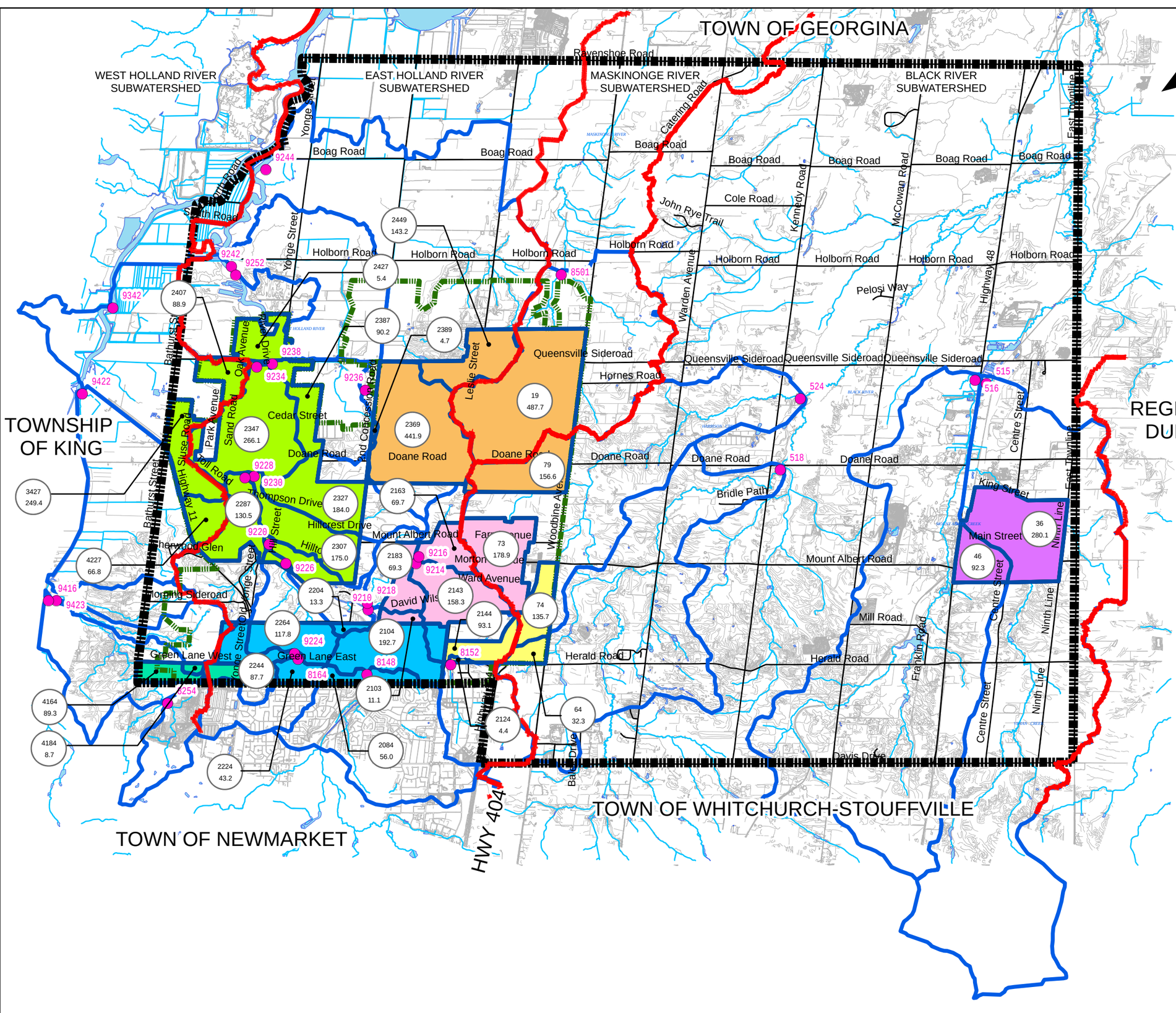
Where:

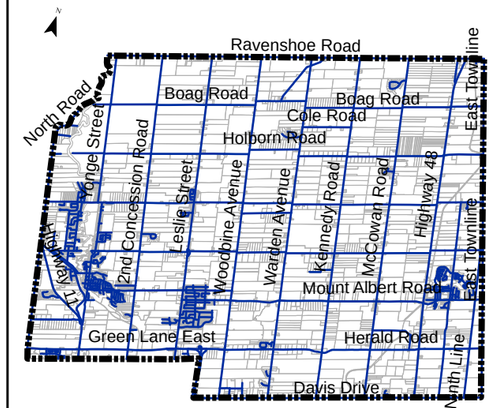
- t_p is the time to peak (hour);
- *A* is the drainage area (ha);
- *S* is the slope (m/m);
- *L* is the watershed length (m); and,
- *W* is the watershed width (m).

Detailed CN, Total Imperviousness (TIMP), Directly Connected Imperviousness (XIMP), and time to peak calculations are provided in **Appendix D**. The future conditions drainage area plan and associated external areas are illustrated below in **Figure 4-6**.

As summarized in **Table 4-1** and **Table 4-2** in **Section 4.3.4**, the storage-discharge relationships for each ROUTE RESERVOIR input for the future conditions model was calculated based on unit equations. The unit flow and unit storage calculations for each subcatchment area are provided in **Appendix E**.

It is noted that as stated in the Hydrology Report (CCL, 2005), the input parameters Initial Abstraction (Ia) and number of linear reservoirs (N) has remained the same during the future conditions due to the model sensitivity of these parameters in the calibrated model.





KEY MAP
SCALE: 1:250,000

LEGEND

- COMPARISON_PTS
- WATERSHED BOUNDARY
- TOWN BOUNDARY
- CENTRAL GROWTH AREA

COMMUNITY AREA

- GREEN LANE CORRIDOR COMMUNITY PLAN
- GREEN LANE WEST COMMUNITY PLAN
- HOLLAND LANDING - RIVER DRIVE PARK COMMUNITY PLAN
- MOUNT ALBERT COMMUNITY PLAN AREA
- QUEENSVILLE COMMUNITY PLAN
- SHARON COMMUNITY PLAN AREA
- SUBCATCHMENT AREAS
- HWY 404 EMPLOYMENT AREA
- 1 / 1120.6 — SUBCATCHMENT ID / SUBCATCHMENT AREA (ha)

NOTES:
FOR SIMPLICITY PURPOSES ONLY THE SUBCATCHMENT AREAS WITHIN SETTLEMENT AREAS ARE SHOWN

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SCALE: 1:75,000

0 550 1,100 2,200 3,300 4,400 Meters

STORMWATER MANAGEMENT MASTER PLAN
FUTURE CONDITIONS
DRAINAGE AREA PLAN

FIGURE 4-6 **DATE: JAN 2012**

Future Conditions Flow Summary

To evaluate the impacts of the future land use, a comparison of peak flows was conducted as per Policy 4.5 SA of the LSPP. The future peak flow condition results with no mitigation, with post-to-pre quantity control, and over-control are summarized below in **Table 4-13** to **Table 4-41**. Future conditions detailed model output for the 2 to 100-year storm events are provided in **Appendix F**.

Over-Control

As stated in **Section 4.3.4 1.b)**, several future drainage areas are subject to over control (beyond the "post-to-pre" approach) in order to meet pre-development peak flow rates. Over-control involves revising the controlling stage-storage-discharge relationships by applying additional storage or reducing flows for all storm events. Drainage areas subject to the required stage-storage-discharge relationship revisions are given a unit-flow rate ($m^3/s/ha$) criteria (for future developed area only) as indicated below summary tables **Table 4-13** to **Table 4-41** and given a notation of [1].

Table 4-13– Post-Development Peak Flow for Subcatchment Area 244 (Comparison Point 9244)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 1908.71ha)	2	42	3.274	6.470	3.379	3.154	-0.120	-3.7%
	5	54	5.505	9.779	5.731	5.319	-0.186	-3.4%
	10	63	7.239	14.265	8.399	6.991	-0.248	-3.4%
	25	73	9.643	18.761	12.314	9.301	-0.342	-3.5%
	50	81	11.577	22.364	14.947	11.148	-0.429	-3.7%
	100	89	13.625	26.176	17.713	13.380	-0.245	-1.8%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-14 – Post-Development Peak Flow for Subcatchment Area 236 (Comparison Point 9236)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 494.5 ha)	2	42	1.022	6.248	1.452	0.886	-0.136	-15.3%
	5	54	1.753	11.729	3.558	1.748	-0.005	-0.3%
	10	63	2.329	15.238	5.336	2.137	-0.192	-9.0%
	25	73	3.138	21.179	7.563	3.117	-0.021	-0.7%
	50	81	3.795	28.894	9.138	3.778	-0.017	-0.4%

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
	100	89	4.497	34.062	10.731	4.297	-0.200	-4.7%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-15 – Post-Development Peak Flow for Subcatchment Area 238 (Comparison Point 9238)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 311.70ha)	2	42	0.520	0.660	0.429	-0.091	-17.5%
	5	54	0.893	1.121	0.734	-0.159	-17.8%
	10	63	1.188	1.483	0.974	-0.214	-18.0%
	25	73	1.603	1.989	1.310	-0.293	-18.3%
	50	81	1.940	2.400	1.611	-0.329	-17.0%
	100	89	2.301	2.840	2.274	-0.027	-1.2%

Table 4-16 – Post-Development Peak Flow for Subcatchment Area 232 (Comparison Point 9232)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 314.80ha)	2	42	0.870	2.994	0.433	0.662	-0.208	-31.4%
	5	54	1.488	5.082	0.856	1.449	-0.039	-2.7%
	10	63	1.972	6.731	1.219	1.965	-0.007	-0.4%
	25	73	2.653	10.545	3.410	2.602	-0.051	-2.0%
	50	81	3.203	12.714	4.930	3.123	-0.080	-2.6%
	100	89	3.790	15.023	6.075	3.784	-0.006	-0.2%

[1] Over-control approach utilized. Refer to **Table 4-42** for Unit-Flow rates.

Table 4-17 – Post-Development Peak Flow for Subcatchment Area 216 (Comparison Point 9216)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 145.77ha)	2	42	1.235	2.832	1.140	1.046	-0.189	-18.1%
	5	54	2.043	5.006	1.973	1.777	-0.266	-15.0%
	10	63	2.652	7.338	2.965	2.550	-0.102	-4.0%
	25	73	3.476	9.924	4.217	3.449	-0.027	-0.8%
	50	81	4.123	11.838	5.085	4.084	-0.039	-1.0%
	100	89	4.797	13.845	6.021	4.562	-0.235	-5.2%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-18 – Post-Development Peak Flow for Subcatchment Area 240 (Comparison Point 9252)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 434.37ha)	2	42	0.304	1.297	0.476	0.298	-0.006	-2.0%
	5	54	0.523	2.242	1.386	0.503	-0.020	-3.8%
	10	63	0.696	2.996	2.182	0.665	-0.031	-4.5%
	25	73	0.942	4.763	2.822	0.892	-0.050	-5.3%
	50	81	1.142	5.769	3.377	1.076	-0.066	-5.8%
	100	89	1.357	6.846	4.052	1.273	-0.084	-6.2%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-19 – Post-Development Peak Flow for Subcatchment Area 242 (Comparison Point 9242)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area:	2	42	0.402	0.396	0.405	0.393	-0.009	-2.2%
	5	54	0.685	0.676	0.688	0.671	-0.014	-2.0%
	10	63	0.908	0.896	0.908	0.889	-0.019	-2.1%

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
	25	73	1.221	1.205	1.216	1.197	-0.024	-2.0%
	50	81	1.476	1.456	1.467	1.446	-0.030	-2.0%
	100	89	1.747	1.724	1.734	1.713	-0.034	-1.9%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-20 – Post-Development Peak Flow for Subcatchment Area 228 (Comparison Point 9228)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 310.54ha)	2	42	0.879	2.179	0.580	0.727	-0.152	-20.9%
	5	54	1.493	3.478	1.034	1.476	-0.017	-1.2%
	10	63	1.970	4.607	1.425	1.906	-0.064	-3.4%
	25	73	2.635	6.205	2.921	2.492	-0.143	-5.7%
	50	81	3.173	8.593	4.216	3.011	-0.162	-5.4%
	100	89	3.743	10.169	5.130	3.655	-0.088	-2.4%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-21– Post-Development Peak Flow for Subcatchment Area 226 (Comparison Point 9226)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 237.6ha)	2	42	1.169	10.086	1.917	1.097	-0.072	-6.6%
	5	54	1.920	14.314	4.153	1.719	-0.201	-11.7%
	10	63	2.484	17.117	6.279	2.200	-0.284	-12.9%
	25	73	3.250	20.742	9.111	2.854	-0.396	-13.9%
	50	81	3.852	23.495	10.908	3.434	-0.418	-12.2%
	100	89	4.479	26.297	14.385	4.024	-0.455	-11.3%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-22 – Post-Development Peak Flow for Subcatchment Area 220 (Comparison Point 9220)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 161.10ha)	2	42	0.592	2.650	0.611	0.547	0.045	-8.2%
	5	54	0.975	4.574	1.731	0.943	0.032	-3.4%
	10	63	1.264	5.676	2.361	1.230	0.034	-2.8%
	25	73	1.657	7.142	3.202	1.613	0.044	-2.7%
	50	81	1.967	8.277	3.785	1.917	0.05	-2.6%
	100	89	2.291	9.448	4.483	2.218	0.073	-3.3%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-23 – Post-Development Peak Flow for Subcatchment Area 230 (Comparison Point 8172)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 78.80ha)	2	42	2.277	3.989	0.610	-1.667	-73.2%
	5	54	5.478	6.513	1.454	-4.024	-73.5%
	10	63	7.402	10.349	3.372	-4.030	-54.4%
	25	73	10.731	13.748	4.907	-5.824	-54.3%
	50	81	12.808	16.386	5.904	-6.904	-53.9%
	100	89	14.897	19.155	6.947	-7.950	-53.4%

Table 4-24 – Post-Development Peak Flow for Subcatchment Area 234 (Comparison Point 9234)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area:	2	42	2.402	0.412	0.273	-2.129	-88.6%
	5	54	3.511	0.701	0.465	-3.046	-86.8%
	10	63	4.606	0.928	0.613	-3.993	-86.7%

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
	25	73	5.792	1.245	0.828	-4.964	-85.7%
	50	81	6.738	1.502	1.366	-5.372	-79.7%
	100	89	7.740	1.776	1.765	-5.975	-77.2%

Table 4-25 – Post-Development Peak Flow for Subcatchment Area 218 (Comparison Point 9218)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 152.25ha)	2	42	0.743	2.048	0.436	0.514	-0.229	-44.6%
	5	54	1.247	3.870	0.813	1.223	-0.024	-2.0%
	10	63	1.632	5.027	1.988	1.429	-0.203	-14.2%
	25	73	2.161	6.595	2.799	1.735	-0.426	-24.6%
	50	81	2.582	7.825	3.426	1.990	-0.592	-29.7%
	100	89	3.023	9.104	4.065	2.262	-0.761	-33.6%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-26 – Post-Development Peak Flow for Subcatchment Area 210 (Comparison Point 9210)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 218.27ha)	2	42	1.289	16.874	8.021	1.066	-0.223	-20.9%
	5	54	2.078	23.724	9.711	1.778	-0.300	-16.9%
	10	63	2.659	28.316	11.387	2.313	-0.346	-15.0%
	25	73	3.436	34.230	13.600	3.322	-0.114	-3.4%
	50	81	4.041	38.702	15.259	3.875	-0.166	-4.3%
	100	89	4.665	43.242	16.942	4.443	-0.222	-5.0%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-27 – Post-Development Peak Flow for Subcatchment Area 214 (Comparison Point 9214)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area: 316.95ha)	2	42	3.693	11.137	1.473	-2.220	-60.1%
	5	54	6.812	15.749	4.012	-2.800	-41.1%
	10	63	9.005	20.665	8.476	-0.529	-5.9%
	25	73	12.628	25.985	12.150	-0.478	-3.8%
	50	81	17.592	30.405	13.920	-3.672	-20.9%
	100	89	20.817	34.675	15.918	-4.889	-23.5%

Table 4-28 – Post-Development Peak Flow for Subcatchment Area 224 (Comparison Point 9224)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 140.45ha)	2	42	4.872	8.951	2.122	-2.750	-56.4%
	5	54	6.985	13.076	4.116	-2.869	-41.1%
	10	63	9.955	15.776	6.595	-3.360	-33.8%
	25	73	12.468	19.191	8.011	-4.457	-35.7%
	50	81	14.420	21.793	9.852	-4.568	-31.7%
	100	89	16.438	24.448	12.139	-4.299	-26.2%

Table 4-29 – Post-Development Peak Flow for Subcatchment Area 222 (Comparison Point 8164)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 219.50ha)	2	42	5.052	11.876	4.972	-0.080	-1.6%
	5	54	7.127	17.696	6.960	-0.167	-2.3%
	10	63	8.611	21.382	8.341	-0.270	-3.1%
	25	73	10.506	26.191	10.118	-0.388	-3.7%
	50	81	11.943	29.866	11.458	-0.485	-4.1%

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
	100	89	13.404	33.624	12.816	-0.588	-4.4%

Table 4-30 – Post-Development Peak Flow for Subcatchment Area 208 (Comparison Point 8148)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 692.30ha)	2	42	16.017	22.060	16.040	15.899	-0.118	-0.7%
	5	54	23.444	32.387	23.473	23.258	-0.186	-0.8%
	10	63	29.923	49.068	30.100	29.922	-0.001	-0.003%
	25	73	41.282	64.924	41.399	41.170	-0.112	-0.3%
	50	81	47.476	74.637	47.602	47.333	-0.143	-0.3%
	100	89	54.869	84.666	54.001	53.690	-1.179	-2.1%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-31 – Post-Development Peak Flow for Subcatchment Area 212 (Comparison Point 8152)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
East Holland River (Area: 328.40ha)	2	42	7.249	13.305	2.884	-4.365	-60.2%
	5	54	10.779	19.096	7.329	-3.45	-32.0%
	10	63	13.245	22.985	9.497	-3.748	-28.3%
	25	73	17.277	30.778	13.378	-3.899	-22.6%
	50	81	23.418	35.302	15.960	-7.458	-31.8%
	100	89	27.704	39.976	18.522	-9.182	-33.1%

Table 4-32 – Post-Development Peak Flow for Subcatchment Area 342 (Comparison Point 9342)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area: 1004.58ha)	2	42	1.208	9.517	1.748	1.136	-0.072	-6.0%
	5	54	2.057	13.498	4.136	1.986	-0.071	-3.5%
	10	63	2.724	16.363	5.408	2.649	-0.075	-2.8%
	25	73	3.660	22.261	7.536	3.570	-0.090	-2.5%
	50	81	4.420	25.680	9.111	4.304	-0.116	-2.6%
	100	89	5.230	29.235	10.777	5.080	-0.150	-2.9%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-33 – Post-Development Peak Flow for Subcatchment Area 422 (Comparison Point 9422)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area: 780.20ha)	2	42	1.144	1.746	1.23	1.070	-0.074	-6.5%
	5	54	1.954	2.717	2.093	1.829	-0.125	-6.4%
	10	63	2.591	3.408	2.791	2.438	-0.153	-5.9%
	25	73	3.488	4.492	3.763	3.292	-0.196	-5.6%
	50	81	4.215	5.652	4.836	3.986	-0.229	-5.4%
	100	89	4.992	6.698	6.032	4.726	-0.266	-5.3%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-34 – Post-Development Peak Flow for Subcatchment Area 416 (Comparison Point 9416)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area:	2	42	1.251	1.600	0.913	1.005	-0.246	-24.5%
	5	54	2.108	2.674	2.243	1.882	-0.226	-12.0%
	10	63	2.770	3.500	2.980	2.523	-0.247	-9.8%

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
	25	73	3.686	4.634	4.048	3.388	-0.298	-8.8%
	50	81	4.419	5.537	4.816	4.090	-0.329	-8.0%
	100	89	5.193	6.486	5.810	4.758	-0.435	-9.1%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-35 – Post-Development Peak Flow for Subcatchment Area 418 (Comparison Point 9423)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area: 182.79ha)	2	42	0.600	0.643	0.618	0.574	-0.026	-4.3%
	5	54	1.014	1.082	1.114	0.970	-0.044	-4.3%
	10	63	1.335	1.421	1.467	1.277	-0.058	-4.3%
	25	73	1.780	1.904	1.954	1.702	-0.078	-4.4%
	50	81	2.136	2.291	2.348	2.042	-0.094	-4.4%
	100	89	2.512	2.702	2.757	2.401	-0.111	-4.4%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-36 – Post-Development Peak Flow for Subcatchment Area 414 (Comparison Point 8254)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
West Holland River (Area: 188.00ha)	2	42	2.277	5.638	1.301	-0.976	-42.9%
	5	54	3.718	9.550	3.037	-0.681	-18.3%
	10	63	5.494	11.831	3.960	-1.534	-27.9%
	25	73	7.551	14.891	5.059	-2.492	-33.0%
	50	81	10.313	17.405	5.696	-4.617	-44.8%
	100	89	11.915	19.912	6.329	-5.586	-46.9%

Table 4-37 – Post-Development Peak Flow for Subcatchment Area 1 (Comparison Point 8501)

1	2	3	4	5	6	7 = 4–6	8 = (4–6)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	
Maskinonge River (Area: 1120.60ha)	2	42	4.905	20.072	3.162	-1.743	-35.5%
	5	54	8.001	31.066	5.451	-2.550	-31.9%
	10	63	10.376	37.993	7.901	-2.475	-23.9%
	25	73	13.665	47.202	11.383	-2.282	-16.7%
	50	81	16.295	54.353	13.894	-2.401	-14.7%
	100	89	19.073	61.757	16.323	-2.750	-14.4%

Table 4-38 – Post-Development Peak Flow for Subcatchment Area 3 (Comparison Point 515)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
Black River (Area: 2954.54ha)	2	51	3.641	3.406	3.663	3.636	-0.005	-0.14%
	5	73	6.991	6.512	6.780	6.916	-0.075	-1.1%
	10	87	9.595	8.923	9.190	9.457	-0.138	-1.4%
	25	105	13.206	12.264	12.519	12.774	-0.432	-3.3%
	50	118	16.096	14.936	15.178	15.406	-0.690	-4.3%
	100	131	19.085	17.692	17.922	18.126	-0.959	-5.0%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-39 – Post-Development Peak Flow for Subcatchment Area 4 (Comparison Point 516)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
Black River (Area: 2672.7ha)	2	51	2.718	2.666	2.811	2.717	-0.001	-0.04%
	5	73	5.388	5.267	5.415	5.348	-0.040	-0.74%
	10	87	7.532	7.353	7.498	7.456	-0.076	-1.0%

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
	25	105	10.578	10.316	10.454	10.448	-0.130	-1.2%
	50	118	13.066	12.736	12.866	12.890	-0.176	-1.3%
	100	131	15.685	15.280	15.402	15.442	-0.243	-1.5%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-40 – Post-Development Peak Flow for Subcatchment Area 6 (Comparison Point 518)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
Black River (Area: 1504.44ha)	2	51	2.663	2.626	2.680	2.650	-0.013	-0.5%
	5	73	4.942	4.865	4.918	4.902	-0.040	-0.8%
	10	87	6.658	6.550	6.601	6.595	-0.063	-0.9%
	25	105	8.982	8.833	8.879	8.888	-0.094	-1.0%
	50	118	10.806	10.624	10.667	10.680	-0.126	-1.2%
	100	131	12.668	12.451	12.491	12.502	-0.166	-1.3%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

Table 4-41 – Post-Development Peak Flow for Subcatchment Area 7 (Comparison Point 524)

1	2	3	4	5	6	7 [1]	8 = 4–7	9 = (4–7)/4
Subwatershed	Storm Event	Rainfall	Qpre	Qpost (no mitigation)	Qpost (post-to-pre approach)	Qpost (over-control)	Diff.	% Diff.
	year	mm	m^3/s	m^3/s	m^3/s	m^3/s	m^3/s	
Black River (Area: 1373.84ha)	2	51	2.719	5.793	4.086	2.377	-0.342	-12.6%
	5	73	5.050	11.758	10.036	4.256	-0.794	-15.7%
	10	87	6.806	15.357	13.920	5.660	-1.146	-16.8%
	25	105	9.183	19.994	17.831	7.461	-1.722	-18.7%
	50	118	11.051	23.670	20.998	8.783	-2.268	-20.5%
	100	131	12.958	27.671	24.534	11.309	-1.649	-12.7%

[1] Over-control approach utilized. Refer to **Table 4-42** for required unit-flow rate.

It should be noted the total rainfall values used in the above quantity control analysis are taken from the original CCL hydrologic model (2005). Developed runoff volumes and peak flows in this SWMMP are based on this older data and as such should be used for reference only. Actual hydrologic data to be used during detailed design of future SWM pond are to be based on the most recent rainfall data and various storm durations in use at the time each future SWM facility is designed.

Results

Table 4-13 to **Table 4-41** above indicate the results of the hydrologic modelling for the future condition land use within the Town. For comparison purposes, columns were added to indicate the "no mitigation" scenario, "post-to-pre" approach and "over-control" approach results. It is noted that the future return peak flows at many comparison points are higher than the existing return period peak flows with the "post-to-pre" peak flow approach applied. This indicates that the "post-to-pre" peak flow control criterion alone may not be enough to limit the future return period peak flows to / below their existing levels (as seen in areas within the East Holland and West Holland River subwatersheds). As a result, the "over-control" approach was applied to comparison points unable to meet pre-development flow rates as indicated below each corresponding summary table. In addition, it should also be noted smaller storm events may reflect a larger difference in flows from the pre-development level and can be adjusted when controls are implemented during the functional stages of development. **Table 4-42** outlines the required unit-flow rates to be applied in each subcatchment area to reduce post-development peak flows to pre-development levels. Calculations of the unit-flow rates are provided in **Appendix F**.

Table 4-42 – Unit-Flow-Rate Summary

Subwatershed	Settlement Area	Sub. Area	Comp. Pt.	Prop. Dev. Area	Unit-Flow Rates ($m^3/s/ha$)					
					Storm Event					
					2YR	5YR	10YR	25YR	50YR	100YR
East Holland River	Queensville	244	9244	90.5	0.035	0.059	0.077	0.103	0.123	0.148
East Holland River	Queensville	236	9236	301.2	0.061	0.120	0.146	0.213	0.259	0.294
East Holland River	Holland Landing	232	9232	86.7	0.008	0.017	0.023	0.030	0.036	0.044
East Holland River	Sharon	216	9216	34.0	0.031	0.052	0.075	0.101	0.120	0.134
East Holland River	Holland Landing	240	9252	10.1	0.030	0.050	0.066	0.088	0.107	0.126
East Holland River	Holland Landing	242	9242	15.5	0.025	0.043	0.057	0.077	0.093	0.111
East Holland River	Holland Landing	228	9228	43.6	0.017	0.034	0.044	0.057	0.069	0.084
East Holland River	Green Lane	226	9226	116.5	0.009	0.015	0.019	0.024	0.029	0.035
East Holland River	Green Lane	220	9220	27.1	0.020	0.035	0.045	0.060	0.071	0.082
East Holland River	Sharon	218	9218	42.1	0.012	0.029	0.034	0.041	0.047	0.054
East Holland River	Green Lane	210	9210	176.4	0.006	0.010	0.013	0.019	0.022	0.025
East Holland River	Green Lane	208	8148	54.4	0.292	0.428	0.550	0.757	0.870	0.987
West Holland River	Holland Landing	342	9342	50.4	0.023	0.039	0.053	0.071	0.085	0.101
West Holland River	Holland Landing	422	9422	52.3	0.020	0.035	0.047	0.063	0.076	0.090
West Holland River	Green Lane	416	9416	20.4	0.049	0.092	0.124	0.166	0.200	0.233
West Holland River	Green Lane	418	9423	8.7	0.066	0.111	0.147	0.196	0.235	0.276
Black River	Mount Albert	3	515	98.4	0.037	0.070	0.096	0.130	0.157	0.184
Black River	Mount Albert	4	516	22.6	0.120	0.237	0.330	0.462	0.570	0.683
Black River	Green Lane	6	518	32.3	0.082	0.152	0.204	0.275	0.331	0.387
Black River	Sharon	7	524	270.4	0.009	0.016	0.021	0.028	0.032	0.042

Although the application of unit-flow rates will result in reducing peak flow rates at this level of study within the Town, it is desirable to develop a detailed subwatershed based unit flow control criterion, rather than applying the generalized unit flow equations for the entire watershed (CCL, 2005). It is noted that the hydrologic results are analogous to the results in the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL, 2005) for the 'post-to-pre' condition and thus recommendations adopted for peak flow control on a subwatershed level. It is noted the unit-flow rates summarized in **Table 4-42** are only applicable to the implementation of the Town of East Gwillimbury Official Plan 2031 at this level of study and detailed stormwater management is required for each new development as outlined by MOE, LSPP and Town standards. In addition, it should be noted the over-control approach in which the unit-flow rates are to be applied, should to be further refined on a subwatershed basis through a detailed unit flow study.

Summary

As indicated above in **Table 4-13** to **Table 4-41**, at some comparison points, the future return period peak flows are relatively close to the existing peak flows (i.e. ±5.0%), and it indicates that the "post-to-pre" peak flow criteria applied to the design of the future SWM facilities does help to control the flood peak flows. As a result, it is recommended that a "post-to-pre" approach be continued to be imposed or enhanced for new developments *and* a unit-storage / unit-flow criteria be applied *until* a detailed unit flow / unit storage criteria is investigated and implemented, specifically within the Black River and Maskinonge River where impacts to peak flows are not as severe. The implementation of unit storage / unit flow criteria can potentially reduce flows within the watershed, reduce erosion downstream and decrease flood potential. It is recommended that a detailed unit flow study is to be investigated (specifically within the Holland River) and implemented in the future.

It should be noted that future SWM facilities within the Town are required to undergo detailed design and control stormwater to guidelines as outlined by the province, MOE and LSRCA. The effects of the future land use on peak flows should be analyzed at a detailed level where the implementation of future SWM facilities in the Town will control the increase in peak flows to each representative subwatershed. In addition, the most current rainfall data and storm durations should be utilized for each future SWM facility design. Further information on recommended SWM practices and SWM criteria is detailed in **Section 12.1.4**.

It should also be noted that a detailed assessment of the hydraulic study was not conducted as a part of this Master Plan. In addition, detailed storm sewer analysis was not conducted. To ensure that future development will not have a negative impact on the Town's storm sewer system, it is recommended that a storm sewer analysis (i.e. flow capacity, infiltration / inflow) be conducted in the future.

4.4. Phosphorus Loading

4.4.1. General

As per the Lake Simcoe Protection Plan's "Phosphorus Reduction Strategy" and detailed in Policy 4.5 SA of the Plan, an assessment of phosphorus loading from existing and planned development is required for all settlement areas within the Town boundary. The Phosphorus Reduction Strategy states that "in order to achieve the ambitious reductions in phosphorus loadings proposed in the Plan, there is a need to reduce loadings from all sources that contribute to excess phosphorus throughout the Lake Simcoe watershed" (LSRCA, 2009). The proposed reduction will be achieved through innovative solutions which will be implemented from the preferred alternative discussed herein. This assessment will evaluate the existing and future phosphorus loadings within the Town's settlement areas and recommend potential mitigation measures to be included in future development work.

4.4.2. Background

Information

Phosphorus is a key water quality concern in Lake Simcoe. While some phosphorus is required to support a healthy aquatic ecosystem, too much of this nutrient leads to excessive growth of plants. Generally, the more phosphorus present in the system, the number of plants and size of the plants will increase. As this biomass dies, decomposing organisms use up available oxygen. Low levels of dissolved oxygen at the bottom of the lake, especially during summer months, are harmful to fish populations and other aquatic organisms. Although reductions in phosphorus have led to improved oxygen conditions in the lake, the improvements are not yet sufficient for the fish to fully sustain themselves naturally. It is therefore an imperative goal for phosphorus loadings to Lake Simcoe to be reduced alongside development for the near future.

Documentation

The following phosphorus loading assessment is based on the detailed study results published by the LSRCA entitled:

- Report on the Phosphorus Loads to Lake Simcoe – LSRCA, 2004-2007, (September 2010).

4.4.3. Methodology

The objectives of the phosphorus loading assessment are summarized as follows:

- Utilize the base case and growth scenario unit area phosphorus loadings from the *Report on the Phosphorus Loads to Lake Simcoe – LSRCA, 2004-2007, (September 2010)* to generate existing and future phosphorus loading rates for each subwatershed;
- Apply the unit area phosphorus loading rate for each subwatershed to each applicable settlement area within the Town; and,
- Assess the changes in phosphorus loadings at each settlement area from existing to future conditions.

It is noted that atmospheric phosphorus (a large portion of the total phosphorus loading to Lake Simcoe) was not accounted for in this study. A phosphorus loading sample calculation is provided below:

Phosphorus Loading Sample Calculation

As outlined in **Section 4.4.3**, phosphorus loading rates were calculated based on the base case and growth scenario unit area phosphorus loadings from the *Report on the Phosphorus Loads to Lake Simcoe – LSRCA, 2004-2007, (September 2010)* to generate existing and future phosphorus loading rates for each subwatershed. Based on the existing and future land use of each settlement area, loading calculations were developed.

A sample calculation for Mount Albert in the Black River subwatershed for a specific land use is provided below. It should be noted the sample calculation is not intended to be exhaustive and should be read in conjunction with detailed phosphorus loading calculations provided in **Appendix G**.

Mount Albert

- *Subwatershed: Black River; Catchment: 3; Land Use: Agriculture; Soil Type: Type B and Type C*

Pre-Development

Existing Load = 0.129 kg/ha (Agriculture)

- For each soil type (Type B and Type C), the existing load is calculated:

Total Existing Load = (89.7 ha x 0.129 kg/ha) + (59.5 ha x 0.129 kg/ha) = 19.3 kg/year

- Similarly, the total existing load for each land use category is added for Catchment 3:

Total Existing Load = 60.9 kg/year

- The total existing load for each drainage area within the settlement area is added:

Total = **87.4 kg/year**

Post-Development

- Similar to pre-development, the revised loading rates are applied to each land use:

Future Load = 0.727 kg/ha (Low Density Residential)

- For each soil type (Type C and Type B, Bottomland and Type A), the future load is calculated:

Total Future Load = (62.2 ha + 84.8 ha + 4.4 ha + 21.1 ha) x 0.727 kg/ha = 125.3 kg/year

- The total future load for each land use category is added for Catchment 3:

Total Future Load = 166.6 kg/year

- The total future load for each drainage area within the settlement area is added:

Total = **226.9 kg/year**

- Based on the difference in loading rate divided by the total proposed future development area, the unit TP removal rate is determined:

Mount Albert Unit TP Removal Rate (kg/year/ha) = (226.9 kg/year – 87.4 kg/year) / 36.9 ha = **3.78 kg/year/ha**

4.4.4. Phosphorus Loading Assessment

As stated above in **Section 4.4.3**, phosphorus loading rates were generated based on the calibrated loadings in the Estimation of Phosphorus Loadings to Lake Simcoe Report (LSRCA, September 2010). Similar to Appendix E of the Estimation of Phosphorus Loadings to Lake Simcoe Report (LSRCA, September 2010), the land use classification has been system has been condensed to the land use categories in the Town described in the existing and future conditions land use in **Section 3.0**. The revised land use classification system and resulting phosphorus loading rates are summarized below in **Table 4-43**. Detailed phosphorus loading unit rate calculations are provided in **Appendix G**.

Table 4-43 – Land Use Categories and Average Annual Phosphorus Loading Rates

CANWET Land Use Category	Existing / Future Condition Land Use	Existing (Base Scenario) / Future (Growth Scenario) Average Annual Phosphorus Loading Rate (kg/ha)			
		Black River	East Holland River	Maskinonge River	West Holland River
Hay-Pasture	Agriculture	0.129 / 0.131	0.251 / 0.247	0.130 / 0.129	0.165 / 0.166
Cropland					
Quarry					
Turf-Sod					
Tile Drainage					
Forest	Forest	0.001 / 0.001	0.004 / 0.004	0.000 / 0.000	0.003 / 0.003
Wetland	Open Water / Wetland	0.139 / 0.137	0.342 / 0.350	0.672 / 0.6226	0.657 / 0.653
Stream Banks					
Groundwater					
Transition	Open Space	0.341 / 0.374	0.385 / 0.478	0.012 / 0.013	1.215 / 1.357
Septics					
Polder					
Unpaved Road	Rural Development, Estate	0.153 / 0.153	0.041 / 0.041	0.083 / 0.068	0.021 / 0.021
Low Intensity Development					
High Intensity Development	Residential, Low Density Residential, Medium Density Residential, Commercial / Institutional	0.393 / 0.727	0.660 / 0.968	0.339 / 0.753	0.246 / 0.451

It is noted that every land use category in the Estimation of Phosphorus Loadings to Lake Simcoe (LSRCA, September 2010) has been incorporated in the phosphorus loading estimate to provide a balanced phosphorus loading calculation.

4.4.5. Existing Conditions

The primary phosphorus loads are generated from the existing developed settlement areas within the Town: Mount Albert, Sharon, Queensville, Holland Landing and Green Lane West. The existing condition subwatershed phosphorus loading rates summarized below in **Table 4-44** were applied to each settlement area on a drainage area basis. The resulting existing condition total phosphorus loadings based on the base case scenario are also provided in the table below. Detailed existing condition phosphorus loading calculations are provided in **Appendix H**.

Table 4-44 – Existing Phosphorus Loadings

Settlement Area	Total Annual Phosphorus Loading (kg/year)
Mount Albert	87.4
Sharon	198.4
Queensville	198.5
Holland Landing	489.9
Green Lane West	192.4

4.4.6. Future Conditions

Future condition land use categories and areas were applied to the future condition phosphorus loading rates from the growth case scenario in the Estimation of Phosphorus Loadings to Lake Simcoe (LSRCA, September 2010). The resulting future condition total phosphorus loadings are provided below in **Table 4-45**. Detailed future condition phosphorus loading calculations are provided in **Appendix I**.

Table 4-45 – Future Phosphorus Loadings

Settlement Area	Total Annual Phosphorus Loading (kg/year)
Mount Albert	226.9
Sharon	338.0
Queensville	857.2
Holland Landing	865.0
Green Lane Expansion Area	811.9

4.4.7. Phosphorus Loading Assessment Results

A comparison of phosphorus loadings is required to assess the environmental impact of development in terms of phosphorus on Lake Simcoe. The phosphorus loading without mitigation assessment is provided in **Table 4-46**.

Table 4-46 – Phosphorus Loading Comparison

Settlement Area (Area)	Existing Total Annual Phosphorus Loading (kg/year)	Future Total Annual Phosphorus Loading (kg/year)	Difference / (% Difference) (kg/year)	Total Proposed Development Area (ha)	Unit TP Removal Rate Required for Mitigation (kg/year/ha)
Mount Albert (358 ha)	87.4	226.9	+139.5 / (+160%)	36.9	3.78
Sharon (468 ha)	198.4	338.0	+139.6 / (+70%)	211.8	0.66
Queensville (1182 ha)	198.5	857.2	+664.7 / (+335%)	54.9	12.1
Holland Landing (1160 ha)	489.9	865.0	+375.1 / (+77%)	37.7	9.9
Green Lane Expansion Area (871 ha)	192.4	811.9	+619.5 / (+322%)	69	8.9

As indicated above in **Table 4-46**, the largest increase in phosphorus loading is in Queensville and Green Lane West (+335% and +322% respectfully) with an increase overall in phosphorus loadings within the Town. In order to mitigate the impacts of development, unit total phosphorus removal rates, SWM controls and innovative water quality approaches are required to reduce phosphorus loadings. The current Total Phosphorus (TP) removal rates accepted by the Ministry of Environment (MOE) for wet ponds and wetlands are 63% and 77% respectively (MOE Phosphorus Budget Tool, January 2012). It should be noted that The *Estimation of Phosphorus Loadings to Lake Simcoe (LSRCA, September 2010)* Report has sufficient information regarding BMPs and phosphorus reduction strategies which may be implemented in the Town.

Phosphorus Mitigation Recommendations

The results of this assessment indicate development will increase phosphorus loadings within each settlement area. It is recommended to implement unit phosphorus removal rates in an integrated treatment train approach (i.e. lot level, conveyance and end-of-pipe controls) to mitigate the accumulation of phosphorus from proposed development (i.e. bioretention, infiltration trenches, permeable pavement, perforated pipe systems, etc.). Further information on potential mitigation measures (and BMP's) is provided in **Section 8.2**. It is noted that specific mitigation measures to be used to reduce phosphorus accumulation are to be confirmed on a site specific basis at the functional design stages of development.

4.5. Water Budget

As per Section 4.8-SA in the Lake Simcoe Protection Plan, a water budget assessment is required under the Lake Simcoe Protection Plan for the existing and proposed land use in the Town. To characterize the environmental impacts of the future conditions, a water budget consisting of the assessment of rainfall, runoff and evapotranspiration to determine infiltration deficit will be developed.

4.5.1. General

To conduct the water budget, each settlement area is considered separately. The settlement areas of Mount Albert, Queensville, Holland Landing, Sharon, and the Green Lane Employment Expansion Area were analyzed. Existing and future development conditions for each settlement area are compared and a volume deficit is determined. As required by the Lake Simcoe Protection Plan, a development must minimize changes in annual infiltration between pre-development and post-development conditions. The water balance analysis for the Town under existing and future conditions was completed on an average annual basis. The detailed water balance calculations are provided in **Appendix J** and summarized in **Table 4-47** to **Table 4-52**.

4.5.2. Background

A major consequence of urbanization is the increase of imperious areas, which changes the hydrologic characteristics within each settlement area and thus increases the amount of stormwater runoff. The Town is expected to expand rapidly over the next 20 years which will change the land use and decrease the amount of infiltration. Urbanization also decreases the amount of evapotranspiration due to the reduction of pervious area. This can potentially cause flooding, increases in velocity of flow during storms, and an increase in annual flow. A water budget assessment is necessary to analyze the potential impacts of development from existing to future conditions.

4.5.3. Water Budget Assessment

The Town consists of 25 different underlying soil types. These soils are categorized with the following textures: sandy loam, loam, sand, clay loam, silt loam, and muck.

A figure outlining the current soil conditions is illustrated below in **Figure 4-7**. These soils were grouped together based on their hydrologic soil group and four (4) soil groups were created. Soil areas designated as Muck were assigned a soil type that was consistent with the most conservative soil type in that drainage area. Land use was separated into agriculture, open water grouped with provincially significant wetlands, forest, medium density residential, low density residential, and estate, institutional, commercial, and open space. Based on Chapter 3 of the MOE drainage manual, and the land zones as given by the Town, the existing and future water budget parameters were developed and land uses were grouped as follows: Agriculture was considered as moderately rooted crops, forest as mature forest, open space as pasture and shrubs, and the remaining as urban lawns. Open water and wetlands are removed from the water budget calculations as their area is consistent from existing to future development. The impervious areas were calculated by the same methodology as was completed in the Hydrologic and Hydraulic Modeling for the West Holland River, East Holland River and Maskinonge River Watersheds Report (CCL, 2005) for the watershed as prepared by the Lake Simcoe Region Conservation Authority.

The water budget assessment infiltration rates were calculated based on the sample calculations located on *Page 3-5* of *Chapter 3* of the *MOE SWMP Manual (2007)*. A water budget sample calculation for the Mount Albert settlement area is provided below to outline the methodology and process:

Water Budget Sample Calculation

A sample calculation for Mount Albert is provided below utilizing the process outlined on *Page 3-5* of *Chapter 3* of the *MOE SWMP Manual (2007)*. It should be noted the sample calculation is not intended to be exhaustive and should be read in conjunction with detailed water balance calculations provided in **Appendix J**.

Mount Albert

Pre-Development Conditions

- *Land Use: Forest, Soil Type: Type B*
- Based on land use and soil type, Evapotranspiration (ET) values were derived from *Table 3.1* of the *MOE SWMP Manual (2007)*:

ET = 548 mm

- Surplus (mm) is calculated by subtracting the ET (mm) from the total annual precipitation (901.2 mm).

Surplus = Precipitation – ET = 901.2 mm – 548 mm = 353.2 mm

- Infiltration (mm) is calculated by multiplying Surplus (mm) by the cumulative infiltration factors derived from *Table 3.1* of the *MOE SWMP Manual (2007)* based on topography, soils and cover. In this case, topography is flat land (0.3), soils are open sandy loam (0.4) and cover is woodland (0.2).

Infiltration = Surplus * (Cumulative Infiltration Factors) = 353.2 * (0.3+0.4+0.2) = 317.9 mm

- Average annual land use infiltration is calculated by multiplying total area of the land use by infiltration:

Average annual land use infiltration = 1.14 ha * 317.9 mm = 362.4 ha·mm = 3624 m^3

- This method is repeated for each soil type and land use within all the drainage areas within the settlement area (refer to **Appendix J** of the SWMMP).
- The total annual site infiltration volume is the sum of all infiltration values in the settlement area.

Total infiltration (mm) = **804805.5 m^3** / 314.5 ha = 255.9 mm

- A similar approach is conducted for Post-Development – No Mitigation Conditions with larger impervious areas generating a reduced total infiltration (mm).

Total infiltration (mm) = **693192 m^3** / 278 ha = 250 mm

- The annual infiltration rate required by each settlement area (Table 4-52) is the infiltration deficit divided by the total future development area:

Annual infiltration rate (m^3/ha/year) = (804805.5 m^3 – 693192 m^3) / 36.9 ha = **3025 m^3/ha/year**

WEST HOLLAND RIVER SUBWATERSHED

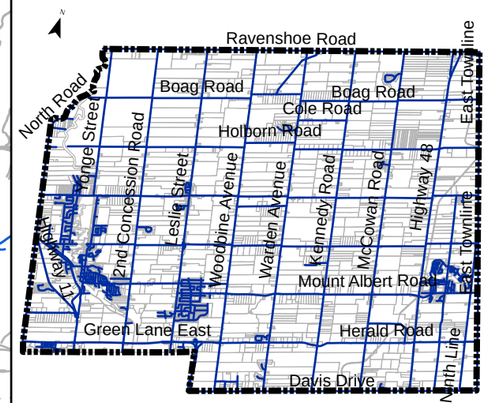
EAST HOLLAND RIVER SUBWATERSHED

MASKINONGE RIVER SUBWATERSHED

BLACK RIVER SUBWATERSHED

N

Ravenshoe Road
Boag Road
Cole Road
Holborn Road
Queensville Sideroad West
Queensville Sideroad
Milne Lane
Hornes Road
Doane Road
Bridle Path
Mount Albert Road
Mill Road
Herald Road
Green Lane West
Green Lane East
Green Lane
Morning Sideroad
Davis Drive
Hillcrest Drive
Sherwood Glen
Cedar Street
Pelosi Way
John Rye Trail
Maple Way
May Avenue
Fair Avenue
Morton Avenue
Ward Avenue
Maplehyrn Avenue
Main Street
Albert Street
King Street East
View Drive
Trail Pines Trail
Orville Drive
Park Avenue
Sand Road
Sluse Road
Toft Road
Yonge Street
North Road
South Road
Bathurst Street
Highway 11
Highway 404
Catering Road
Mapor Ridge Trail
Eighth Concession Road
East Townline
Leslie Street
Woodbine Avenue
Warden Avenue
Kennedy Road
McCowan Road
Highway 48
Centre Street
Ninth Line
Franklin Road
2nd Concession Road
Baldwin Drive East
RIVER DRIVE
MASKINONGE RIVER
EAST HOLLAND RIVER
HARRISON CREEK
BLACK RIVER
MOUNT ALBERT CREEK
WARD CREEK
MORAN CREEK



KEY MAP
SCALE: 1:250,000

LEGEND

- TOWN BOUNDARY
- WATERSHED BOUNDARY
- COMMUNITY PLAN AREAS
- TYPE A SOILS
- TYPE B SOILS
- TYPE C SOILS
- TYPE D SOILS
- BOTTOM LAND

NOTES:

COLE ENGINEERING
Experience Enhancing Excellence

Town of East Gwillimbury
Our town, Our future

SCALE: 1:60,000

0 500 1,000 2,000 3,000 4,000 Meters

STORMWATER MANAGEMENT MASTER PLAN

HYDROLOGIC SOIL GROUPS

FIGURE 4-7 **DATE: JAN 2012**

Mount Albert Settlement Area

The settlement area of Mount Albert expects to undergo some development by 2031 according to the Town's OP. There will be in increase in commercial and industrial areas and a decrease in forest, and open space. The impervious area will increase from 12% to 22%. This increase of impervious area will create an infiltration deficit of 312.12 m^3/ha.

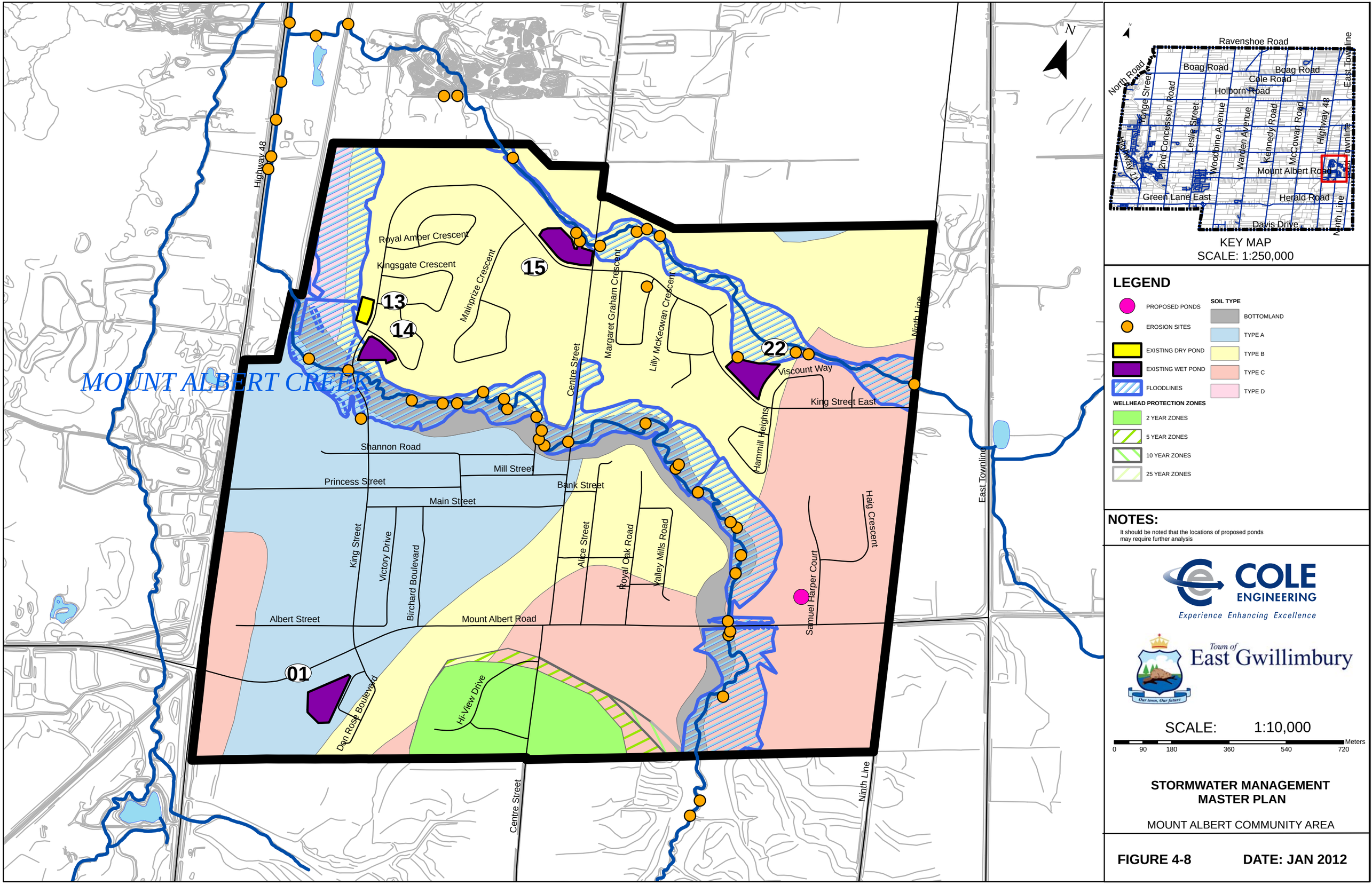
The Mount Albert settlement area contains all four (4) soil types (**Figure 4-8**) below, but consists mainly of Type A and B soils which are classified as well draining according to Table 3.1 of the SWM Planning and Design Manual (MOE SWM Planning and Design Manual (2003)). The water budget for Mount Albert is provided below in **Table 4-47**.

Table 4-47 – Mount Albert Water Budget

Pre-Development			
	Pervious Area	Impervious Area	Total
Area (ha)	314.5	43.1	357.6
Precipitation (mm)	901.2	901.2	
ET	535.67	90.12	
Surplus	365.53	811.08	
Total Infiltration (mm)	255.9	0	
Total Runoff (mm)	109.63	811.08	
Runoff (m^3)	344786.35	349575.48	694361
Infiltration (m^3)	804805.5	0	804805
Post-Development – No Mitigation			
	Pervious Area	Impervious Area	Total
Area (ha)	278	80	358
Precipitation (mm)	901	901	
ET	531	90	
Surplus	370	811	
Total Infiltration (mm)	250	0	
Total Runoff (mm)	120	811	
Runoff (m^3)	333965	648783	982748
Infiltration (m^3)	693192	0	693192

Queensville Settlement Area

Under existing conditions, Queensville is mostly agriculture with a small amount of land designated for residential. Queensville is anticipated to grow into a mixed use urban area, with a mix of residential, employment and commercial uses. The imperviousness will increase from 3% to 21%. Post-development rates must meet pre-development rates. The deficit is 315.26 m^3/ha. Soil types in Queensville are of all four (4) types, and about half of the settlement area made of well draining soils (**Figure 4-9**) below. The water budget for Queensville is provided in **Table 4-47**.


MOUNT ALBERT CREEK
Highway 48
Royal Amber Crescent
Kingsgate Crescent
Mainprize Crescent
Margaret Graham Crescent
Lilly McKeowan Crescent
Centre Street
Ninth Line
Viscount Way
King Street East
Hammill Heights
East Townline
Shannon Road
Mill Street
Princess Street
Bank Street
Main Street
King Street
Victory Drive
Birchard Boulevard
Alice Street
Royal Oak Road
Valley Mills Road
Haig Crescent
Samuel Harper Court
Albert Street
Mount Albert Road
Don Rose Boulevard
Hi-View Drive
Centre Street
Ninth Line
15
13
14
22
01
N
Ravenshoe Road
Boag Road
Boag Road
Cole Road
Holborn Road
North Road
Tonge Street
2nd Concession Road
Leslie Street
Woodbine Avenue
Warden Avenue
Kennedy Road
McCowan Road
Highway 48
East Townline
Highway 11
Mount Albert Road
Green Lane East
Herald Road
Davis Drive
North Line
KEY MAP
SCALE: 1:250,000
LEGEND
PROPOSED PONDS
EROSION SITES
EXISTING DRY POND
EXISTING WET POND
FLOODLINES
WELLHEAD PROTECTION ZONES
2 YEAR ZONES
5 YEAR ZONES
10 YEAR ZONES
25 YEAR ZONES
SOIL TYPE
BOTTOMLAND
TYPE A
TYPE B
TYPE C
TYPE D
NOTES:
It should be noted that the locations of proposed ponds may require further analysis
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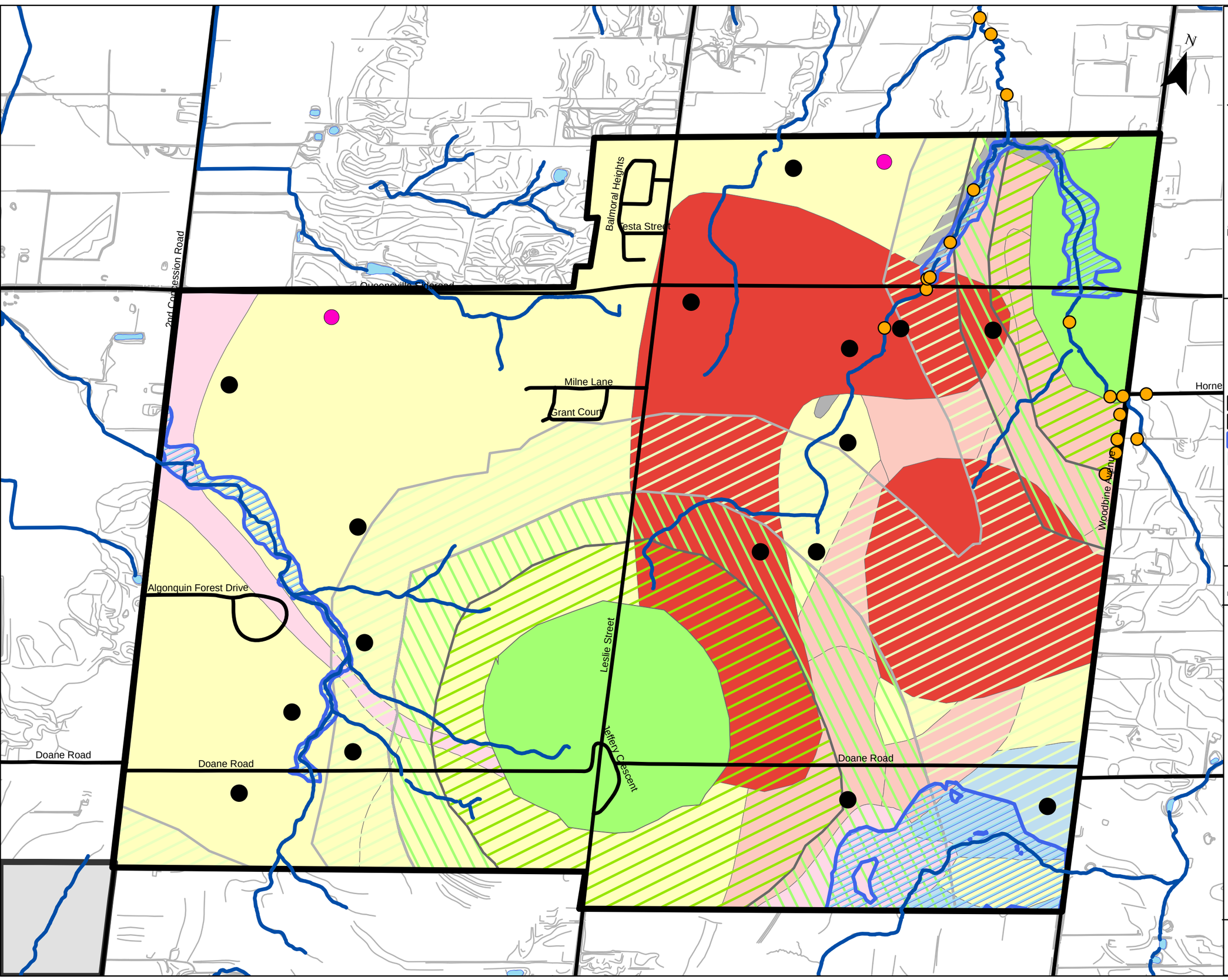
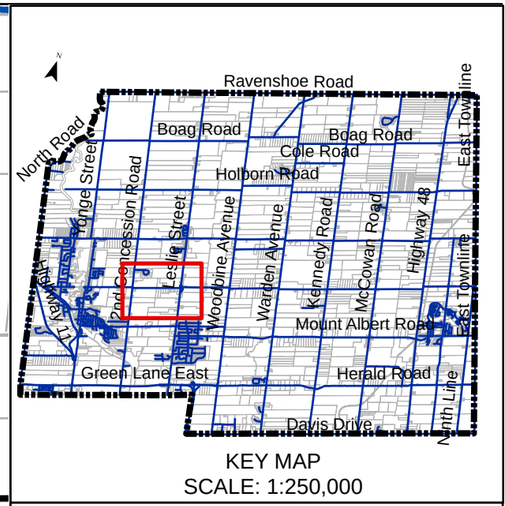
SCALE: 1:10,000
0 90 180 360 540 720 Meters
STORMWATER MANAGEMENT MASTER PLAN
MOUNT ALBERT COMMUNITY AREA
FIGURE 4-8
DATE: JAN 2012





KEY MAP
SCALE: 1:250,000

LEGEND

- EROSION SITES
- PROPOSED PONDS - MESP
- PROPOSED PONDS
- EXISTING DRY POND
- EXISTING WET POND
- FLOODLINES
- MASKINONGE RIVER SIG. GROUNDWATER RECHARGE

WELLHEAD PROTECTION ZONES

- 2 YEAR ZONES
- 5 YEAR ZONES
- 10 YEAR ZONES
- 25 YEAR ZONES

SOIL TYPE

- BOTTOMLAND
- TYPE A
- TYPE B
- TYPE C
- TYPE D

NOTES:

IT SHOULD BE NOTED THE PROPOSED POND LOCATIONS MAY REQUIRE FURTHER ANALYSIS.

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SCALE: 1:15,000

0 135 270 540 810 1,080 Meters

STORMWATER MANAGEMENT MASTER PLAN

QUEENSVILLE COMMUNITY AREA

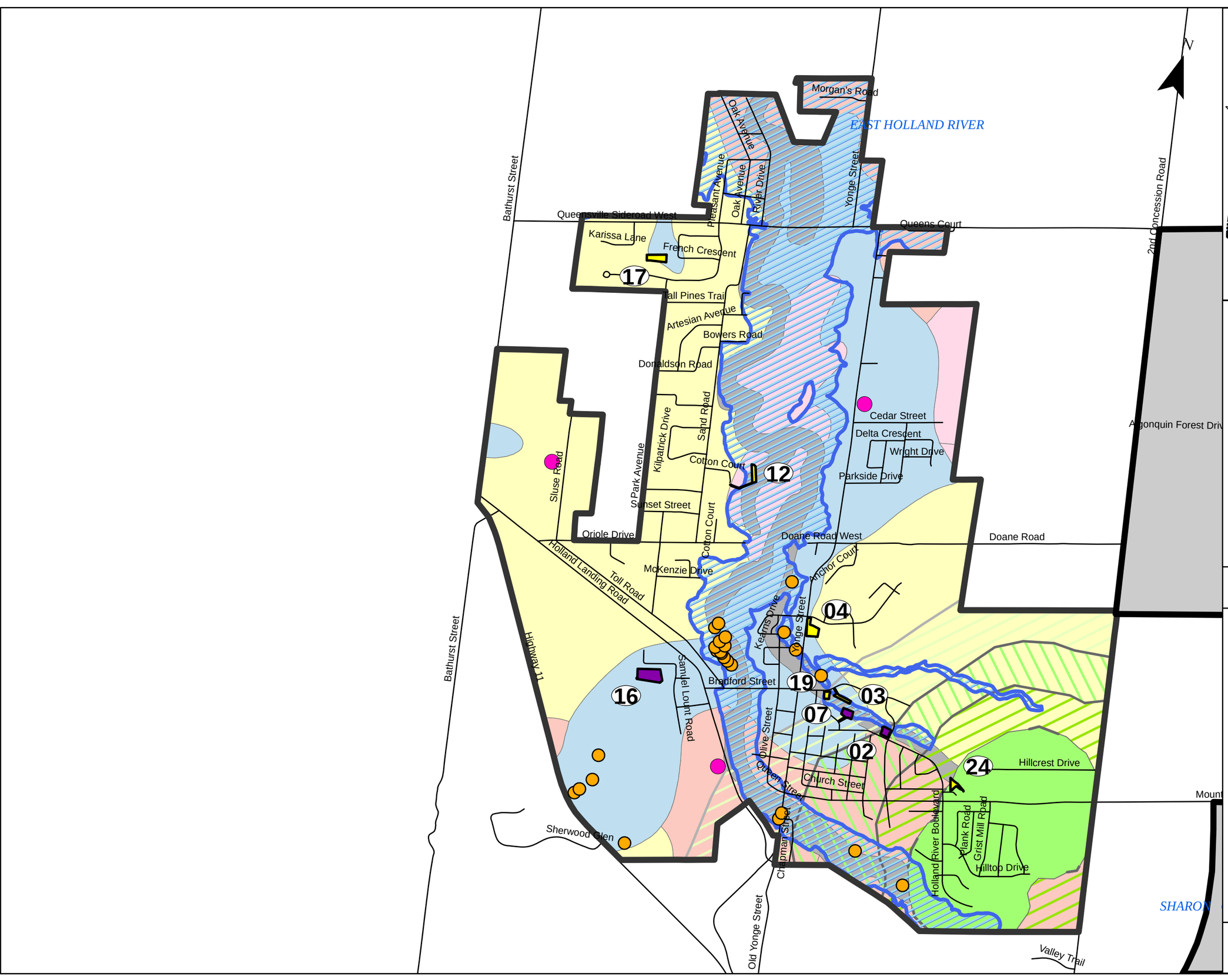
FIGURE 4-9 **DATE: JAN 2012**

Table 4-48 – Queensville Water Budget

Pre-Development			
	Pervious Area	Impervious Area	Total
Area (ha)	1147.6	34.5	1182.1
Precipitation (mm)	901.2	901.2	
ET	540.65	90.12	
Surplus	360.55	811.08	
Total Infiltration (mm)	251.99	0	
Total Runoff (mm)	108.56	811.08	
Runoff (m^3)	1245834.56	279822.6	1525657
Infiltration (m^3)	2891837.24	0	2891837
Post-Development – No Mitigation			
	Pervious Area	Impervious Area	Total
Area (ha)	935.8	246.3	1182.1
Precipitation (mm)	901.2	901.2	
ET	530.6	90.12	
Surplus	370.6	811.08	
Total Infiltration (mm)	269.2	0	
Total Runoff (mm)	101.4	811.08	
Runoff (m^3)	948901.2	1997690.04	2946591
Infiltration (m^3)	2519174	0	2519174

Holland Landing Settlement Area

This settlement area is partially developed under existing conditions. To accommodate future growth, Holland landing will acquire an employment and commercial area, as well a growth in residential lands. There is a large section of land that is designated as Provincially Significant Wetland or open water that surrounds the East Holland River (**Figure 4-10**) below. This area does not change. Imperviousness will increase 18% mostly due to the high percent impervious that commercial and employment areas have. The infiltration rate that the post-development is required to meet will ask for land to infiltration 273.46 m^3/ha. The water budget for Holland Landing is provided in **Table 4-49**.


Morgan's Road
EAST HOLLAND RIVER
Bathurst Street
Queensville Sideroad West
Queens Court
2nd Concession Road
Pleasant Avenue
Oak Avenue
River Drive
Yonge Street
Karissa Lane
French Crescent
17
Tall Pines Trail
Artesian Avenue
Bowers Road
Donaldson Road
Sand Road
Kilpatrick Drive
S Park Avenue
Sunset Street
Cotton Court
12
Cedar Street
Delta Crescent
Wright Drive
Parkside Drive
Sluse Road
Oriole Drive
Doane Road West
Doane Road
Holland Landing Road
Toll Road
McKenzie Drive
Anchor Court
04
Kearns Drive
Yonge Street
Highway 11
Samuel Lount Road
Bradford Street
19
03
07
02
16
Drive Street
Queen Street
Church Street
24
Hillcrest Drive
Sherwood Glen
Chapman Street
Holland River Boulevard
Plank Road
Grist Mill Road
Hilltop Drive
Old Yonge Street
Valley Trail
SHARON
Algonquin Forest Driv
Mount
N
Ravenshoe Road
Boag Road
Cole Road
Holborn Road
North Road
Leslie Street
Woodbine Avenue
Warden Avenue
Kennedy Road
McCowan Road
Highway 48
East Townline
Mount Albert Road
Green Lane East
Herald Road
Davis Drive
Ninth Line
KEY MAP
SCALE: 1:250,000
LEGEND
EROSION SITES
PROPOSED PONDS
DRY POND
WET POND
FLOODLINES
WELLHEAD PROTECTION ZONES
2 YEAR ZONES
5 YEAR ZONES
10 YEAR ZONES
25 YEAR ZONES
SOIL TYPE
Bottomland
TYPE A
TYPE B
TYPE C
TYPE D
NOTES:
IT SHOULD BE NOTED THAT THE LOCATIONS OF THE PROPOSED PONDS MAY REQUIRE FURTHER ANALYSIS.
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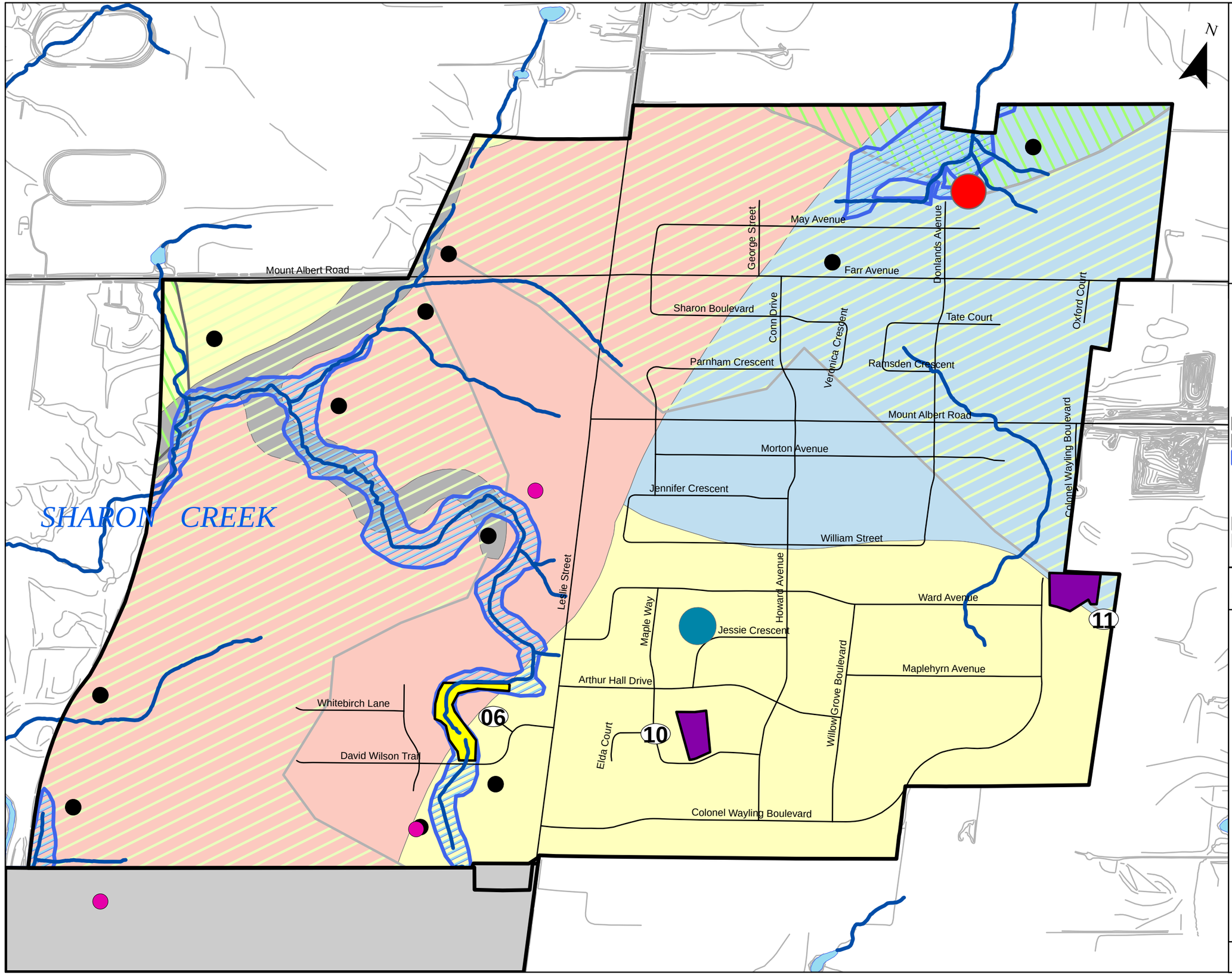
SCALE: 1:22,500
0 195 390 780 1,170 1,560 Meters
STORMWATER MANAGEMENT MASTER PLAN
HOLLAND LANDING COMMUNITY AREA
FIGURE 4-10
DATE: JAN 2012

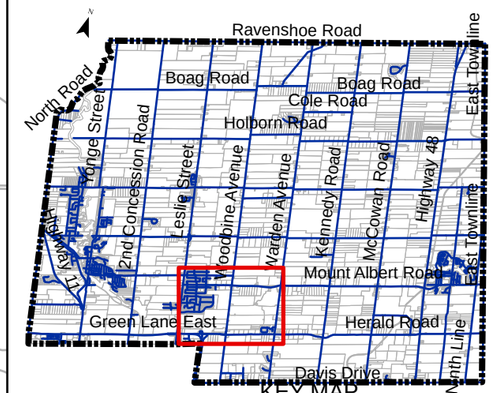
Table 4-49 – Holland Landing Water Budget

Pre-Development			
	Pervious Area	Impervious Area	Total
Area (ha)	956.5	203.6	1160.1
Precipitation (mm)	901.2	901.2	
ET	535.3	90.12	
Surplus	365.9	811.08	
Total Infiltration (mm)	279.94	0	
Total Runoff (mm)	85.96	811.08	
Runoff (m^3)	822207.4	1651358.88	2473566
Infiltration (m^3)	2677626.1	0	2677626
Post-Development – No Mitigation			
	Pervious Area	Impervious Area	Total
Area (ha)	901.6	258.5	1160.1
Precipitation (mm)	901.2	901.2	
ET	529.3	90.12	
Surplus	371.9	811.08	
Total Infiltration (mm)	261.8	0	
Total Runoff (mm)	110.1	811.08	
Runoff (m^3)	992661.6	2096641.8	3089303
Infiltration (m^3)	2360389	0	2360389

Sharon Settlement Area

The Sharon Settlement Area is approximately half developed under existing conditions, but will grow to mostly residential area. The infiltration rate is 305.16 m^3/ha, due to the increase in imperviousness (19% to 27%). The area made of well draining soils that are ideal for infiltration measures (**Figure 4-11**) below. The water budget for Sharon is provided in **Table 4-50**.





LEGEND

- PROPOSED PONDS
- PROPOSED PONDS (MESP 2008)
- EROSION SITES
- TOWN IDENTIFIED WET PONDS
- TOWN IDENTIFIED DRY PONDS
- EXISTING DRY POND
- EXISTING WET POND
- Floodlines

WELLHEAD PROTECTION ZONES

- 2 YEAR ZONES
- 5 YEAR ZONES
- 10 YEAR ZONES
- 25 YEAR ZONES

SOIL TYPE

- BOTTOMLAND
- TYPE A
- TYPE B
- TYPE C
- TYPE D

NOTES:

IT SHOULD BE NOTED THE LOCATIONS OF PROPOSED PONDS MAY REQUIRE FURTHER ANALYSIS.

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SCALE: 1:10,000

0 75 150 300 450 600 Meters

STORMWATER MANAGEMENT MASTER PLAN

SHARON COMMUNITY AREA

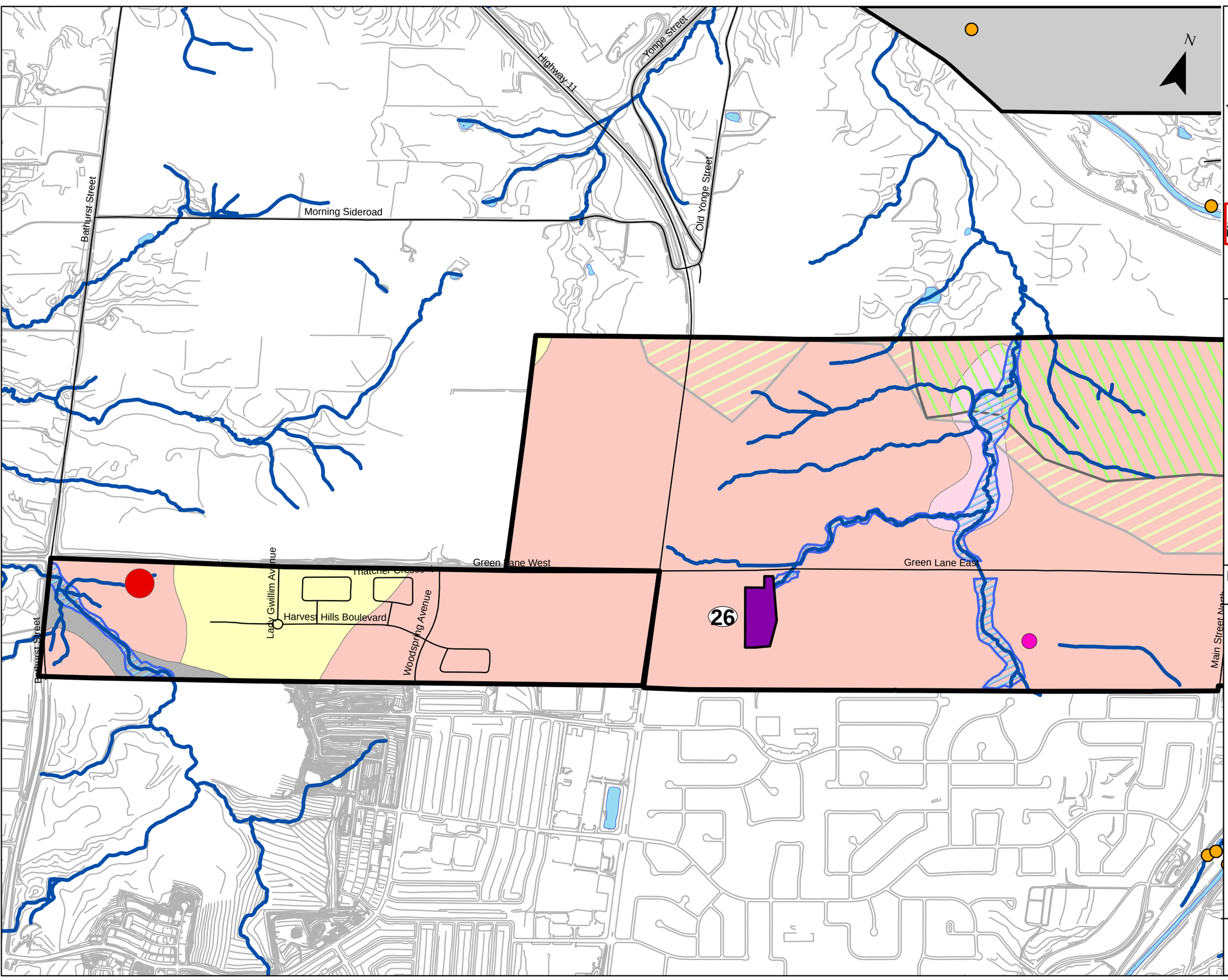
FIGURE 4-11 **DATE: JAN 2012**

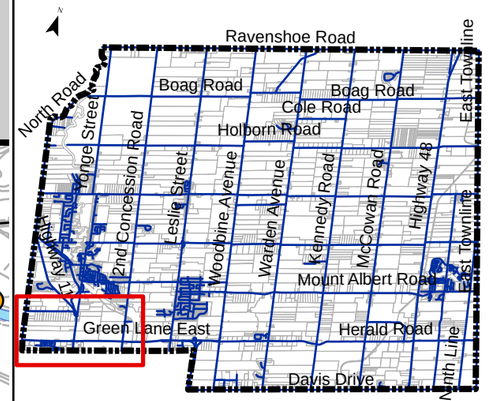
Table 4-50 – Sharon Water Budget

Pre-Development			
	Pervious Area	**Impervious Area**	**Total**
Area (ha)	379.1	88.9	468
Precipitation (mm)	901.2	901.2	
ET	532.85	90.12	
Surplus	368.35	811.08	
Total Infiltration (mm)	245.16	0	
Total Runoff (mm)	123.19	811.08	
Runoff (m^3)	467013.29	721050.12	1188063
Infiltration (m^3)	929401.56	0	929401
Post-Development – No Mitigation			
	Pervious Area	**Impervious Area**	**Total**
Area (ha)	341.4	126.6	468
Precipitation (mm)	901.2	901.2	
ET	524.8	90.12	
Surplus	376.4	811.08	
Total Infiltration (mm)	230.4	0	
Total Runoff (mm)	146	811.08	
Runoff (m^3)	498444	1026827.28	1525271
Infiltration (m^3)	786586	0	786586

Green Lane Expansion Areas

This area consists of the two (2) expansion areas along Green lane, including a proposed Community and Employment Area. Under existing conditions these lands are almost all agriculture with the exception of some residential and forested area. The future conditions will double the impervious area and require an infiltration rate of 456.21 m^3/ha. Again this settlement area is comprised wholly of well draining soils ideal for infiltration measures (**Figure 4-12** and **Figure 4-13**) below. The water budget for the Green Lane Expansion Area is provided below in **Table 4-51**.





KEY MAP
SCALE: 1:125,000

LEGEND

- EROSION SITES
- PROPOSED PONDS
- TOWN IDENTIFIED WET PONDS
- FLOODLINES

WELLHEAD PROTECTION ZONES

- 2 YEAR ZONES
- 5 YEAR ZONES
- 10 YEAR ZONES
- 25 YEAR ZONES
- EXISTING DRY POND
- EXISTING WET POND

SOIL TYPE

- BOTTOMLAND
- TYPE A
- TYPE B
- TYPE C
- TYPE D

NOTES:

It should be noted that the locations of proposed ponds may require further analysis

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SCALE: 1:12,500

0 110 220 440 660 880 Meters

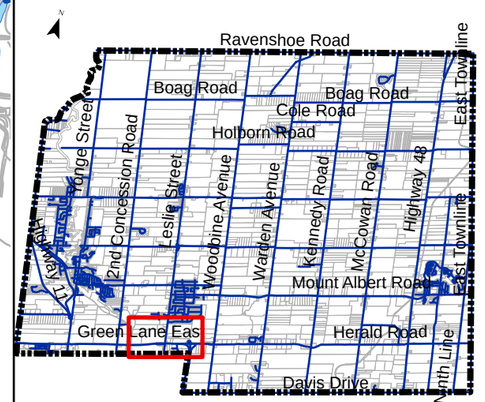
STORMWATER MANAGEMENT MASTER PLAN
GREEN LANE WEST AND
GREEN LANE CORRIDOR

FIGURE 4-12 **DATE: JAN 2012**

SHARON CREEK

08

N



KEY MAP
SCALE: 1:250,000

LEGEND

- EROSION SITES
- PROPOSED PONDS
- SECONDARY PLAN AREA
- EXISTING DRY POND
- EXISTING WET POND
- FLOODLINES

WELLHEAD PROTECTION ZONES

- 2 YEAR ZONES
- 5 YEAR ZONES
- 10 YEAR ZONES
- 25 YEAR ZONES

SOIL TYPE

- BOTTOMLAND
- TYPE A
- TYPE B
- TYPE C
- TYPE D

NOTES:

IT SHOUDL BE NOTED THE LOCATIONS OF PROPOSED PONDS MAY REQUIRE FURTHER ANALYSIS.

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SCALE: 1:12,500

0 110 220 440 660 880 Meters

STORMWATER MANAGEMENT MASTER PLAN

GREEN LANE CORRIDOR AND
HIGHWAY 404 EMPLOYMENT AREA

FIGURE 4-13 **DATE: JAN 2012**

Table 4-51 – Green Lane Expansion Areas Water Budget

Pre-Development			
	Pervious Area	Impervious Area	Total
Area (ha)	813.3	57.9	871.2
Precipitation (mm)	901.2	901.2	
ET	541.88	90.12	
Surplus	359.32	811.08	
Total Infiltration (mm)	227.6	0	
Total Runoff (mm)	131.72	811.08	
Runoff (m^3)	1071278.76	469615.32	1540894
Infiltration (m^3)	1851070.8	0	1851070
Post-Development – No Mitigation			
	Pervious Area	Impervious Area	Total
Area (ha)	744.3	126.9	871.2
Precipitation (mm)	901.2	901.2	
ET	530	90.12	
Surplus	371.2	811.08	
Total Infiltration (mm)	195.3	0	
Total Runoff (mm)	175.9	811.08	
Runoff (m^3)	1309223.7	1029260.52	2338484
Infiltration (m^3)	1453618	0	1453618

Detailed water balance calculations are provided in **Appendix J**.

Rural Areas

The rural part of East Gwillimbury is considered as unchanged and no development being done on this land. Rural areas consist of all soil types with the main landuse zoned for agricultural use. All landuses will remain the same; hence pre and post infiltration rates are matching.

Results

A summary of the water balance results are provided below in **Table 4-52**.

Table 4-52 – Water Budget Comparison

Settlement Area	Pre-Dev Runoff (m^3)	Post-Dev Runoff (m^3)	Increase / % Increase (m^3)	Pre-Dev Infiltration (m^3)	Post-Dev Infiltration (m^3)	Decrease / % Decrease (m^3)
Mount Albert	694362	982748	288386 / +41.5%	804806	693192	111614 / -13.9%
Queensville	1525657	2946591	1420934 / +93.1%	2891837	2519174	372663 / -12.9%
Holland Landing	2946591	3089303	142712 /	2519174	2360389	158785 /

Settlement Area	Pre-Dev Runoff (m^3)	Post-Dev Runoff (m^3)	Increase / % Increase (m^3)	Pre-Dev Infiltration (m^3)	Post-Dev Infiltration (m^3)	Decrease / % Decrease (m^3)
			+4.8%			-6.3%
Sharon	1188063	1525271	337208 / +28.4%	929402	786586	142816 / -15.4%
Green Lane Expansion Areas	1540894	2338484	797590 / +51.8%	1851071	1453618	397453 / -21.5%

A summary of the annual infiltration rates required by each settlement area (proposed development area only) are provided below in **Table 4-53**.

Table 4-53 – Annual Infiltration Rates Required by Each Settlement Area

Settlement Area	Future Development Area (ha)	Required Infiltration Rate (m^3/ha/year)
Mount Albert	36.9	3025
Queensville	211.8	1760
Holland Landing	54.9	2892
Sharon	37.7	3788
Green Lane Expansion Areas	69	5760

Based on the analysis, a general increase in runoff will occur during the post-development condition with a reduction in infiltration. The largest increase in runoff occurs in Queensville and the greatest reduction in infiltration occurs in the Green Lane Employment Expansion Area. These areas will require the implementation of BMPs in an integrated treatment train approach to mitigate the loss of infiltration from the proposed changes in land use. Alternative BMP practices are further discussed in **Section 8.2**. It should be noted that specific mitigation measures are to be confirmed on a site specific basis at the functional design stage.

4.6. Erosion Analysis

4.6.1. General

Stormwater runoff can cause severe erosion concerns if uncontrolled runoff continues to drain into the watercourse with a lack of stabilization measures. Erosion can occur on stream banks from flow in the watercourse or runoff. This can change the characteristics of the stream by widening and decreasing the depth due to sediment accumulation. Sediments may also be carried in runoff from bare agricultural lands or construction sites.

The LSRCA and the Town are committed to decreasing the amount of sediment that is being carried into Lake Simcoe as well as its tributaries.

As per Policy 4.5 SA of the LSPP, an erosion analysis of existing and future conditions is required. This section of the SWMMP will detail the existing erosion study and relevant erosion analysis recommendations to be applied to future developments and studies.

4.6.2. Background

Erosion is of concern within in the Town due to the large percentage of agriculture land, and numerous watercourses. Agricultural lands are particularly vulnerable when they are bare (e.g. after tilling, or in the spring) and can contribute large amounts of sediment from runoff. In rural areas, farmers may remove vegetation along watercourses in order to maximize arable land and in doing so contribute to stream bank instability and erosion. In urban areas, impervious surfaces can increase the volume and velocity of stormwater runoff, leading to an increase in streambank erosion, and sediment deposition.

4.6.3. Existing Conditions

An erosion site survey was completed by the LSRCA in 2008. The LSRCA conducted a BMP Inventory, spanning 12 sections of the 18 subwatersheds within the Lake Simcoe basin.

The subwatershed studies of the East Holland River, West Holland River, Maskinonge River and Black River assess this study and provide details of the BMP opportunities where applicable. The purpose of the BMP inventory was to identify opportunities for the reduction of nutrients or improvements to fish habitat within the Lake Simcoe basin (LSRCA, 2010). As part of the study, existing erosion sites within the watercourses were identified. The erosion sites within the Town are depicted above in **Figure 3-2**.

4.6.4. Future Conditions

In order to mitigate existing erosion points and prevent future erosion sites the following recommendations have been made.

The mitigation of stream bank erosion will need to be completed on a site by site basis following a more detailed analysis. Proponents may suggest the most appropriate manner to solve the erosion such as the use of rip-rap or amourstone however; the LSRCA encourages the use of natural channel designs and “soft solutions”. This includes improving riparian vegetation that may have been removed or damaged. The vegetation helps to stabilize the banks decreasing erosion and phosphorus loading. Increasing the ‘buffer’ zone to at least 15 m around watercourses will help increase bank stability, filter excess nutrients from surface runoff, reduce soil erosion and improve water quality.

The implementation of traditional BMP measures will help control the volume of stormwater as well as mitigating sediment erosion concerns. Measures such as wet ponds, grassed swales, and wetlands enhance sediment removal by increasing detention times. These measures can also decrease urban runoff which is known to change the flow patterns in rivers increasing erosion. In addition, SWM pond retrofits may reduce erosion by eliminating uncontrolled outfalls and upgrading existing SWMF to higher protection levels.

Fluvial Assessments

Future developments within the Town will be required to conduct a fluvial geomorphological and erosion assessment of the receiving watercourse by a qualified fluvial geomorphologist. The objectives of the assessment will be to identify areas of ongoing channel adjustment and to develop appropriate mitigation measures to limit future impacts. As future developments will contribute runoff to a watercourse, an assessment is required in order to ensure that changes upstream as a result of development will not adversely impact the creeks.

It should be noted that the detail of the fluvial assessment (if required) should be confirmed with the LSRCA along with any other applicable approval agencies.

A fluvial assessment of a receiving watercourse typically consists of:

- An analysis of existing geomorphic conditions:
  - Aerial photography (i.e. changes in channel movement over time);
  - Field work results (i.e. site photos, measurement of channel dimension parameters); and,
  - Cross sections and profiles of the channel.
- Rapid Field Assessments:
  - RSAT Evaluations;
  - Stability Index (SI) Interpretation; and,
  - Analysis of Qualitative Habitat Evaluation Index.
- Erosion Thresholds:
  - The point at which sustained flows will tend to entrain and transport sediment, specifically the D_{50} of the substrate material; and,
  - Development of critical shear stresses and critical flow (on reach basis).
- Flow Duration Analysis Recommendations.

The fluvial assessment should result in future modelling recommendations (i.e. event-based modelling vs. continuous modelling) and establish the critical flow for the receiving reach which is necessary to conduct the supplementary erosion exceedance analysis for the development. The erosion exceedance analysis will set the extended detention criteria for the site (i.e. 24hr, 48hr or 72hr extended detention) which will retain stormwater on site mitigating adverse erosion impacts downstream.

Smaller development sites that prove to have minimal impact to the watershed may only be required to maintain “good housekeeping” practices. These include monitoring mud tracked from the construction site, controlling silt and debris being washed into storm sewers and watercourses, and controlling wind blown dust. The Lake Simcoe Protection Plan is proposing policies to minimize the amount of dust erosion generated from construction sites that may impact future developments. Sites with greater impact to the watershed require greater sediment and erosion control similar to traditional BMP measures as well as maintaining “good housekeeping” practices. Erosion and sediment controls should be monitored during and after construction.

It should be noted that detailed erosion analysis of creeks within the Town will not take place as part of this study. The Town will investigate the opportunity for individual erosion assessments where development will take place (e.g. Sharon West development) or if another major opportunity for stabilization arises. The next two (2) phases of the EA Process will feature detailed erosion assessments on an individual development basis.

5.0 Effectiveness of Existing SWM Works

5.1. Existing SWM Assessment

5.1.1. General

As part of Policy 4.5 SA of the LSPP, a determination of the effectiveness of existing SWM works is required to assess the existing reduction of negative impacts of stormwater on the environment. This requirement involves the verification of the existing pond control structure works and a supplementary sensitivity analysis to examine the existing SWM effectiveness within the Town. See **Section 4.0** for the effectiveness of using a lumped pond approach for the different Community Areas in maintaining downstream peak flows. It is noted that **Section 6.0** through **Section 7.0** of this report detail the examination and verification of existing SWM works (i.e. quality of existing SWMF). The following section will only detail the sensitivity analysis requirement performed on the existing SWMF within the Town.

5.1.2. Background

A review of existing information was conducted and the hydrologic and SWM reports received from the Town that were reviewed for this assessment are listed below:

- Pond 23: Technical Design Brief SWMFs, York Region Industrial Subdivision 19T-94016, Cumming Cockburn Limited (CCL) (July 2004);
- Pond 17: SWM Analysis for Amberglen Estates Phase III File 19T-89091, A.M. Candaras Associates Inc. (December 1994);
- Pond 21: SWM Plan – Manors of Forest Ridge, Town of East Gwillimbury, URS Cole, Sherman (June 2001); and,
- Pond 18: SWM for Riverstone Estates Draft Plan 19T-89117, Greenland International Consulting Inc. (July 2002).

The pond locations used in the sensitivity analysis are illustrated on **Figure 3-5**. It is noted that to perform the sensitivity analysis, only select existing SWMF were reviewed and implemented. The sensitivity analysis methodology is further explained in **Section 5.1.4** of this report.

5.1.3. Objectives

To assess the effects of climate change on the existing SWM works, a hydrologic model will be established to reproduce the SWMF designs of select SWMF within the Town. A sensitivity analysis will then be applied to determine the effects on the representative peak flows and storage volumes of the existing SWMF.

The objectives of the verification and sensitivity analysis of the existing ponds are summarized as follows:

- Verify the hydrologic input parameters (i.e. Drainage Area, CN, TIMP, XIMP, and rating curve) from select existing SWMF within the Town where applicable;
- Develop a sensitivity analysis by adjusting CN values and the 100-year storm event rainfalls and intensities by factors of 25% to simulate the effects of climate change; and,
- Comment on the effects on quantity performance (i.e. peak flows and storage volumes) of the existing SWM works within the Town including a number of assumptions regarding climate change.

5.1.4. Methodology

To conduct the sensitivity analysis, a balanced assessment of existing SWMF characteristics must be developed. The sensitivity analysis will be established through the following seven (7) steps:

- Identify four (4) existing SWMF within Town boundaries which are designed to receive runoff from:
  - A large urbanized drainage area (**Pond 23**);
  - A small urbanized drainage area (**Pond 17**);
  - A large rural drainage area (**Pond 21**); and,
  - A small rural drainage area (**Pond 18**).
  - Utilize existing information from existing SWM reports and drainage area plans to establish the corresponding hydrologic input parameters for each SWMF;
  - Replicate the hydrologic model with Visual OTTHYMO v2.3. and run under the 100-year storm event;
  - Adjust the duration of the 100-year storm event (from 12hr to 6hr and 24hr) to simulate the effects of climate change on short and long duration storm events;
  - Adjust the 100-year storm event rainfall intensity by factors of 25% by modifying the storm parameter (RFACT) to simulate the effects of climate change on low and high intensity storm events;
  - Adjust the CN input parameter (from $CN_{AMC\ II}$ (average) to $CN_{AMC\ I}$ (dry) and $CN_{AMC\ III}$ (wet) to simulate the effects of climate change on the antecedent moisture conditions of the soils; and,
  - Comment on the resulting effectiveness of the existing SWMF (i.e. changes in peak flow and storage volumes) in response to climate change.

5.1.5. Existing SWM Input Parameters

The existing SWM input parameters for the four (4) selected SWM ponds are summarized below in **Table 5-1**.

Table 5-1 – Sensitivity Analysis SWM Input Parameters

Pond ID	Subwatershed	Subcatchment Type (ID)	Area (ha)	CN	TIMP (%)	XIMP (%)	Tp (hr)	SLPI (%)	LGI (m)
23	Black River	STANDHYD (3010)	26.95	76.0	79	79	-	1.5	423.87
		STANDHYD (3020)	5.36	62.0	87	87	-	1.0	189.03
17	East Holland River	STANDHYD (101)	2.60	60.0	25	12	-	1.5	131.00
		STANDHYD (102)	3.75	60.0	1	1	-	1.0	157.00
		NASHYD (103)	2.23	60.0	-	-	0.20	-	-
		NASHYD (104)	1.96	60.0	-	-	0.55	-	-
21	Black River	STANDHYD (204)	1.46	65.5	27	13.5	-	1.7	145.00
		STANDHYD (206)	2.65	65.5	24.5	12.3	-	1.8	340.00
		STANDHYD (207)	4.86	65.5	17.5	8.8	-	0.5	450.00
		STANDHYD (210)	1.64	55.0	27	8.8	-	0.5	30.00
		NASHYD (203)	1.91	57.3	-	-	0.09	-	-
		NASHYD (205)	5.45	58.7	-	-	0.31	-	-
		NASHYD (208)	4.31	57.0	-	-	0.54	-	-
		NASHYD (209)	3.63	56.3	-	-	0.58	-	-
		NASHYD (101)	30.00	54.2	-	-	0.18	-	-
18	Black River	STANDHYD (1)	5.22	50.0	20	20	-	1.0	186.50
		NASHYD (2)	3.63	75.0	-	-	0.06	-	-
		NASHYD (3)	1.52	80.0	-	-	0.05	-	-

In addition, the existing SWMF rating curves are summarized below in **Table 5-2** to **Table 5-5**.

Table 5-2 – Rating Curve for Pond 23

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
Black River	0.000	0.000
	0.014	0.152
	0.037	0.307
	0.058	0.465

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
	0.073	0.627
	0.086	0.793
	0.097	0.975
	0.302	1.161
	0.318	1.349
	0.334	1.540
	0.349	1.735
	0.363	1.932
	0.376	2.133
	1.088	2.337
	2.379	2.544
	4.046	2.754
	6.017	2.967

Table 5-3 – Rating Curve for Pond 17

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
East Holland River	0.000	0.0000
	0.007	0.0015
	0.017	0.0925
	0.410	0.1756

Table 5-4 – Rating Curve for Pond 21

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
Black River	0.000	0.000
	0.000	0.000
	0.003	0.146
	0.020	0.263
	0.071	0.419
	0.112	0.555
	0.151	0.751
	0.173	0.905

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
	0.184	1.010
	0.185	1.038
	0.187	1.205
	0.189	1.381

Table 5-5 – Rating Curve for Pond 18

Subwatershed	Outflow	Storage
	(m^3/s)	(ha·m)
Black River	0.000	0.000
	0.007	0.425
	0.064	0.430
	0.073	0.465
	0.096	0.525
	0.139	0.580
	0.192	0.615
	0.254	0.651

It is noted that the Pond IDs correspond to the pond survey IDs described in **Section 7.0** (as implemented by SWMSoft) and a figure detailing the pond locations is provided as **Figure 3-5**.

5.2. Hydrologic Modelling Results

The 100-year storm (SCS Type II 12hour) for the Black River and East Holland River subwatersheds were run to evaluate the existing outflow and storage volume used in each SWMF. This scenario of hydrologic modelling is called the 'base model'. The resulting peak flows and storage volumes of the base model are summarized below in **Table 5-6**.

Detailed hydrologic model output is included in **Appendix K**.

Table 5-6 – Post-Development Base Model Peak Flow and Storage Volumes of Existing Ponds

Pond ID	Storm Event	Rainfall	$Q_{OUTFLOW}$	Storage Used
	year	mm	m^3/s	ha·m
23	100	121	1.312	2.3738
17	100	89	0.242	0.1402
21	100	121	0.198	2.1785
18	100	121	0.004	0.2723

5.3. Sensitivity Analysis

In support of the evaluation of the existing SWM works within the Town, a sensitivity analysis was conducted of the modelling. The resulting peak flow hours and storage volumes of the base model were evaluated against a variation in storm event duration, rainfall intensity and CN values. The revised CN values for each SWMF are summarized below in **Table 5-7**.

Table 5-7 – Sensitivity Analysis Variation in CN Value

Pond ID	Subwatershed	Subcatchment Type (ID)	Area (ha)	CN_{AMCII}	CN_{AMCI}	CN_{AMCIII}
23	Black River	STANDHYD (3010)	26.95	76.0	58.0	88.0
		STANDHYD (3020)	5.36	62.0	42.0	79.0
17	East Holland River	STANDHYD (101)	2.60	60.0	40.0	77.0
		STANDHYD (102)	3.75	60.0	40.0	77.0
		NASHYD (103)	2.23	60.0	40.0	77.0
		NASHYD (104)	1.96	60.0	40.0	77.0
21	Black River	STANDHYD (204)	1.46	65.5	46.0	82.0
		STANDHYD (206)	2.65	65.5	46.0	82.0
		STANDHYD (207)	4.86	65.5	46.0	82.0
		STANDHYD (210)	1.64	55.0	35.0	73.0
		NASHYD (203)	1.91	57.3	37.0	74.0
		NASHYD (205)	5.45	58.7	39.0	76.5
		NASHYD (208)	4.31	57.0	37.0	74.0
		NASHYD (209)	3.63	56.3	36.0	76.5
		NASHYD (101)	30.00	54.2	34.0	72.5
18	Black River	STANDHYD (1)	5.22	50.0	30.0	70.0
		NASHYD (2)	3.63	75.0	56.0	88.0
		NASHYD (3)	1.52	80.0	63.0	91.0

The results of the sensitivity analysis for peak outflows and storage volumes of each evaluated SWMF are presented below in **Table 5-8** and **Table 5-9**.

Table 5-8 – Sensitivity Analysis Results (Peak Flow)

Condition / Adjustment	Peak Flow (m^3/s) / Percent Change from Base Model			
	Pond 23 (Large Urban)	Pond 17 (Small Urban)	Pond 21 (Large Rural)	Pond 18 (Small Rural)
Base Model / None	1.312	0.242	0.198	0.004
6hr / 100-year Storm Duration	0.322 / -75.5%	0.129 / -46.7%	0.137 / -30.8%	0.002 / -50.0%
24hr / 100-year Storm Duration	1.008 / -23.2%	0.887 / +266.5%	0.199 / +0.5%	0.005 / +25.0%

	Peak Flow (m^3/s) / Percent Change from Base Model			
-25% / Rainfall Intensity	0.367 / -72.0%	0.090 / -62.8%	0.188 / -5.1%	0.003 / -25.0%
+25% / Rainfall Intensity	3.201 / +144.0%	0.426 / +76.0%	0.210 / +6.1%	0.006 / +50.0%
AMC I Conditions / CN	1.110 / -15.4%	0.078 / -67.8%	0.187 / -5.6%	0.003 / -25.0%
AMC III Conditions / CN	1.465 / +11.7%	0.469 / +93.8%	0.212 / +7.1%	0.006 / +50.0%

Table 5-9 – Sensitivity Analysis Results (Storage Volumes)

Condition / Adjustment	Storage Volume (ha·m) / Percent Change from Base Model			
	Pond 23 (Large Urban)	Pond 17 (Small Urban)	Pond 21 (Large Rural)	Pond 18 (Small Rural)
Base Model / None	2.3738	0.1402	2.1785	0.2723
6hr / 100-year Storm Duration	1.4025 / -40.9%	0.1161 / -17.2%	0.6826 / -68.7%	0.1056 / -61.2%
24hr / 100-year Storm Duration	2.3143 / -2.5%	0.2771 / +97.6%	2.2347 / +2.6%	0.2931 / +7.6%
-25% / Rainfall Intensity	1.9950 / -16.0%	0.1080 / -23.0%	1.2766 / -41.4%	0.1820 / -33.2%
+25% / Rainfall Intensity	2.6535 / +11.8%	0.1793 / +27.9%	3.2137 / +47.5%	0.3716 / +36.5%
Dry AMC I Conditions / CN	2.3421 / -1.3%	0.1055 / -24.8%	1.1871 / -45.5%	0.1996 / -26.7%
Wet AMC III Conditions / CN	2.3975 / +1.0%	0.1883 / +34.3%	3.3906 / +55.6%	0.3694 / +35.7%

It is noted that the variable conditions as summarized above in **Table 5-8** and **Table 5-9** outline the assumptions by which climate change may have an impact on existing SWMF. Detailed climate change assessments were not completed as part of this study.

Results

By inspection and as shown above in **Table 5-8** and **Table 5-9**, the peak outflows are generally sensitive for a shorter duration storm for all drainage areas, where modelling indicates that a 25% change from the Base Model value results in a greater than 25% change in the peak flow, either positive or negative. Similarly, longer storm duration is the most sensitive to the peak flows from a SWMF draining a small urbanized area. The storage volumes generally decrease during short storm events as expected and increase (with the exception of the large urban area) during longer duration storms. To summarize, the existing ponds would operate at normal conditions for short storm events (i.e. peak flows and storage volumes are adequate) and during longer storm events the pond outflows and storage volumes would generally increase.

Alternatively, the peak flows are generally not sensitive to a 25% reduction and increase in rainfall intensity for rural areas. Peak flows from SWMFs draining urban areas however are very sensitive to decreases and increases in rainfall intensity. Pond volumes are generally not sensitive to changes in rainfall intensity for ponds draining urban areas and are sensitive in rural areas. In addition, moisture conditions of the draining soils are generally sensitive to ponds draining smaller drainage areas for both peak outflows and storage volumes. This would suggest that larger ponds would still operate at a normal level during saturated ground conditions as a result of climate change.

The sensitivity analysis provided above in **Table 5-8** and **Table 5-9** indicates that the changes in the conditions of storm events and hydrologic parameters on the existing SWMF in the Town are generally sensitive in terms of peak outflows and storage volumes.

It should be noted that the sensitivity analysis performed is to simulate the assumed hydrologic instability based on climate change. Climate change is variable in nature and cannot be wholly assessed as part of this analysis.

5.4. Climate Change

The LSRCA realizes that the concept of Climate change is still an evolving term but needs to be addressed as it is expected to influence, directly and indirectly all elements of the Lake Simcoe Watershed. Climate change may potentially impact the Town by having an increase in phosphorus loading, increase in sediment and contaminants in flood transportation, reduction in ground water flows, variation in stream flow regimes, and changes in precipitations, lake levels, erosion, and ice cover. The Conservation Authority would like municipalities to investigate comprehensive master plans which will consider the potential impacts of climate change on the effectiveness of SWM works. This is detailed in the above sections. Future risk assessment and adaptation planning may need to be completed once the impacts of climate change have been confirmed.

6.0 Examination of Stormwater Retrofit Opportunities

6.1. General

The Lake Simcoe Basin SWM and Retrofit Opportunities (2007) Report by the LSRCA has identified the need for a complete, consistent, and contemporary data set associated with stormwater runoff in the Lake Simcoe Watershed. This data set includes all urban catchments, outlets, existing SWMFs and locations, and phosphorus loads associated with stormwater runoff. This report also identifies retrofit opportunities including facilities that can be upgraded, or areas that can support a SWMF.

The retrofit opportunities in the Town include:

- Three (3) in Sharon;
- 20 in Holland Landing; and,
- Six (6) in Mount Albert.

A detailed list, including type of retrofit, size of SWMP, phosphorus reduction rate, and an estimated cost is available in the report which is publicly accessible on the LSRCA website (www.lsrca.on.ca). The existing SWM retrofit opportunities within the Town including uncontrolled outlets and areas of a potential SWMF retrofits are illustrated above in **Figure 3-5**.

6.2. Examination of Existing Retrofit Strategy

Alongside the LSRCA, the Town has identified areas and existing facilities that will require a retrofit. Most of these facilities have been identified in the Lake Simcoe Basin SWM and Retrofit Opportunities (2007) and previous reports and studies completed by the LSRCA. The Town and LRSCA have paired to advance projects where funding is available through the Lake Simcoe Clean Up Fund. This is an ongoing effort and the overall goal is to permit all existing facilities within the Town to meet Enhanced requirements.

6.3. Retrofit Strategy Development

Generally, in the absence of a Town retrofit strategy, the development of a new retrofit strategy is required as part of the Policy 4.5 SA of the LSPP. However, as per discussion with LSRCA staff, a new retrofit strategy is not required at this time due to the overall 2007 strategy completed by LSRCA.

The existing areas requiring retrofit should correspond to the areas identified by the LSRCA in the Simcoe Basin SWM and Retrofit Opportunities (2007) Report. The development of the retrofit strategy of existing SWMFs will result from the implementation of SWMSoft SWMF software. Existing SWMFs were surveyed and recommendations based on existing operating conditions are developed as a part of the SWM Maintenance Program detailed in **Section 7.0** of this report. In addition, the SWMSoft Inspection Report and Bathymetric Surveys are included in **Appendix L**.

7.0 SWM Maintenance Program

7.1. Introduction

The Town is responsible for the operations and management of 26 identified SWMFs including both wet and dry ponds. As part of the Great Golden Horseshoe, East Gwillimbury is expected to grow from 23,000 to 86,400 residents by 2031. To effectively manage this population growth, the Town has requested the examination of current SWMFs as part of this Master Plan.

Cole Engineering was retained by the Town to conduct a SWMF Assessment and Maintenance Study to facilitate the on-going management of these SWMFs, and promote effective management techniques. This report presents a summary of findings collected.

7.1.1. Objective

The objective of this section is to:

- Collect field and existing document information of all the Town-owned facilities;
- Conduct a detailed field assessment and evaluate all of SWMFs and their components;
- Estimate available permanent pool volumes in assumed wet ponds;
- Assess the operation and maintenance requirements to keep the facilities in proper operating condition;
- Forecast future maintenance requirements including tasks, resources, schedules and costs; and,

- Implement a database management system to facilitate on-going operations and maintenance.

A good maintenance plan should be proactive, demonstrating due diligence by calling for a comprehensive collection and analysis of data. It should prioritize inspections and maintenance works for repairs and restorations. Performing accurate assessments of individual facilities is necessary to determine the requirements for staff, physical and budget resources required for maintenance. In the long run, proper planning reduces liabilities and costs.

7.2. Background

The Town currently is responsible for the operation and management of 26 assumed SWMFs, and by 2031, the Town will be responsible for a multitude of SWMFs both wet and dry.

Most of the ponds are designed and constructed by developers in accordance with current SWMF design standards and ownership is transferred to the Town once the construction associated with the development area is complete.

7.3. Function and Maintenance of SWMFs

SWMFs have been introduced to mitigate the impacts of urban runoff from existing and new development areas.

Depending on their design, SWMFs can provide:

- Flood protection;
- Water quality treatment;
- Erosion control;
- Base flow augmentation;
- Infiltration;
- Spill management;
- Aesthetics; and,
- Buffer between urbanized areas and/or natural areas.

The following sections describe the basic functions, along with related maintenance activities, that can keep SWMFs operating as intended.

7.3.1. Applicable Legislation, Regulations and Guidance Documents

The following section provides discussion on legislation, regulation and guidance documents which are currently applicable to the construction, operation and maintenance of SWMFs from the federal, provincial, municipal level.

Fisheries Act

The Department of Fisheries and Oceans (DFO) is the implementing agency of the *Federal Fisheries Act*. Section 35 of the Act prohibits the Harmful, Alteration, Disruption and Destruction (HADD) of fish habitat and Section 36 of the Act prohibits the release of substances deleterious to fish habitat. Where a HADD cannot be avoided a Letter of Authorization may be issued by the DFO detailing required mitigation and habitat compensation measures. During the permit issuing process DFO determines whether approval under the *Canadian Environmental Assessment Act* (CEAA) is required for the project. This determination would be based on the decision regarding a HADD.

LSRCA has an agreement with the DFO to identify fish habitat impacts within their watersheds. In addition, the CAs provides co-ordination and assistance to DFO for review and assessment of projects, which may impact fisheries and/or fishery habitat. In general SWMFs are not considered fish habitat, however, natural wetlands, lakes and the creeks connected to SWMFs are. As such, it is the responsibility of the Town to ensure that proposed works which may affect wetlands, lakes and creeks do not have a negative impact on the natural fish habitat.

Canadian Environmental Assessment Act

In most cases, Federal Environmental Assessments are not applicable for work associated with SWMFs, however, one can be triggered if a designated licence, permit, or approval such as an authorization for a HADD under the *Fisheries Act* is required. In general, an environmental assessment is a process to predict the environmental effects of proposed initiatives before they are carried out. They can be fairly straight forward or be subject to a comprehensive study reviewed at the federal level depending on the potential environmental impacts.

Ontario Environmental Assessment Act

Establishment of new SWMFs is subject to the Municipal Class Environmental Assessment Process described by the Municipal Engineers Associations, 2007 in accordance with the *Ontario Environmental Assessment Act*.

The Class EA planning takes into consideration the protection of all aspects of the natural, social and economic environment as well as long-term planning for the mitigation of any adverse effects during both construction and commissioning. The Class EA process also includes consultation with the Public, First Nations, Government Agencies, local interest groups and review bodies to obtain input and feedback and to ultimately attain general acceptance for the preferred alternative.

The design and construction of most SWMFs would follow the Schedule A Class EA process since they would be required as a condition of approval of site plan, or plan of subdivision and would come into effect under the *Planning Act* prior to the construction of the facility. Modifications or retrofits to SWMFs are subject to a Schedule A+ Class EA. Most other new SWMFs would follow the Schedule B Class EA process.

Places to Grow Act and the Greenbelt Act

"*Places to Grow*" is the Ontario Government's initiative to promote sustainable growth and development in the Greater Golden Horseshoe. The plan outlines the framework for infrastructure including water and wastewater infrastructure. It supports the policies identified in the Greenbelt and encourages innovative SWM actions.

Ontario's Greenbelt is an area of permanently protected green space, farmland, forests, wetlands and watersheds. The Greenbelt Plan covers approximately 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe. SWMFs within the Greenbelt are subject to the requirements of the Greenbelt Plan which are aimed at the protection of key natural features and key hydrologic features.

Lakes and Rivers Improvements Act

The Ministry of Natural Resources (MNR) is the lead agency responsible for the management of fish resources in Ontario. MNR approval is required under the *Lakes and Rivers Improvement Act* for the placement of structures to convey and dissipate flows. Potential changes to the rivers streams or stormwater ponds may be required MNR approval.

Ontario Water Resources Act

As per the Ministry of the Environment (MOE) Certificate of Approval (C of A) issued under Section 53 of the *Ontario Water Resources Act*, owners of SWMFs are responsible for maintaining them in proper working condition.

This means operating as per the original design specifications and includes all components in the original design such as inlet and outlet structures, side slopes, sediment forebay, shading measures, erosion protection lining, manhole covers and the approved volumes.

The C of A clearly outlines the legal requirements where the owner must:

> *"ensure that the works will be operated, maintained, funded, staffed, and equipped in a manner enabling compliance with the terms and conditions…such that the environment is protected and deterioration, loss, injury, or damage to any person or property is prevented"*

With regards to sediment removal, the owner must understand that:

> *"regular removal of sediment from the approved SWM works is required to mitigate the impacts of sediment on the downstream receiving watercourse. It is also required to ensure that adequate storage is maintained in the SWMFs at all times, as required by the design"*

Within a municipal context, developers typically build and own the SWMFs as part of the development block, and they are responsible for maintaining them in proper operating condition. However, the responsibility shifts when the municipality assumes ownership. Prior to transferring ownership to the Town, an as-built survey should be completed to ensure that the facility was built and maintained in accordance with the C of A. A full clean out should also be conducted on the facility to return it to the full permanent pool volume as per the original design requirement, unless the survey indicates a minimal amount of accumulated sediment (Drake & Guo 2008).

The MOE provides the following Guidance Documents to understand the requirements of SWMFs and assist with the application for a C of A:

- MOE. SWM Planning and Design Manual. March 2003; and,
- MOE. Section 53, Ontario Water Resources Act. Sample Application Package for a Sanitary Sewage and Stormwater Collection System & SWMF Certificate of Approval. June 2009.

Ontario Municipal Act

The *Municipal Act* empowers individual municipalities to adopt by-laws, policies and guidelines to suit the goals and needs of each local community. The Town has developed standards for SWMFs as described in Section 4 of the Subdivision Design Manual, dated February 2005. The manual outlines the requirements imposed by the Town for the design and preliminary maintenance needs for new SWMFs.

Conservation Authorities Act

Section 28 enables the Conservation Authority to make Regulations prohibiting, regulating or requiring the permission of the authority for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland.

The Lake Simcoe Region Conservation Authority (LSRCA) is authorized through O.Reg. 179/06, Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Through this Regulation, the CA may prohibit work from taking place within valley and stream corridors, wetlands and associated areas of interference. Any work which falls within the regulated areas described as follows is subject to this regulation:

- Straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland;
- Development, if in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development; and,
- Where Development is defined as:
  - The construction, reconstruction, erection or placing of a building or structure of any kind;
  - Any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure;
  - Site grading; and/or,
  - The temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

Endangered Species Act

In general, engineered SWMFs such as wet ponds and dry ponds are not considered fish habitat, however, they may discharge to creeks which provide habitat for endangered species. In such situations, provisions need to be made to protect the habitat and ensure that no impacts occur. Wetlands and lakes, however, can be considered fish habitat and it would be necessary to consider the requirements under this act. If it is suspected that endangered species are within the study area, the MNR should be consulted to determine if specific measures are required.

Environmental Protection Act

Proper management of SWMFs will require periodic maintenance to restore the permanent pool volume. Sediment quality, management and disposal of impacted dredged material should adhere to MOE requirements:

- MOE. Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario. December 1996;
- O.Reg. 153/04 as amended by O.Reg. 511/09 – *Records of Site Condition*; and,
- O.Reg. 347/90 as amended by O.Reg. 558/00 – General Waste Management.

Oak Ridges Moraine Conservation Plan

Any development that is to occur on lands under the Oak Ridges Moraine Conservation Plan (ORMCP) legislation must be accompanied by a stormwater management plan as set out in section 46 of the Oak Ridges Moraine Conservation Plan. The objectives of a stormwater management plan are to; maintain groundwater quantity and quality; protect aquatic species and their habitat; prevent increases in stream channel erosion; and; prevent any increase in flood risk. The ORMCP would prefer to have an integrated treatment train approach that uses a planned sequence of methods for controlling stormwater and minimising impacts.

Lake Simcoe Protection Plan

Further discussion is provided above in **Section 1.0**.

7.4. Methodology

The following section describes in detail the methodology undertaken to assess each facility's maintenance needs and collected data. During the course of the study, design drawings and reports were scanned into electronic files to allow instant access from the software.

These files were also used to populate the database with all relevant information regarding the SWMFs. All of the field data necessary to complete the study was collected from winter 2010 to present. This data includes facilities, components, inspection results, maintenance recommendations, and bathymetric survey results.

7.4.1. Database Development

The design of the database was completed early in the project. The design involved merging data from the Town with Cole Engineering's SWMF management database, SWMSoft. Most of the data from the Town database consisted of facility information (name, type, function and location) as well as data referring to its functionality (drainage area, slope, and drainage length). It should be noted that the data collected had gaps and require further refinement. Additional tabs consisted of five (5) main groups:

1. Attributes;
2. Inspection;
3. Maintenance;
4. Hydrology; and,
5. Resources.

7.4.2. Attribute Data

The attribute data set contains the physical characteristics of a facility or component, for example, its location or parent component. The relationships between facilities and components (inlet, outlet, and berm) and between a parent component (inlet) and its child component (baffle blocks, headwall, and grate) were stored so that components could be easily found and logically stored in a tree view. This was limited to a degree of two (2) to reduce unnecessary complexity in the system.

7.4.3. Inspection Data

Inspection information was stored after each inspection of the facility. This data includes the inspector, condition of the component, comments by the inspector, date of inspection, condition ranking and photo.

Components assessed include:

- General facility appearance;
- Inlet and outlet structures;
- Low flow channels;
- Emergency overland spillway;
- Vegetation;
- Access road and walkways;
- Perimeter fencing;
- Any unusual situations within the facility such as the presence of erosion, unsafe conditions, nuisance issues, encroachments, poor water quality, etc.;
- Sediment accumulation; and
- Public safety.

The condition ranking system is the basis for the maintenance assessment of the facilities and components. A condition ranking between 1 and 5 was given, where:

1 = Excellent (the component has no deterioration);

2 = Satisfactory (some wear is noticed, but does not affect the functionality of the component);

3 = Attention Required (the component is still functioning but has minor problems that may prevent the component from functioning properly during extreme events – some simple upkeep is required);

4 = Non-Functional (the component is no longer functioning as designed); and,

5 = Safety Hazard (the component presents a safety hazard either because it allows access to restricted areas, e.g. a grate on a pipe is not secure, or the component is structurally unsound e.g. erosion of the access road).

7.4.4. Maintenance Data

Maintenance information was stored when a maintenance task was opened after an inspection. The information stored when a task was opened consists of the maintenance task, the description, type of task (inspection, upkeep, repair, or replacement), a photograph of the component, and any resources needed to complete the task. Resources are discussed in the following section.

When a task is closed, the information on how long the task took, as well as when it was completed can be stored with the original budget and the final cost of completing the tasks. Photographs taken during maintenance can also be stored with the closed maintenance task. By incorporating photographs into every aspect of the system, any user from any department can have a good idea about the current state of a component, as well as how it changes over time.

7.4.5. Resource Data

Internal and external resources available to the Town play an important role in the maintenance of a facility. Resources are used to perform tasks such as repairs and sediment removal. Resources are separated into four (4) groups: Town staff, materials, contractors, and consultants. Each resource is given a cost as well as a unit in terms of time or frequency when tasks are assigned. This allows the number of units of a given resource to be summed in order to render the total cost of the maintenance task. It is important to note that if the rate of a resource is changed, the cost of all open maintenance tasks is also changed in the software. Once the task is closed, the budget for the task is stored together with the actual cost. Thus, a comparison can be made between budgeted and actual maintenance costs, which can be used for future planning.

7.4.6. File Data Collection

Collecting file data is an important step in preparing the maintenance plan. The Town provided numerous scanned reports with information pertaining to the maintenance of the facilities or their components. All reports, drawings, briefs, and files were reviewed and any facility or drainage area information was added to the database. Existing data gaps are further explained in **Section 1.5**. All drawings and all main bodies, and as much of the appendices as possible of each report were scanned. The scanned images are stored such that they are easy to access from the software, thereby facilitating the search for information.

7.4.7. Field Data Collection

All field data was collected via a GPS or total station survey, digital camera, and inspection sheets. If an assumed permanent pool was associated with the facility, then a bathymetric survey was completed with the Cole Engineering-designed bathymetric rod and boat.

Inspections

During an inspection, each component's location was captured with the GPS station. This data was used to place an icon on the Master drawing, giving a complete picture of the facility. Also, at least one photograph of each component was taken so that future inspections can be compared. Photos, besides of each component, included overviews of SWMFs, upstream and downstream embankment faces, inlets to the SWMF and downstream outfalls from the SWMF and any issues associated with the SWMF. These photos allowed for maintenance tasks to be assigned without the need for further visits.

When performing the visual inspection, all field staff used a general inspection form, included in the SWMSoft report. The Pond ID, subcomponent and parent component were entered, along with descriptions of the component and its location. A ranking from 1 to 5 was selected to indicate the condition of the component and a space for any comments related to the ranking was provided for rankings 3 and higher. A default satisfactory description is available in the software when entering inspection results. The SWMSoft Inspection Report is included in **Appendix L**.

Bathymetric Survey

As mentioned above, if a facility has an assumed permanent pool component, a bathymetric survey was completed as well as the component survey. Bathymetric surveys assessed the quantity of sediment accumulated in the pond. Two (2) methods were used to collect the data, with the second method being used only when the equipment was available.

For both methods, the equipment used included a portable boat, several sections of floating rope, tent anchors, spray paint, and two (2) rods, one (1) neutrally buoyant and the other made of metal. In the first method, a measuring tape and total station survey equipment were also required. In the second method, global positioning system (GPS) survey equipment was used instead of a total station.

The first step in the process consisted of examining the site for suitable cross-sections that would provide enough points to develop the model, in locations where there were likely changes in depth. In most cases, cross-sections spaced evenly every 10 – 15 m across the entire pond were completed. Anchor points were sprayed or flagged, numbered, and surveyed along the water's edge where the cross-section meets the water. Upon completion of the staking, a rope was strung across the cross-section to keep the boat in a straight line.

In the first method, the measuring tape was secured to the anchor. The rope was used to keep the boat in a straight line between the cross-section points and the tape measure was used to ensure a point was taken every 5 m (2.5 m if the cross-section was very narrow). The total station survey equipment was used to take an X-Y coordinate position in relation to a benchmark determined on the SWMF. In the second method, GPS survey equipment was used, and UTM coordinates were recorded at every point and sediment and pond bottom depth were measured. These measurements were taken approximately every 5 m.

To measure the sediment depth, the neutrally buoyant bathymetric rod was allowed to slowly sink until it rested on the sediment. Once the reading was taken, the metal rod was threaded through the neutrally buoyant rod and the sediment until it reached the original bottom of the pond. This process continued across the entire pond to complete the bathymetric survey.

The bathymetric survey provided multiple cross-sections across the entire pond. These points were then compiled to create a digital terrain model of the two surfaces. This is explained in the following section and detailed in **Appendix L**.

7.4.8. Permanent Pool Volume Analysis

Cole Engineering began analyzing the permanent pool volume using the coordinates of each pond as well as each point in the cross-sections inputted into the software. The software then generated the Northing, Easting, and an elevation points for the sediment and pond bottom for each measurement. Next, the points were imported into AutoCAD Civil 3D and into Digital Terrain Models that we generated to create an accurate model of each pond. From this model, we calculated the current sediment volume and the remaining permanent pool volume. Generated drawings for each facility show the top of sediment contour lines and several cross-sections of the pond. The volumes of both permanent pool and active storage, if available, are also displayed. Drawings are included in the Bathymetric Surveys provided in **Appendix L**.

Assess Maintenance Requirements

After completing inspections, all components with a condition rating of 3, 4, or 5 were evaluated for their maintenance needs. To create the maintenance task and to allocate the resources needed to complete it, photographs and comments made by the inspector were used. For each task, a related photograph taken during the inspection was selected in order that those performing the maintenance would have a visual of what the task would entail. While adding a due date and reminder date was possible, this was not done since the Town could more appropriately provide future work schedules.

7.5. Results

7.5.1. Inventory

A comprehensive inventory of the Town's SWMFs can be found in the SWMSoft report and a key map is provided in **Figure 6**. This inventory lists the ponds by Pond ID and provides information regarding the facility name, pond type (i.e. wet pond, and dry pond.), facility function, facility type (offline or online), facility status (assumed or unassumed), and whether or not a bathymetric survey was completed.

7.5.2. Inspections

A summary of inspection results for all ponds, listed by Pond ID, is generated by SWMSoft and is included in the SWMSoft report in **Appendix L**. All ponds with at least one (1) component ranking 3, 4 or 5 are highlighted in **Table 7-2** as they require immediate maintenance.

7.5.3. Permanent Pool Volume Analysis

Based on the bathymetric surveys and permanent pool volume analysis, the sediment volume, remaining permanent pool volume, and total pond volumes are displayed in the SWMSoft report along with a recommended sediment removal timeframe. Bathymetric drawings for the ponds that are over 40% full of sediment are provided in the SWMSoft report. The MOE *SWM Planning and Design Manual* (2003) recommends storage volumes based on drainage area and MOE protection level, which determines the efficiency at which the pond removes sediment. Drainage area and protection level information was not available for all ponds in order to calculate the necessary sediment volume to be removed so as a general rule, ponds with >50% sediment accumulation was considered to require immediate sediment removal.

The ponds identified as requiring immediate sediment removal are 01, 08, 10 and 17. Pond 15 is recommended to have sediment removed within the next five years.

Upon review of the design reports available for these ponds, it appears that the amount of sediment accumulation exceeded initial predictions. It is possible that proper erosion control plans were not implemented during construction of the subdivision. In discussion with the Town, it was determined that the ponds had not been dredged prior to assumption by the Town, which may account for some of the excess accumulated sediment. It should be noted that some of the ponds assumed by the Town were designed and built before the MOE guidelines went into effect. Before a sediment plan is attempted, we recommend reviewing the possibility of a retrofit that would update the facility to current standards as the area surrounding the pond will, in any case, need to be disturbed and any necessary equipment will already have to be in place. The SWMSoft Inspection Report and Bathymetric Surveys are included in **Appendix L**.

7.6. Sediment Removal Process

7.6.1. Background Review

Since each SWMF has specific site characteristics, it is important to conduct a thorough Background Review to identify approvals requirements, evaluate alternative approaches and develop an optimal sediment removal program.

Review of Available Information

In order to obtain a good understanding of the scope of the program, certain documents should be reviewed in detail including:

- A comprehensive bathymetric survey which outlines the estimated quantities requiring removal;
- SWM Design Drawing, or Drainage Plans; and
- Other reports on retrofits and maintenance.

Field Investigations

A site visit should be conducted to collect additional information about the existing site conditions. As part of the site visit: sediment sampling, topographic survey, condition survey of the pond structures, SWMFs areas and adjacent properties, possible access routes, tree protection / removal requirements, utilities, temporary storage area of sediments, etc. should be assessed.

Public Consultation / Liaison

Communication with the local community is a key component in the successful execution any major program. It will be important to inform adjacent private property owners of the work to be carried out on the SWM facilities. Information to be provided to the private property owners will include, but not limited, to the following:

- Construction access to the SWM facility;
- Method of sediment removal and dewatering;
- Potential generation of dust during dewatering operations;
- Possible noise level due to sediment removal and dewatering operation;
- Odour impact;
- Duration of sediment removal and dewatering operation; and,
- Timing of sediment removal and dewatering operation.

Any required easement and construction access through private properties will be identified in the early stages of the design and discussed with affected property owners.

Agencies Consultation and Approvals

Permitting and approval requirements for each pond may differ depending on Site conditions (i.e. on-line vs. off-line, within regulated areas, or if significant environmental impacts are anticipated). It will be important to consider what legislation and regulations are applicable. **Table 7-1** below provides a discussion on potential legislation applicable in the management of SWMFs. The key regulatory agencies which may be involved with sediment removal processes are included below in **Table 7-1**.

Table 7-1 – Discussion on Potential Legislation

Agency	Applicable Approvals
Department of Fisheries and Oceans	Wetlands, lakes, and on-line ponds which provide fish habitat would need to be reviewed for federal requirements. If a Harmful, Alteration, Disruption and Destruction (HADD) of fish habitat or a release of substances deleterious to fish habitat is anticipated, the DFO should be consulted. The DFO can also determine whether approval under the Canadian *Environmental Assessment Act* (CEAA) is required for the project.
Ministry of Environment	Sediment removal is considered a regular maintenance activity and would generally require a Schedule A Environmental Assessment unless if environmental impacts are anticipated. Other work may trigger other requirements and should be reviewed on an individual basis. Sediment quality, management and disposal of impacted dredged material should adhere to MOE requirements: MOE. Guidance on Sampling and Analytical Methods for Use at Contaminated

Agency	Applicable Approvals
	Sites in Ontario. December 1996. O.Reg. 153/04 as amended by O.Reg. 511/09 - *Records of Site Condition* O.Reg. 347/90 as amended by O.Reg. 558/00 – General Waste Management
Ministry of Natural Resources	In most cases, MNR involvement is not anticipated for the management of sediments in SWMFs, unless changes to flows in rivers, creeks or discharges from SWMFs are expected. If it is suspected that endangered species are within the project area, the MNR should be consulted to determine if specific measures are required.
Lake Simcoe Region Conservation Authority	Some SWMFs fall within regulated areas which are mapped by the CAs who regulate and may prohibit work from taking place within valley and stream corridors, wetlands and associated areas of interference and the Lake Ontario waterfront.
York Region	Construction access may be required on Regional property. Tree Removal / Protection By-Law may need to be reviewed as part of the development of the sediment removal.

Management of Sediments

During field investigations, sediment samples should be collected to develop a basic understanding of the physical and chemical properties of the sediment materials.

Sampling should be conducted using a protocol and methodology as described in the MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario Document, dated December 1996.

Analysis to characterize sediment properties should include:

- Grain size analysis;
- Inorganic parameters and nutrients (Moisture content, Total Organic Carbon, TKN, ammonia, nitrate, nitrite, phosphorus);
- Full suite of analysis as per the O.Reg. 347/90 as amended by O.Reg. 558/00; and,
- Full suite of analysis as per the O.Reg. 153/04 as amended by O.Reg. 511/09.

All analysis shall be conducted at a Canadian Association for Laboratory Accreditation (CALA) Accredited Laboratory. Understanding the physical properties can help in evaluating the various sediment removal options.

Comparison of analytical results with criteria defined by O.Reg. 558/00 can determine whether materials are classified as hazardous wastes. If materials are classified as hazardous wastes, then disposal options are limited to hazardous waste receivers. If materials are not hazardous wastes, then various disposal options can be considered.

Comparison of analytical results with the "soil criteria" defined by O.Reg. 511/09 (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, July 2009) can help in establishing whether sediments meet acceptable environmental criteria for different types of land-uses. According to the amended regulations, non-hazardous soils meeting certain land-use criteria can be transported as fill material to another property with equal or less stringent criteria.

Sediment sampling conducted prior to removal can provide a general understanding of conditions which can be expected during removal, however, additional sampling of materials as they are excavated will be required if they are to be transported off-site to ensure they are disposed of in accordance with all applicable statutory and receiver requirements. O.Reg. 511/09 requires at least one (1) soil sample shall be analyzed for each 160 cubic metres of soil for the first 5,000 cubic metres and at least one sample for each additional 300 cubic metres of soil.

7.6.2. Design and Tender

Methodology Review and Selection

The understanding of physical and chemical site conditions should be used to develop a comprehensive program. Various sediment removal alternatives should be evaluated to identify the preferred approach taking into consideration:

- Excavation (Conventional and/or Hydraulic);
- Dewatering (Drying Beds / Geo-Synthetic Bags / Belt Filter Press / Centrifuge); and,
- Disposal of Dewatered Sediments (On-site / Offsite).

The "preferred solution" will base on the best possible fit of removal and disposal methodologies under the existing conditions at each location and consider:

- Duration;
- Construction and equipment access;
- Work hours;
- Stockpiling of removed sediments;
- Pond dewatering;
- Sediment quality sampling;
- Disposal route;
- Odour Impact;
- Noise Impact;
- Aesthetic Impact; and
- Overall Cost.

Sediment Removal Options

For sediment removal both mechanical as well as hydraulic dredging methods are available. Both methods carry their advantages and disadvantages.

Conventional Excavation

Different excavating machines could be deployed such as tracked or wheeled front loader, shovel, back hoe, and backfill blade or bulldozer. The method of sediment drying / dewatering is also a factor in the selection. The size of the pond and the physical properties of the sediments is a key factor in the selection of the excavating equipment. Conventional excavation is very economical where the pond has a possibility and capacity to drain. The pond is drained and sediments are left exposed for drying naturally or suitable methods are adopted for removal of moisture contents in addition to a natural drying process. Conventional excavation is very cost effective where noise, odour or aesthetics is not a sensitive issue. This is the most desirable option because of the ease of operation and cost implication. The down side is that a longer duration is required for drying of sediments and non-availability of the SWMF for its desired function during that period.

Hydraulic Excavation

Hydraulic dredging is the best way to remove sediments without draining the SWMFs. One (1) option available includes auger dredging with an adjustable mud shield. These auger dredges are available in different sizes and are suitable for large volumes over longer distances. Dredges can be manoeuvred in the water by means of propellers, cables, or mechanical legs.

The auger dredge works by having an auger-like device cut into the sediments while, at the same time, a powerful pump is used to extract the resulting mixture of sediment and pond water. This changes the nature of the sediments from being semi-solid to be a slurry or “dredgeate”. The advantage of this situation is the slurry / dredgeate is relatively easy to pump from the floating dredge to a land based processing facility. The disadvantage is that extra water is required to create pumpable slurry and it must be removed before it is hauled away for disposal or reuse.

Sediment Dewatering

In order to determine a suitable dewatering site several aspects need to be investigated including:

- Proximity to the pond;
- Distance to the majority of dredging activities;
- Accessibility of large trucks;
- Adequacy of existing features and the magnitude of upgrading which would be required to provide all features needed for the dewatering equipment;
- Availability of power, and,
- Impact on land based environment and park users.

Settling Ponds / Conventional Drying Beds

Settling ponds offer the most cost effective and least noisy method available for the reduction of moisture content from the sediments. Disadvantages when using settling ponds include the duration, odour and aesthetics. Other options include conventional drying bed method. Available area for construction of drying ponds or bed is also an important factor to be considered for the selection of this method.

Geo-Synthetic Filter Bags

Geo-Synthetic Filter Bags are large bags made of very strong geo-fabric with maximum 500 microns filter opening. The dredgeate / slurry treated with flocculating compound is pumped into the filter bag. The fine sediments flocculate together and settle in the bag. Centrate is separated from dredgeate and filtered out of the filter bag. A constant head is maintained for expulsion of water from the filter bag (disposal of the centrate is a separate issue). The slurry is constantly pumped into the bag to keep a positive pressure on the escaping fluid. The bag is left for several days before more slurry is pumped into the bag. This process is repeated until the bag is full of sediment. The sediment filled bag is pierced and the sediments are disposed off at site or off site using conventional methods.

This method can be slow and the drying time is dependent upon the physical properties of the sediments, weather, surface area exposed to atmosphere, flocculating agent used, and area available for the filter bags (more filter bags means less dewatering time).

Mechanical Dewatering

These processes are already in use at waste water treatment facilities for the dewatering of sludge. The commonly used equipment is a plate and frame filter press, belt filter press and centrifuge.

The plate and frame filter press is a batch process, removal of moisture content is highest, dry solid content are in the range of 30 % to 52 %, disadvantage is intermittent operation and low production. The belt filter press is a labour intensive continuous operation. The resultant solid contents are up to 25 % and the production is low.

The centrifuge has an advantage of continuous operation with a high production rate. In water treatment and wastewater treatment industry, centrifuges are common at large treatment plants where high production rates, cleanliness and odour control (easier because centrifuge is mostly closed) are important. Centrifuges are most cost effective ($/ton processed) than any other process described above. The disadvantages of mechanical dewatering are cost, noise and power requirements.

Centrate Handling

It is anticipated if mechanical dewatering is selected; polymers will be used to accelerate the flocculation process. Once dredgeate is separated into residual solid content and centrate, some form of “polymer quenching” will be required before the water is returned to the pond.

Tender Documents

Tender documents should include all forms of tender, contract price schedules and contractual schedules such as, “General and Supplementary Conditions”, “Special Provisions”. It should address project specific items such as:

- Location plan;
- Site access routes;
- Construction area restriction plans showing staging and storage areas
- Erosion and silt protection;
- Excavation volumes;
- Bathymetric surveys;
- Existing and proposed typical cross-sections,

- Sediment quality;
- Dewatering techniques;
- Disposal methodologies;
- Material specifications and sundry construction;
- Retrofit / repairs to the existing components of the pond structure; and,
- Rehabilitation of eroded banks.

Construction methodology plans and details:

- Erosion and sediment control plans and project schedule and sequencing details;
- Site restoration plans (including seeding / sodding, erosion control matting, etc.);
- Landscaping (including bioengineering and habitat features) plans and details;
- Restoration Plans, Details and Specifications for hard and soft site elements;
- Detailed Cost Estimate, this includes for each pond site the accessibility of site, location of disposal, volume of sediment and quality of sediment;
- Flow bypass measures for period with rainfall;
- Short and long term monitoring requirement;
- Operations and Maintenance Manual; and,
- Detailed Design Report (including all documentation of calculations and recommendations).

7.6.3. Construction Supervision and Contract Administration

Tender and Award

The Tender and award process may involve Pre-Tender bidders meetings, responding to questions, preparing addenda, and contractor selection. Evaluation of construction bids should consider the ability of the contractor to complete the work within the specified timeframe, the cost, and the contractor's experience with pond projects and innovative or value added knowledge or technologies offered.

Pre-Construction

A Pre-Construction meeting should be held on-site to identify site specific constraints, work areas, staging areas and no disturbance areas. A detailed Pre-Construction survey, including digital pictures and videos, should be completed to document existing conditions. A Health and Safety audit should be conducted, with the results of the survey and audit should be included in the Pre-Construction Report.

Contract Administration and Construction Inspection Services

After a construction phasing and staging plan has been developed and a qualified contractor retained, it is important to develop and maintain a working construction scheduling document to track the progress of the construction and ensure that possible delays are minimized or avoided entirely. Environmental monitoring also plays an important role in managing risk to the Town during the construction period.

Sediment removal projects are often high public profile projects and communication between the field staff, contract administrators, project manager and the Town is critical. Periodic formal environmental inspections will occur during landscaping and at other times throughout the construction stages. Various specialists including a site inspector, environmental inspector and ecological specialists need to work together during the different stages of the program. Inspection services should include:

Contract administration and site inspections should include:

- Scheduling, co-ordinating and attending project review meetings including a pre-construction review meeting;
- Regular on-site inspections which include reporting;
- Liaising with the contractor and evaluating any out-of-scope requests;
- Ensuring that all environmental protection measures are acceptable and functioning as designed and identifying deficiencies to be corrected by the contractor;
- Maintaining a daily diary of construction events documenting the progress of the work and to substantiate the quality and quantity of the work performed;
- Providing comments to the contractor's proposed procedures, methods and construction phasing to ensure compliance with design and contract requirements;
- Managing claims, notices of intent to claim, disputes and questions relating to contractor performance, quality of the work and interpretation of the contract documents;
- Addressing inquires and request for information from external Agencies, adjacent landowners and members of the public; and,
- Reviewing and processing payment certification of Substantial and Total Performance for *Construction Lien Act* purposes.

Record Drawings and Project Completion

During the close-out period, close attention must be paid to the project documentation. In particular, any deficiencies must be identified, defined and the contractor notified. The deficiency must ultimately be rectified prior to the release of securities or other bonds supplied by the contractor. A final thorough review of the contract documents and the constructed works is required at this time. As-built conditions will be surveyed and design drawings updated to reflect the current conditions.

7.7. Maintenance

A summary of maintenance tasks for all ponds with at least one component ranking 3, 4 or 5 is provided below in **Table 7-2**.

Table 7-2 – Summary of Maintenance per Pond with Associated Cost

Pond ID	Component	Condition	Maintenance Task	Est. Cost
01	Facility	3	Prepare plan and remove sediment	$120,000.00
	Outlet	3	Fill in Erosion	$250.00
02	Grate	3	Refasten grating to headwall	$425.00
03	Inlet	3	Clean up debris and vegetation	$400.00
05	Facility	3	Remove debris	$800.00
	Grate Outlet	3	Clean up debris and vegetation	$400.00
06	Vegetation	3	Remove / Replace dead vegetation	$800.00
	Culvert	3	Cover Graffiti	$500.00
07	Grate	3	Grate cleanup	$200.00
	Outlet	4	Clean up debris and vegetation	$900.00

Pond ID	Component	Condition	Maintenance Task	Est. Cost
	Vegetation	3	Remove / Replace dead vegetation	$400.00
08	Facility	3	Prepare plan and remove sediment	$213,100.00
	Inlet	3	Add a grate to structure	$2,500.00
	Vegetation	3	Remove / Replace dead vegetation	$400.00
10	Grate	3	Lock grate	$200.00
	Facility	3	Prepare plan and remove sediment	$199,800.00
11	Vegetation	3	Remove / Replace dead vegetation	$4,000.00
	Fence	3	Repair broken links and fence supports	$400.00
	Headwall	3	Paint over graffiti	$500.00
	Fence	3	Repair broken links	$425.00
	Fence	3	Repair broken links and fence supports	$400.00
	Intermediate Quantity Inlet	3	Clean up debris and vegetation	$400.00
12	Sanitary Manhole	3	Investigate location	$200.00
14	Grate	3	Refasten grating to headwall	$400.00
15	Fence	3	Repair broken links and fence supports	$425.00
16	Facility	3	Continue Trapping Efforts	$1,000.00
	Manhole	3	Clean Debris from manhole	$3,000.00
	Inlet 3	3	Clean up debris and vegetation	$400.00
17	Facility	3	Prepare plan and remove sediment	$44,500.00
18	Facility	3	Remove debris	$400.00
	Outfall	3	Clear Debris	$400.00
19	Quality Outlet	3	Repair structure.	$3,000.00
	Vegetation	3	Remove / Replace dead vegetation	$800.00
20	Inlet	3	Fill in erosion.	$500.00
21	Facility	3	Perform spring inspection	$250.00
	Headwall	3	Clear Graffiti	$450.00
	Inlet	3	Cover graffiti.	$450.00
	Outlet	3	Clear Structures of any debris	$400.00
	Outlet Manhole	3	Clear Vegetation	$3,000.00
22	Inlet	3	Sample water to determine quality.	$700.00
23	Gate	3	Replace lock on structure.	$225.00
24	Pipe	4	Clean up debris, sediment and vegetation	$800.00
25	Vegetation	3	Remove / Replace dead vegetation	$800.00
26	Vegetation	3	Remove / Replace dead vegetation	$800.00
	Headwall	3	Paint over graffiti	$500.00

Condition rankings are further explained in **Section 7.4.3**. The cost associated with the maintenance required by each pond has been generated by SWMSoft based on the resource cost listed above in **Table 7-2**. It is noted that the cost associated with the above noted improvements are to be confirmed by the Town and may be updated within the SWMSoft software. The SWMSoft Inspection Report and Bathymetric Surveys is included in **Appendix L**.

7.7.1. Potential Improvements

This section discusses the common findings and recommendations across the SWMFs.

Unlocked Grates and Hatches

A large number of grates covering inlet and outlet pipes and hatches are not secure and pose a safety hazard. These grates should either be locked or bolted shut to prevent entry and remove the safety hazard. Bolting grates shut is the preferred method of securing the grates to avoid the need to manage the keys to all of the locks at different facilities.

Graffiti

Graffiti is a common aesthetic issue at SWMFs, and is most commonly found on concrete surfaces such as the headwalls of inlets and outlets. The recommended solution is to paint over the graffiti with grey paint, which is cost effective and obscures the graffiti. It is also possible to sand blast the concrete to remove the graffiti, however this would be more costly and may require the notification of homeowners in the surrounding area because of the noise and dust that would be created during the removal.

Litter

Litter is another common problem at SWMFs, and it can affect the facility's water quality as well as its aesthetics. The recommended solution is to dispatch Town work crews to remove the debris. In addition, the Town may consider placing additional garbage cans at the locations where litter is a recurring problem.

Vegetation

Overgrown vegetation at the inlet and outlets is a common problem at SWMFs, and can compromise the facility's function in controlling water levels. The recommended solution is to remove the overgrowth using hand tools.

Dead vegetation presents a problem in terms of aesthetics. It also poses as a possible safety risk if the tree is in danger of falling, or acts as a potential tripping hazard. Dead vegetation that presents a hazard should be removed and the area should be revegetated.

Beaver Damage

Several SWMFs show evidence of beaver damage. The presence of a beaver in the vicinity of a SWMF is a concern because the beaver may cause damage to surrounding vegetation or construct a dam that inhibits the proper function of the SWMF. Possible solutions to this problem are to either remove the beaver from the facility, or to place barriers that prevent the beaver from obstructing the flow of water.

The recommended solution is to hire a trapper licensed by the Ontario Ministry of Natural Resources (OMNR) to remove the beaver because the costs associated with installing and maintaining the barriers is greater than the cost to remove the beaver. Once the beaver is removed, prevention measures should be implemented to discourage beavers from inhabiting the facility in the future (Town of Richmond Hill, 2010).

Beaver dam removal is generally done using hand tools or equipment such as backhoes after the beaver is removed. The removal of the dam must be done carefully as it can negatively impact fish and fish habitat by decreasing the water level upstream of the dam, as well as releasing sediment and large volumes of water downstream (Fisheries and Oceans Canada 2010). Removal practices must follow the Fisheries and Oceans Canada – Ontario Operational Statement (2010) and avoid contravention with subsection 35(1) of the *Fisheries Act*: "*No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat*".

If the conditions of the Operational Statement for beaver dam removal cannot be met, then the LSRCA should be contacted to discuss removal options to remain in compliance with the *Fisheries Act*.

Algae Blooms

Algae blooms, or rapid and excessive growth of algae, commonly occur in ponds. Algae blooms occur when conditions are extremely favourable to the growth of algal populations; these conditions include excess nutrients, low dissolved oxygen levels, and an abundance of sunlight. As algal blooms decompose, they remove a large amount of dissolved oxygen from the pond. The lack of oxygen can result in damage to the pond's ecosystem, and the decline of biota in the pond. Algal blooms are also unsightly, can cause foul odours, and negatively affect the water quality of the ponds (Clark 2008).

There are a number of different ways to control the algae population of a pond and prevent algae blooms from forming.

The most common methods involve killing the algae, limiting the amount of sunlight that enters the pond, and increasing the oxygen levels of the pond (Lynch 2009). Increasing the dissolved oxygen content in the pond is an effective way to control algae populations by addressing the underlying cause, and can be achieved by placing aeration equipment in the pond. The increased oxygen levels prevent algae growth, and lessen the impact of algae decomposition on the surrounding ecosystem (Clark, 2008).

The recommended solution is to install a sub-surface aeration system in the ponds affected by algal blooms. Aeration systems are relatively easy to maintain and will effectively control the algae population in a pond. The aeration system would have to be wind powered, because of the limited or no access to power at most pond locations. Wind powered aeration systems are widely available and commonly used to aerate ponds.

7.8. Costs

7.8.1. Regular Maintenance

There are two (2) main categories of regular maintenance:

- Debris / vegetation removal; and,

- Minor repair.

Most of the debris and vegetation removal centres on the inlet and outlet structures and require half a day's worth of work for a crew of two (2) people. This has been assumed to cost approximately $400.00 for Town operation staff to complete. Minor repairs generally involve repairing baffle blocks, replacing grates in front of pipes or mending fences. These tasks were budgeted to take between one (1) and three (3) days, depending on the severity of the damage. Such items were estimated to cost between $1000.00 and $4000.00 each. For unassumed ponds, a cost of $200.00 was assigned to the facility to account for discussion for the coordination of repair efforts with the developers. It should be noted that a number of assumptions were made on the costs of improvements. The Town is required to update the cost summary as a function of SWMSoft before costing and implementing the improvements.

7.8.2. Sediment Removal

The cost of removing sediment depends on:

- Accessibility of the site;
- Location for disposal;
- Volume of sediment; and,
- Quality of sediment.

The cost for removing sediment can be low, approximately $100.00/$m^3$ if the site is easily accessible, the sediment can be disposed of locally, and an analysis of sediment quality passes the Guidelines for Contaminated Sites. However, as some municipalities have experienced, the cost can increase more than 30-fold, if the sediment does not pass the guidelines and must be disposed of in a registered landfill. In addition, costs for sediment removal are typically based on a weight or mass of material basis rather than a volume of material basis, and the density of sediments may vary. Note that measurements obtained in this study correspond to in-situ volume measurements under saturated conditions. As such, the volume-based cost estimates include an intrinsic factor of safety.

The initial observations of the facilities deemed suitable for sediment removal did not reveal any problems that would cause removal costs to increase by an appreciable amount.

Preliminary estimates therefore determine the approximate cost of removal by multiplying the volume of accumulated sediment by $100.00. An additional amount of $25,000.00 is applied to all sediment removal costs to cover the expense of preparing a sediment removal plan. The plan includes site and equipment selection, permits, transportation, and sampling.

7.8.3. Cost Summary

The cost that is associated with the maintenance of each pond outlined in **Table 7-3** has been calculated by SWMSoft. The costs are based estimated amounts for each task to be completed along with the cost of the crew and hours to complete the task. These amounts have been entered in by Cole Engineering but can be adjusted by the Town. A full description of the amounts associated with each task is outlined in below in **Table 7-3**.

Table 7-3 – Cost Summary of SWMSoft Resource

Resource	Description	Cost per Unit*	Unit
General Inspector	City staff to perform seasonal inspections.	250	Use
Fencing	Black vinyl covered fence	5	Foot
Riprap	8 inch stone used around inlet / outlet	150	Cu. Metre
Weeping tile	Weeping tile with sock	15	Metre
General Contractor	Non-specific contractor to do simple repairs outside scope of city labourers	1	Dollar
General Consultant	Non-specific consultant to assess various problems outside of city expertise	1	Dollar
City Official	Non-specific city employee to consult with local residents	1	Dollar
2 Person Crew	2 Person City Work Crew (8 Hours)	800	Day
3 Person Contract Crew	3 Person Contract Work Crew (10 hours)	3000	Day
Site Inspector	Performs advanced inspections	600	Use
Water Sampling	Generic company for testing water samples	700	Use
Front-end Loader	Standard Front-end loader for use with 2 Person City Work Crew	800	Day
Miscellaneous	Undefined materials to be allocated to task	1	Dollar
Engineer	City Engineer	50	Hour
Lock	A padlock	25	Use
Paint	Paint	50	Gallon
Soil	Soil to use as fill	10	Cu. Ft.
Erosion Fabric	Erosion fabric	10	Metre
Grass Seed	Grass seed	50	Kilogram
Fence Repair Contractor	A contractor to perform structural repairs on fences	250	Use
Buoy Rope	Rope to attach the buoy to the emergency station, as well as safety rope around the buoy	50	Use
Plastic Pipe Cap	A cap to cover plastic riser pipes	50	Use
Buoy	Red floating buoy	50	Use
Hazard Sign	A sign	100	Use
Pest Control [Beaver]	A pest control company	1000	Use
Plastic Pipe	Plastic piping	10	Foot
Hoop	Emergency equipment hoop	100	Use
Pest control	Removal of problem animals	1	Dollar
Grate	A grate to cover a large outlet pipe	1000	Use
Aeration Equipment	A sub-surface aerator powered by a windmill	2500	Use

* The unit costs listed are an estimated cost for the resources. It is recommended that the Town update the unit rates.

8.0 Development of Long List of Alternatives

8.1. General

In order to identify the solution that best encompasses the study's principles, goals and objectives a long list of alternatives was generated. The alternatives consider both existing and future land uses within the Town that consists of rural and urban areas.

The approach for developing and evaluating alternatives is consistent with the requirements of the planning and design process for Master Planning projects described in the Municipal Class EA (Municipal Engineers Association, June, 2000). It involves reviewing Phase One work (i.e. Identification of the Problem) and undertaking Phase Two (i.e. Establishing Existing Conditions, Identification of Long List of Alternatives, Development and Assessment of Alternative Management Strategies and Selection of a Preferred Strategy). In addition, consultation with stakeholders is a necessary step in this process.

8.2. Overview of Alternatives

A range of alternative solutions was developed in order to address the identified problem and opportunity. The alternatives identified for evaluation are summarized in the following categories:

- Source Controls;
- Conveyance Controls;
- End of Pipe Measures; and,
- Restoration Measures.

Even though the "Do Nothing" alternative does not address the Problem / Opportunity Statement, the Class EA document mandates its consideration in all Class EAs as a means of providing a benchmark for evaluating the other alternative solutions.

The following subsections briefly describe each of these alternative solutions.

8.2.1. Source Controls

This alternative involves physical measures that are located at the beginning of the drainage system; generally on private property. Source controls will reduce stormwater runoff generated from impervious surfaces that mostly occur in urban areas. Source controls can be used in a variety of different land uses such as residential, industrial and commercial. Source controls can be retrofitted into existing areas and implemented into proposed urban areas. Source control measures include:

Roof Downspout Disconnection

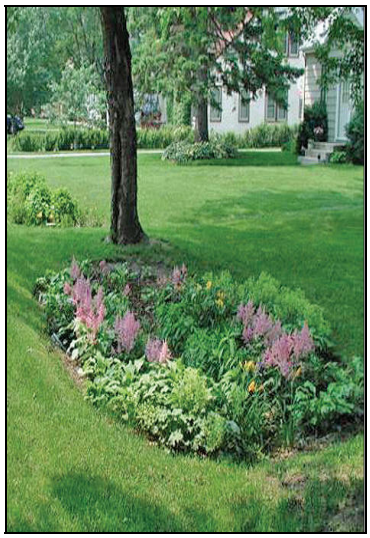
Simple downspout disconnection involves directing flow from roof downspouts to a pervious area that drains away from the building. This prevents stormwater from directly entering the storm sewer system or flowing across a "connected impervious surface, such as a driveway, that drains to a storm sewer. Simple downspout disconnection requires a minimum flow path length across the pervious area of 5 metres.

When the infiltration rate of the soil in the pervious area is less than 15 mm/hr (i.e. hydraulic conductivity of less than $1x10^{-6}$ cm/s), the area should be tilled to a depth of 300 mm and amended with compost to achieve an organic content in the range of 8 to 15% by weight or 30 to 40% by volume.

Bioretention

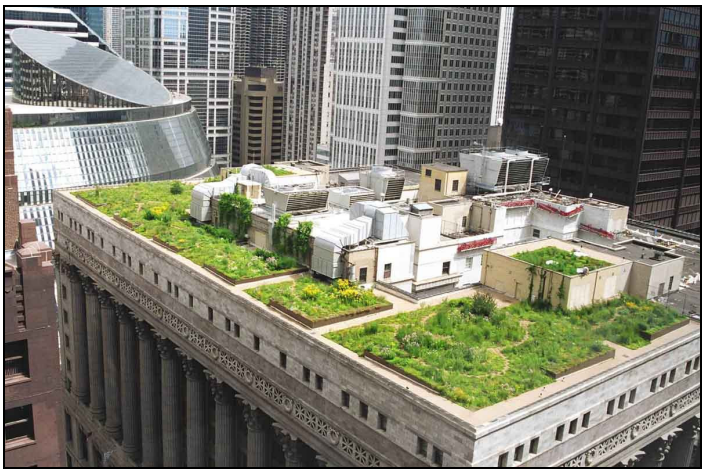
As a stormwater filter and infiltration practice, bioretention temporarily stores, treats and infiltrates runoff. Depending on native soil infiltration rate and physical constraints, the system may be designed without an underdrain for full infiltration, with an underdrain for partial infiltration, or with an impermeable liner and underdrain for filtration only, which can also be referred to as a biofilter. The primary component of a bioretention practice is the filter bed which is a mixture of sand, fines and organic material. Other important elements of bioretention include a mulch ground cover and plants adapted to the conditions of stormwater practice. Pretreatment, such as a settling forebay, vegetated filter strip, or stone diaphragm, often precedes the bioretention to remove particles that would otherwise clog the filter bed. Bioretention is designed to capture small storm events or the water quality storage requirement. An overflow bypass is necessary to pass large storm events.

Bioretention can be adapted to fit into many different development contexts and provides a convenient area for snow storage and treatment. In a low density development, it might have a soft edge and gentle slopes, while a high density application might have a hard edge with vertical slopes.



Green Roofs (i.e. Roof Gardens)

Green roofs, also known as "living roofs" or "rooftop gardens", consist of a thin layer of vegetation and growing medium installed on top of a conventional flat or sloped roof. Green roofs are publicized for their benefits to cities, as they improve energy efficiency, reduce urban heat island effects, and create greenspace for passive recreation or aesthetic enjoyment. To a water resources manager, they are attractive for their water quality, water balance, and peak flow control benefits. From a hydrologic perspective, the green roof acts like a lawn or meadow by storing rainwater in the growing medium and ponding areas. Excess rainfall enters underdrains and overflow points and is conveyed in the building drainage system. After the storm, a large portion of the stored water is evapotranspirated by the plants, evaporates or slowly drains away.



Soakaway Pits, Infiltration Trenches and Chambers

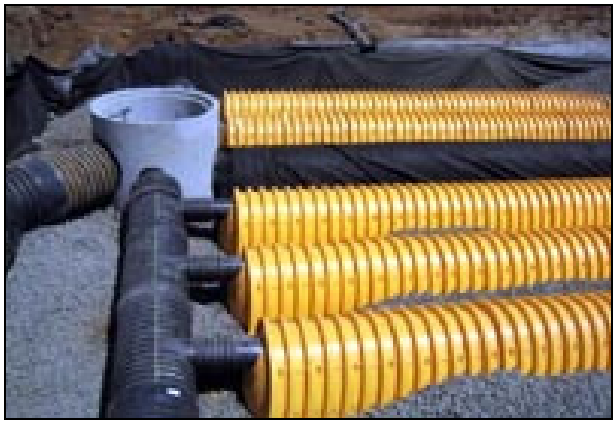
On sites suitable for underground stormwater infiltration practices, there are a variety of facility design options to consider, such as soakaway pits, infiltration trenches and infiltration chambers.

Soakaway pits are rectangular or circular excavations lined with geotextile fabric and filled with clean granular stone or other void forming material, which receives runoff from a perforated pipe inlet and allow it to infiltrate into the native soil. They typically service individual lots and receive only roof and walkway runoff but can also be designed to receive overflows from rainwater harvesting systems. Soakaways can also be referred to as infiltration galleries, dry wells or soakaway pits.

Infiltration trenches are rectangular trenches lined with geotextile fabric and filled with clean granular stone or other void forming material. Like soakaways, they typically service an individual lot and receive only roof and walkway runoff. This design variation on soakaways is well suited to sites where available space for infiltration is limited to narrow strips of land between buildings or properties, or along road rights-of-way. They can also be referred to as infiltration galleries or linear soakaways.

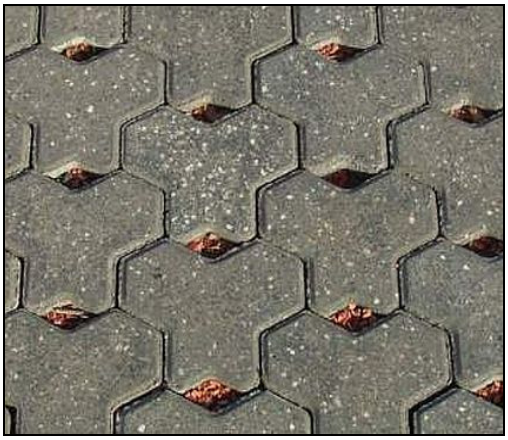
Infiltration chambers are another design variation on soakaways.

They include a range of proprietary manufactured modular structures installed underground, typically under parking or landscaped areas that create large void spaces for temporary storage of stormwater runoff and allow it to infiltrate into the underlying native soil. Structures typically have open bottoms, perforated side walls and optional underlying granular stone reservoirs. They can be installed individually or in series in trench or bed configurations. They can infiltrate roof, walkway, parking lot and road runoff with adequate pretreatment. Due to the large volume of underground void space they create in comparison to a soakaway of the same dimensions, and the modular nature of their design, they are well suited to sites where available space for other types of BMPs is limited, or where it is desirable for the facility to have little or no surface footprint (e.g., high density development contexts). They can also be referred to as infiltration tanks.



Permeable Pavement

Permeable pavements, an alternative to traditional impervious pavement, allow stormwater to drain through them and into a stone reservoir where it is infiltrated into the underlying native soil or temporarily detained. They can be used for low traffic roads, parking lots, driveways, pedestrian plazas and walkways. Permeable pavement is ideal for sites with limited space for other surface stormwater BMPs. Depending on the native soils and physical constraints, the system may be designed with no underdrain for full infiltration, with an underdrain for partial infiltration, or with an impermeable liner and underdrain for a no infiltration or detention and filtration only practice. Permeable paving allows for filtration, storage, or infiltration of runoff, and can reduce or eliminate surface stormwater flows compared to traditional impervious paving surfaces like concrete and asphalt.



Rainwater Harvesting (i.e. Rain Barrels, Cisterns, etc.)

Rainwater harvesting is the process of intercepting, conveying and storing rainfall for future use. Harvesting rainwater for domestic uses has been practical in rural Ontario for well over a century. Interest in adapting this practice to urban areas is increasing as it provides combined benefits of conserving potable water and reducing stormwater runoff. When harvested rainwater is used to irrigate landscaped areas, the water is either evapotranspirated by vegetation or infiltrated into the soil, thereby helping to maintain predevelopment water balance.

8.2.2. Conveyance Controls

This alternative involves controlling stormwater as it travels along the drainage system. The Town contains a variety of existing drainage paths that would lead to retrofitting opportunities or with evaluation, the opportunity for new drainage paths. The goal of this alternative is to reduce erosion and storm water runoff. Conveyance controls can consists of swales, ditches, culverts, catch basins, manholes, and storm sewers. Some conveyance control measures include:

Grassed Swales

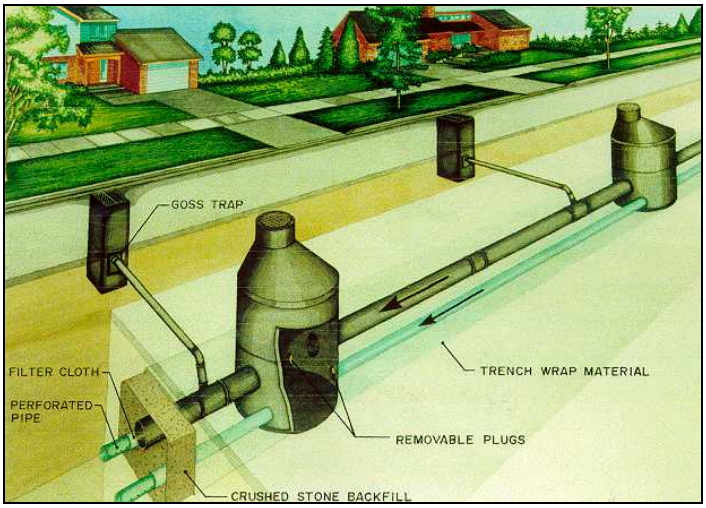
Grassed swales are vegetated open channels designed to convey, treat and attenuate stormwater runoff (also referred to as enhanced vegetated swales). Check dams and vegetation in the swale slows the water to allow sedimentation, filtration through the root zone and soil matrix, evapotranspiration, and infiltration into the underlying native soil. Simple grassed channels or ditches have long been used for stormwater conveyance, particularly for roadway drainage.

Grassed swales incorporate design features such as modified geometry and check dams that improve the contaminant removal and runoff reduction functions of simple grassed channel and roadside ditch designs. A dry swale is a design variation that incorporates an engineered soil media bed and optional perforated pipe underdrain system. Grassed swales are not capable of providing the same water balance and water quality benefits as dry swales, as they lack the engineered soil media and storage capacity of that best management practice.

Perforated Pipe Systems

Perforated pipe systems can be thought of as long infiltration trenches or linear soakaway pits that are designed for both conveyance and infiltration of stormwater runoff. They are underground stormwater conveyance systems designed to attenuate runoff volume and thereby, reduce contaminant loads to receiving waters. They are composed of perforated pipes installed in gently sloping granular stone beds that are lined with geotextile fabric that allow infiltration of runoff into the gravel bed and underlying native soil while it is being conveyed from source areas or other BMPs to an end-of-pipe facility or receiving waterbody. Perforated pipe systems can be used in place of conventional storm sewer pipes where topography, water table depth, and runoff quality conditions are suitable.

They are suitable for treating runoff from roofs, walkways, parking lots and low to medium traffic roads, with adequate pretreatment. A design variation can include perforated catchbasins, where the catchbasin sump is perforated to allow runoff to infiltrate into the underlying native soil. Perforated pipe systems can also be referred to as pervious pipe systems, exfiltration systems, clean water collector systems and percolation drainage systems.



Vegetated Filter Strips

Vegetated filter strips (i.e. buffer strips and grassed filter strips) are gently sloping, densely vegetated areas that treat runoff as sheet flow from adjacent impervious areas. They function by slowing runoff velocity and filtering out suspended sediment and associated pollutants, and by providing some infiltration into underlying soils. Originally used as an agricultural treatment practice, filter strips have evolved into an urban SWM practice. Vegetation may be comprised of a variety of trees, shrubs and native plants to add aesthetic value as well as water quality benefits. With proper design and maintenance, filter strips can provide relatively high pollutant removal. Maintaining sheet flow into the filter strip through the use of a level spreading device is essential.

8.2.3. End of Pipe Measures

This alternative consists of managing stormwater at the end of a storm sewer system prior to discharging to a stream.

They usually consist of man-made measures such as stormwater ponds or constructed wetlands. This alternative would look at opportunities for retrofit of existing ponds, or if there is a need for more. End of pipe measures include Best Management Practices.

SWM Ponds (i.e. Wet Ponds)

Wet ponds are the most common end-of-pipe SWMF employed in Ontario. They are less land-intensive than wetland systems and are normally reliable in operation, especially during adverse conditions (e.g., winter / spring).

This reliability can be attributed to:

- Performance does not depend on soil characteristics;
- The permanent pool minimizes re-suspension;
- The permanent pool minimizes blockage of the outlet;
- Biological removal of pollutants occurs (including phosphorus); and,
- The permanent pool provides extended settling.

Wet ponds can be designed to efficiently provide for water quality, erosion and quantity control, reducing the need for multiple end-of-pipe facilities. Wet ponds can be designed with extensive landscaping and associated recreational amenities, contributing to the character of the community and enhancing its marketability.

Dry Ponds

Dry ponds have no permanent pool of water. As such, while they can be effectively used for erosion control and flood control, the removal of stormwater contaminants in these facilities is purely a function of the detention time in the pond. For a 24 hour retention period, this normally means a lower contaminant removal (the inter-event settling time does not exist). While achieving this for smaller drainage areas can be difficult (because of orifice size considerations), the use of dry ponds in larger catchments (especially in retrofit situations) may have greater potential than had previously been thought. There are no documented performance monitoring data for dry ponds with longer detention times, however, and re-suspension of settled material remains a concern. As such, the use of dry ponds (for water quality control) remains largely restricted to retrofits, where temperature is an overriding concern, and situations where other more effective SWMP types are infeasible. Dry ponds may be used as part of an overall treatment train approach.

Constructed Wetlands

The constructed wetland is one of the preferred end-of-pipe SWM facilities for water quality enhancement. Wetlands are normally more land-intensive than wet ponds because of their shallower depth (both in the permanent pool and in the active storage zone). They are suitable for providing the storage needed for erosion control purposes, but will generally be limited in their quantity (i.e. flood) control role because of the restrictions on active storage depth.

Benefits of constructed wetlands are similar to wet ponds and include:

- Performance does not depend on soil characteristics;
- The permanent pool minimizes re-suspension;
- The permanent pool minimizes blockage of the outlet;
- Biological removal of pollutants occurs (including phosphorus); and,
- The permanent pool provides extended settling.

8.2.4. Restoration Measures

This would include the restoration or enhancement of existing habitats, both rural and urban within the Town. Stream Restoration Programs, Aquatic Habitat Enhancement and Terrestrial Habitat Enhancement are examples of restoration measures that attenuate erosion and promote infiltration.

8.2.5. Rural Measures

East Gwillimbury has a large percentage of land dedicated to rural uses. This alternative is simply Best Management Practices aimed for rural properties. There are structural based and non-structural based practices.

Structural Best Management Practices: Aimed to reduce runoff and pollution from agricultural practices this would include proper manure storage and handling, feedlot runoff controls, and internal wetland systems to control feedlot runoff and milkhouse wastes.

Non-Structural Best Management Practices for Rural Areas: Includes livestock fencing, buffer strips, conservation tillage and nutrient management. These measures would address non-point pollution sources.

9.0 Development and Assessment of Alternative Solutions

9.1. Identification / Description of Alternative Solutions

As an initial step, the Project Team identified and described alternative solutions, or functionally different ways of addressing the problem / opportunity statement, as described in **Section 1.6**. Any "reasonable" alternative was included initially. All alternatives were considered equally for discussion purposes and evaluation as seen in **Section 10.0**.

9.2. General

The development of Alternative SWM Strategies is necessary in order to determine the effectiveness of each strategy with respect to protecting, enhancing and restoring the natural resources of the watersheds located within the Town under existing and planned land use changes.

For the purposes of the SWMMP, a SWM Strategy was defined as a set of BMPs which, when implemented collectively, will attempt to address impacts associated with change in land uses within the watersheds. The land uses under consideration include existing urban and rural land uses and proposed development within the settlement areas.

The assessment was undertaken using results from the modelling as well as taking into account various factors such as social, economic and environmental criteria which are defined to further develop specific components of the Alternative Strategies. In addition, the assessment will look to find an alternative which minimizes, to the extent possible, the impact on the community, natural environment and the economy.

The approach used for developing and evaluating alternatives is, where appropriate, consistent with the planning and design process for Master Planning projects as described in the Class EA document. The approach has been used for measures which are located outside proposed development areas (i.e. stream restoration works, stormwater pond retrofit works).

For other measures, such as the construction of SWM measures for proposed developments, or the implementation of a Town wide program (i.e. disconnection of roof downspouts) general direction as to the types of measure, or proposed programs will be provided in each alternative.

9.3. Development of Alternative SWM Strategies

The Town is comprised of mainly rural area. The Protected Countryside, which includes the Oak Ridges Moraine and Greenbelt Plan, represents approximately 75% of the Town's land area.

Results from the Existing Conditions as assessed in **Section 3.0** indicate the existing environmental conditions are not meeting the requirements as set out in the Lake Simcoe Protection Plan.

The assessment of existing conditions suggest that the Alternative Management Strategies, if they are to be affective, must deal with impacts associated with the existing urban and rural land uses as well as proposed land uses. In addition, the problem statement identifies the need to improve the SWM within existing developments as well as planned. The strategies must also incorporate the principles of the Lake Simcoe Protection Plan, specifically Section 4.8-DP and the requirements regarding phosphorus removal and mitigation of changes in water balance.

A total of five (5) Alternative Management Strategies have been brought forward for assessment. The five strategies are defined as:

1. Do Nothing;
2. Traditional SWM Strategy;
3. Traditional SWM with BMP Implementation Strategy;

4. Traditional SWM with Urban Retrofits Strategy; and,
5. Traditional SWM with Rural Retrofits Strategy.

Table 9-1 below has been developed to summarize the potential effects of each alternative with respect to flow volume, phosphorus loadings, infiltration reduction and erosion potential. These impacts would occur within the Town as a result of the proposed land use change.

9.3.1. Do Nothing

The "Do Nothing" alternative would involve leaving the Town as is. No SWM works are carried out in any of the existing urban or rural lands or within any proposed development or redevelopment areas. An assessment to the impacts associated with the implementation of this strategy is required as part of undertaking a Municipal Class Environmental Assessment Study.

As seen in **Table 9-1**, this strategy would result in higher flow volumes, increased flooding, increase production of phosphorus, an increase in erosion potential and infiltration reduction.

9.3.2. Traditional SWM Strategy

The Traditional SWM Strategy is the implementation of SWM in proposed development or redevelopment areas. The SWM works would consist of the construction of SWM ponds for quantity, quality and erosion control as per MOE guidelines demonstrate.

Proposed developments would be serviced by conventional storm sewer systems and limited source control measures would be implemented such as downspout disconnection.

This alternative would result in higher flow volumes, an increase in erosion potential, and an increase in production of phosphorus and infiltration reduction.

9.3.3. Traditional SWM with BMP Implementation Strategy

This Strategy is consistent with the Traditional SWM Strategy as it will apply to proposed development and redevelopment areas. A variety of BMP source controls, conveyance controls and end-of-pipe measures will be implemented for all proposed areas of development. Alternative developments (i.e. LEED certified developments, Low Impact Developments) would also be considered.

A series of assumptions for the types of Best Management Practices to be implemented with this Strategy were made in order to include this Strategy as an Alternative. The types of BMP measures to be implemented are further explained in **Section 8.2**.

9.3.4. Traditional SWM with Urban Retrofits Strategy

This strategy is consistent with the Traditional SWM Strategy in that conventional SWM strategies would be implemented within proposed development or redevelopment areas. In addition to traditional SWM, a variety of source, conveyance and end-of-pipe measures will be implemented in existing urban areas.

This strategy is highly based on the amount of participating landowners to implement the proposed retrofits at the source level. The types of urban retrofits to be implemented in this strategy are further explained in **Section 8.2**.

9.3.5. Traditional SWM with Rural Retrofits Strategy

This strategy is consistent with the Traditional SWM Strategy in that conventional SWM strategies would be implemented within proposed development or redevelopment areas. In addition to traditional SWM, a variety of source, conveyance and end-of-pipe measures will be implemented in existing rural areas.

Similar to the Traditional SWM with Urban Retrofit Strategy, rural retrofit implementation is also based on the amount of participating rural landowners to implement the proposed retrofits at the source level. The types of rural retrofits to be implemented in this strategy are further explained above in **Section 8.2.5**.

Table 9-1 – SWM Strategy Alternatives

Preliminary Criteria	SWM Strategy Alternatives				
	Do Nothing	Traditional	Traditional w / BMPs	Traditional w / Urban Retrofits	Traditional w / Rural Retrofits
Land Uses where Strategy is to be Applied	None	Proposed Development and Redevelopment Areas	Proposed Development and Redevelopment Areas	Proposed Development and Redevelopment Areas and Existing Urban Areas	Proposed Development and Redevelopment Areas and Existing Rural Areas
Flows	Increase in Runoff	Increase in Flow Volume	Reduction in Flow Volume	Reduction in Urban Areas	Reduction in Rural Areas
Phosphorus Loading	Current Condition	Increase	Reduction	Reduction in Urban Areas	Current Condition in Urban Areas Reduction in Rural Areas
Infiltration	Current Condition	Reduction	Increase	Increase in Urban Areas	Current Condition
Erosion Potential	Current Condition	Increase	Reduction	Reduction in Urban Areas	Current Condition

9.4. Development of Evaluation Categories and Criteria

Evaluation criteria were developed to reflect the definition of “environment” provided in the OEAA and the specific circumstances associated with this project. Criteria that were considered were divided into categories, as listed below in **Table 9-2**.

Table 9-2 – Preliminary Evaluation Criteria

Technical
Opportunity to reduce peak flows into Lake Simcoe
Opportunity to decrease erosion of watercourses
Opportunity to improve water quality
Opportunity to reduce phosphorus loadings into Lake Simcoe
Opportunity to mitigate changes in water balance
Natural Heritage Features
Provisions of direct and indirect fish habitat
Potential to improve terrestrial habitats
Impacts to natural hazard features
Social Environment
Ability to improve public health and safety
Impacts to private properties
Impacts to public property
Cultural Environment
Impacts to built and cultural heritage landscape
Impacts to archaeological resources
Economic Environment
Capital costs
Operation and Maintenance costs
Risk management
Impact on agricultural land use

It is noted that the evaluation criteria was applied on an individual settlement area basis where the key implementations of the alternative SWM strategies could be effectively applied. The preferred alternatives for each settlement area are based on existing site constraints and the feasibility of implementing SWM improvements to each area. The preferred alternative strategy is outlined in **Section 10.0**.

10.0 Preferred Alternative Strategy

The preferred alternative strategy is to provide site specific recommendations on a settlement area basis where growth is expected to occur as part of the Town Consolidated Official Plan 2031. The following sections detail the preferred alternative within each settlement area, the opportunities and constraints associated in the implementation of the strategy and information inclusive to future developments within each settlement area. In addition, a summary of the site specific criteria is provided for each settlement area. It is noted the recommendations provided are indicative of the Master Plan process and that future developments require detailed analysis of existing site conditions and approval by the LSRCA and other approval agencies before implementing any recommendations described herein.

10.1. Site Specific Recommendations

Based on existing conditions, the Town's OP, and the results of **Section 4.0**, recommendations and criteria for each settlement area have been developed.

10.1.1. Mount Albert

General

It is proposed within the Community of Mount Albert, a small amount of growth will occur in the projected future. The existing land use is 12% imperviousness and the area is planned to develop which will lead to a 10% increase. This increase is due to the addition of an employment area and some institutional designated land.

It is important to note that within this settlement boundary there are areas of high aquifer vulnerability and wellhead protection areas that should be avoided when attempting to infiltrate stormwater runoff (**Figure 4-8**). The Region of York Official Plan should be consulted when determining the regulations surrounding the implementation of SWM ponds (Region of York 2010). There are also several erosion sites in Mount Albert, specifically along the Mount Albert Creek. Controlling stormwater will help to mitigate erosion by reducing peak flows, but other measures such as adding riparian vegetation may need to be considered and can also help reduce phosphorus loading.

Three (3) SWM facilities are proposed to handle stormwater from new developments. Feasible locations are outlined above in **Figure 4-8**. Proposed SWM facilities should be located outside of the floodplain and 2-year wellhead protection zones. It should be noted these ponds will have to undergo a detailed design process as discussed in **Section 4.3.7**. It is recommended that the Town monitor groundwater levels to allow for measures such as infiltration trenches.

Quantity Control

As discussed in **Section 4.3.7**, quantity control should be enforced using "post-to-pre" criteria with the exception of the drainage areas outlined in **Table 4-42** in which unit-flow rates should be applied.

Quality Control

Stormwater quality control should be enforced using Ministry of Environment criteria and developments should provide 80% TSS Removal and Enhanced water quality levels.

As discussed in **Section 4.4**, stormwater quality control in terms of phosphorus control in the Mount Albert settlement area should be enforced using criteria of a total phosphorus removal rate of 3.78 kg/year/ha.

Water Budget

As discussed in **Section 4.5**, in order to maintain the existing infiltration rates, future developments will require to maintain an infiltration rate of 3025 m^3/ha within the Mount Albert settlement area.

Best Management Practices

Recognizing that Mount Albert consists mainly of well draining soils, BMPs such as infiltration trenches and infiltration galleries may be implemented for new developments. For existing rural areas, it is recommended rural BMPs be considered were applicable.

The stormwater management criteria and recommendations for the Mount Albert settlement area are summarized in **Table 10-1** below.

Table 10-1 – Mount Albert Recommendation Summary

Quantity Control	Water Quality	Water Budget	Best Management Practices
▪ Post development flows to be controlled to pre-development peak flow rates ("post-to-pre") ▪ Unit-flow rates as summarized in **Table 4-42** are to be applied for specific drainage areas in Mount Albert	▪ Water quality is to be controlled to Enhanced levels (i.e. 80% TSS removal). ▪ A required phosphrous removal rate of 3.78 kg/year/ha is required for the Mount Albert settlement area.	▪ A required infiltration rate of 3025 m^3/ha is required for the Mount Albert settlement area.	▪ It is recommended that infiltration measures and Rural BMPs, including livestock fencing and buffer strips, be implemented where applicable.

It should be noted that all requirements of the SWM guidelines should be met. The SWM guidelines can be found in **Section 12.1.4**.

Preferred SWM Strategy

Based on the above, the preferred SWM strategy for Mount Albert is the *Traditional SWM with BMP Implementation Strategy in combination with Traditional SWM with Rural Retrofits Strategy*. Retrofit opportunities are further discussed in **Section 7.0** and illustrated above in **Figure 3-5**. Where applicable, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. A figure of the constraints and opportunities for the implementation of BMPs located within Mount Albert is provided above as **Figure 4-8**.

10.1.2. Queensville

General

The Queensville area will see some large changes in growth by 2031 according to the Town of East Gwillimbury Consolidated Official Plan. Queensville is currently mainly an agriculture area containing a small amount of residential land with 3% imperviousness. It plans to grow to a multi-functional area with prestige employment areas, medium density and low density residential, as well as a village core area. The future settlement area will be approximately 21% imperviousness. The area contains all four (4) types of soil, but is less than half well draining soils. In addition, there is a large area that is designated wellhead protection area.

There are no existing SWM facilities in Queensville and it is recommended that future SWM facilities that will service this area should comply with Lake Simcoe Protection Plan guidelines for quality and quantity control. Four (4) ponds have been proposed based on the expected growth of the area. Feasible locations are outlined above in **Figure 4-9**. Where SWM facilities cannot be built, (i.e. in wellhead protection areas and groundwater recharged zones), the implementation of site specific BMP's are recommended.

New SWM facilities are prohibited within the 2-year Wellhead Protection Zones as per the Region of York Official Plan (Region of York 2010). Within the Queensville settlement area there is also an area designated for Maskinonge River Significant Groundwater Recharge. It is important to note that this area can be directly connected to the groundwater supply hence stormwater BMP measures should only be implemented after additional analysis is completed.

There are no known erosion sites within this settlement area, but stream bank stability should be investigated to prevent future erosion due to the increase in growth and peak runoff.

Quantity Control

As discussed in **Section 4.3.7**, quantity control should be enforced using "post-to-pre" criteria with the exception of the drainage areas outlined in **Table 4-42** in which unit-flow rates should be applied.

Quality Control

Stormwater quality control should be enforced using Ministry of Environment criteria and developments should provide 80% TSS Removal and Enhanced water quality levels.

As discussed in **Section 4.4**, stormwater quality control in terms of phosphorus control in the Queensville settlement area should be enforced using criteria of a total phosphorus removal rate of 0.66 kg/year/ha.

Water Budget

As discussed in **Section 4.5**, in order to maintain the existing infiltration rates, future developments will require to maintain an infiltration rate of 1760 m^3/ha within the Queensville settlement area.

Best Management Practices

Recognizing that the Queensville settlement area consists mainly of poor draining soils, areas where SWM facilities cannot be built, site specific BMP's are recommended. It is recommended further investigation is required at a detailed level for areas where BMP's will be proposed.

The stormwater management criteria and recommendations for the Queensville settlement area are summarized in **Table 10-2** below.

Table 10-2 – Queensville Recommendation Summary

Quantity Control	Water Quality	Water Budget	Best Management Practices
Post development flows to be controlled to pre-development peak flow rates ("post-to-pre"). Unit-flow rates as summarized in **Table 4-42** are to be applied for specific drainage areas in Queensville.	Water quality is to be controlled to Enhanced levels (i.e. 80% TSS removal). A required phosphrous removal rate of 0.66 kg/year/ha is required for the Queensville settlement area.	A required infiltration rate of 1760 m^3/ha is required for the Queensville settlement area.	It is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis.

It should be noted that all requirements of the SWM guidelines should be met. The SWM guidelines can be found in **Section 12.1.4**.

Preferred SWM Strategy

Based on the above, the preferred SWM strategy for Queensville is the *Traditional SWM with BMP Implementation Strategy*. Where applicable, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. A figure of the constraints and opportunities for the implementation of BMPs located within Queensville is provided above as **Figure 4-9**.

10.1.3. Holland Landing

General

Holland Landing is currently comprised mostly of low density residential, with some commercial and natural areas with an overall imperviousness of 17%. This settlement area will expand its residential and commercial land while maintaining a wetland and natural area. Imperviousness is expected to rise to approximately 23%. Holland Landing has a large area of well draining soils with a designated wellhead protection area in the southeast region.

The East Holland River flows north-south through Holland Landing and stream bank erosion and sedimentation is of concern in some areas. It is recommended to dredge areas that have been identified with sedimentation build up, and stabilize stream banks where erosion is of concern. These recommendations will assist in decreasing phosphorus loadings into the river and into Lake Simcoe.

Three (3) SWM facilities are proposed and illustrated in the constraints and opportunities figure for Holland Landing (**Figure 4-10**). It should be noted any new facilities are prohibited in the 2-year Wellhead Protection Zones as per the Region of York Official Plan (Region of York 2010) and their location will require further detailed analysis before implementation.

Quantity Control

As discussed in **Section 4.3.7**, quantity control should be enforced using "post-to-pre" criteria with the exception of the drainage areas outlined in **Table 4-42** in which unit-flow rates should be applied.

Quality Control

Stormwater quality control should be enforced using Ministry of Environment criteria and developments should provide 80% TSS Removal and Enhanced water quality levels.

As discussed in **Section 4.4**, stormwater quality control in terms of phosphorus control in the Holland Landing settlement area should be enforced using criteria of a total phosphorus removal rate of 12.1 kg/year/ha.

Water Budget

As discussed in **Section 4.5**, in order to maintain the existing infiltration rates, future developments will require to maintain an infiltration rate of 2892 m^3/ha within the Holland Landing settlement area.

Best Management Practices

Recognizing that Holland Landing consists mainly of well draining soils, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. It should be noted that Holland Landing is also highly urbanized and the implementation of BMPs will be subject to space restrictions.

The stormwater management criteria and recommendations for the Holland Landing settlement area are summarized in **Table 10-3** below.

Table 10-3 – Holland Landing Recommendation Summary

Quantity Control	Water Quality	Water Budget	Best Management Practices
Post development flows to be controlled to pre-development peak flow rates ("post-to-pre"). Unit-flow rates as summarized in **Table 4-42** are to be applied for specific drainage areas in Holland Landing.	Water quality is to be controlled to Enhanced levels (i.e. 80% TSS removal). A required phosphorus removal rate of 12.1 kg/year/ha is required for the Holland Landing settlement area.	A required infiltration rate of 2892 m^3/ha is required for the Holland Landing settlement area.	It is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis.

It should be noted that all requirements of the SWM guidelines should be met. The SWM guidelines can be found in **Section 12.1.4**.

Preferred SWM Strategy

Based on the above, the preferred SWM strategy for Holland Landing is the *Traditional SWM with BMP Implementation Strategy* in combination with *Traditional SWM with Urban Retrofits Strategy*. Retrofit opportunities are further discussed in **Section 7.0** and illustrated above in **Figure 4-10**. Where applicable, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. A figure of the constraints and opportunities for the implementation of BMPs located within Holland Landing is provided above in **Figure 4-10**.

10.1.4. Sharon

General

Sharon Community is expected to expand into almost completely residential with 27% imperviousness from its current state which is approximately 19% impervious. According to the Sharon Community MESP (February 2010), there are low permeable soils present that will restrict the type of BMP measures put into place.

There are no identified erosion concerns within the settlement area but regular inspection should be completed for receiving watercourses to maintain good condition. There are no areas that have been identified as high aquifer vulnerability and only a very small portion that contains 10 year and 25 year zones of wellhead protection. In said areas, there are guidelines surrounding SWM Facilities but are expected to have minor impacts to planning efforts. Consultation of the Region of York Official Plan and Sharon Community MESP (February 2010) is recommended.

Existing SWM Facilities failing to meet Enhanced criteria should be upgraded according to the SWMSoft Maintenance Schedule detailed in **Section 7.0**. Two (2) ponds have been proposed based on land use and stormwater management restrictions and are illustrated in **Figure 4-11**. Further detailed study is recommended on a site specific basis for each new development.

Quantity Control

As discussed in **Section 4.3.7**, quantity control should be enforced using "post-to-pre" criteria with the exception of the drainage areas outlined in **Table 4-42** in which unit-flow rates should be applied.

Quality Control

Stormwater quality control should be enforced using Ministry of Environment criteria and developments should provide 80% TSS Removal and Enhanced water quality levels.

As discussed in **Section 4.4**, stormwater quality control in terms of phosphorus control in the Sharon settlement area should be enforced using criteria of a total phosphorus removal rate of 9.9 kg/year/ha.

Water Budget

As discussed in **Section 4.5**, in order to maintain the existing infiltration rates, future developments will require to maintain an infiltration rate of 3788 m^3/ha within the Sharon settlement area.

Best Management Practices

Recognizing that Sharon consists of mainly low permeable soils, BMPs such as infiltration-enhancing measures in addition to the use of infiltration trenches should be examined when additional site-specific information is available. BMPs such as infiltration trenches would fill and overflow quickly leaving the BMP ineffective. The available grades in the area are generally 2% or higher, limiting the application of this type of control. However, some lot-level controls, such as downspout disconnection are applicable to all areas, while others, such as filter strips adjacent to open space areas and grassed swales adjacent to suitable land uses have limited application. The use of infiltration-enhancing measures in addition to the use of infiltration trenches should be examined at the functional servicing plan stage when additional site-specific information and detailed design issues will allow a greater potential for implementation.

The stormwater management criteria and recommendations for the Sharon settlement area are summarized in **Table 10-4** below.

Table 10-4 – Sharon Recommendation Summary

Quantity Control	Water Quality	Water Budget	Best Management Practices
Post development flows to be controlled to pre-development peak flow rates ("post-to-pre"). Unit-flow rates as summarized in **Table 4-42** are to be applied for specific drainage areas in Sharon.	Water quality is to be controlled to Enhanced levels (i.e. 80% TSS removal). A required phosphrous removal rate of 9.9 kg/year/ha is required for the Sharon settlement area.	A required infiltration rate of 3788 m^3/ha is required for the Sharon settlement area.	It is recommended that the possibility of infiltration measures such as infiltration trenches, be examined before being implemented.

It should be noted that all requirements of the SWM guidelines should be met. The SWM guidelines can be found in **Section 12.1.4**.

Preferred SWM Strategy

Based on the above, the preferred SWM strategy for Sharon is the *Traditional SWM with BMP Implementation Strategy* in combination with *Traditional SWM with Urban Retrofits Strategy*. Retrofit opportunities are further discussed in **Section 7.0** and illustrated in **Figure 4-11**. Where applicable, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. A figure of the constraints and opportunities for the implementation of BMPs located within Sharon is provided as **Figure 4-11**.

10.1.5. Green Lane Expansion Areas

General

The Green Lane Expansion Area is designed to accommodate the growth of the Town of East Gwillimbury by providing appropriate employment and commercial areas. Existing conditions have designated this area as primarily agricultural and some rural residential.

There is currently only one (1) SWM pond in this area that is meeting Enhanced criteria. It is recommended that as growth continues, additional SWM ponds be considered to service the highly impervious areas. Only one (1) major waterway exists in the employment area with no identified erosion concerns. As development increases, runoff volume will increase and stream bank instability may occur. It is recommended to maintain a buffer zone of at least 15 m around the creek and uphold existing vegetation (or increase vegetation) to ensure adequate stability, infiltration, and phosphorus removal.

Four (4) SWM facilities are proposed as seen above in **Figure 4-12** and **Figure 4-13**. A further detailed study is recommended on a site specific basis to determine the location, size and number of ponds.

Quantity Control

As discussed in **Section 4.3.7**, quantity control should be enforced using "post-to-pre" criteria with the exception of the drainage areas outlined in **Table 4-42** in which unit-flow rates should be applied. Based on the amount of industrial and commercial area proposed in the Green Lane Expansion Area, developments should meet unit-flow rates to reduce peak flows entering the receiving watercourse. It is noted a detailed unit-storage / unit-flow study should be conducted on a sub-watershed level to confirm restrictions on watercourse discharge.

Quality Control

Stormwater quality control should be enforced using Ministry of Environment criteria and developments should provide 80% TSS Removal and Enhanced water quality levels.

As discussed in **Section 4.4**, stormwater quality control in terms of phosphorus control in the Green Lane Expansion Area should be enforced using criteria of a total phosphorus removal rate of 8.9 kg/year/ha.

Water Budget

As discussed in **Section 4.5**, in order to maintain the existing infiltration rates, future developments will require to maintain an infiltration rate of 5760 m^3/ha within the Green Lane Expansion Area.

Best Management Practices

Traditional BMP measures are recommended to be implemented in this area, and also innovative measures such as permeable pavement and green roofs. Urban BMPs as infiltration-enhancing measures in addition to the use of infiltration trenches and downspout disconnection should be examined when additional site-specific information is available.

The stormwater management criteria and recommendations for the Green Lane Expansion Area settlement area are summarized in **Table 10-5** below.

Table 10-5 – Green Lane Expansion Area Recommendation Summary

Quantity Control	Water Quality	Water Budget	Best Management Practices
Post development flows to be controlled to pre-development peak flow rates ("post-to-pre"). Unit-flow rates as summarized in **Table 4-42** are to be applied for specific drainage areas in the Green Lane Expansion Area.	Water quality is to be controlled to Enhanced levels (i.e. 80% TSS removal). A required phosphorus removal rate of 8.9 kg/year/ha is required for the Green Lane Expansion Area.	A required infiltration rate of 5760 m^3/ha is required for the Green Lane Expansion Area.	It is recommended that the possibility of infiltration measures such as infiltration trenches, be examined before being implemented.

It should be noted that all requirements of the SWM guidelines should be met. The SWM guidelines can be found in **Section 12.1.4**.

Preferred SWM Strategy

Based on the above, the preferred SWM strategy for the Green Lane and Employment Expansion Area is the *Traditional SWM with BMP Implementation Strategy* in combination with *Traditional SWM with Urban Retrofits Strategy*. Retrofit opportunities are further discussed in **Section 7.0** and illustrated above in **Figure 4-12** and **Figure 4-13**. Where applicable, it is recommended to provide BMPs in areas where soils and groundwater levels permit on a future development basis. A figure of the constraints and opportunities for the implementation of BMPs located within the Green Lane and Employment Expansion Area is provided above in **Figure 4-12** and **Figure 4-13**.

10.1.6. Rural Areas

The rural areas reside outside the above mentioned settlement areas in the Town of East Gwillimbury and are not part of the central growth area. There is no development proposed in this area, therefore land use will remain the same. In addition, approximately 75% of the Town is within the Oak Ridges Moraine and Protected Countryside. If the Town decides to grow further and develop into these areas, site specific studies are recommended. The implementation of rural retrofit opportunities as identified in **Section 8.2.5** should also be investigated.

Similar to the restrictions mentioned above, areas such as well head protection areas, high aquifer vulnerability, poor draining soils, and floodlines are all present in the rural areas. There is also land within the Oak Ridge Moraine that will have further restrictions on development according to the Oak Ridges Moraine Policies. It is noted that funding is available for rural retrofits as explained in **Section 12.4** and it is recommended that the Town investigate opportunities to retrofit rural areas on a site specific basis in the future.

10.2. Preferred Alternative Recommendation Summary

A summary of the recommendations presented in **Section 10.1** based on the preferred alternative for each settlement area was developed and listed below in **Table 10-6**.

Table 10-6 – Preferred Alternative Recommendation Summary

Settlement Area	Preferred Alternative	Recommended BMPs* (where appropriate)	Rationale
Mount Albert	Traditional SWM with BMP Implementation Traditional SWM with Rural Retrofits	Rural BMPs: Livestock fencing Buffer strips	Very small amount of growth Rural area will be maintained Within Oak Ridges Moraine
Queensville	Traditional SWM with BMP Implementation	Downspout disconnection Infiltration trenches Grassed swales	Proposed residential area Very small existing urban area

Settlement Area	Preferred Alternative	Recommended BMPs* (where appropriate)	Rationale
Holland Landing	Traditional SWM with BMP Implementation Traditional SWM with Urban Retrofits	Downspout disconnection Infiltration trenches Bioretention Rainwater harvesting Vegetated filter strips	Moderate amount of growth of residential and commercial Retrofit existing urban infrastructure where appropriate
Sharon	Traditional SWM with BMP Implementation Traditional SWM with Urban Retrofits	Downspout disconnection Grassed swales Vegetated filter strips	Moderate amount of growth Retrofit existing urban infrastructure where appropriate Few BMPs can be implemented due to poor infiltration
Green Lane Expansion Areas	Traditional SWM with BMP Implementation	Green roofs Infiltration chambers Permeable pavement Rainwater harvesting	Proposed commercial / industrial area Small existing urban area

*Recommended BMPs are based on settlement area specific conditions

10.3. Overall SWM Recommendations

Future SWMFs will be designed to MOE standards:

- Stormwater Quality Control: Enhanced – 80% TSS removal, 80% TP removal;
- Stormwater Quantity Control: Post-development peak flows to be reduced to pre-development levels for all storm events up to and including the 100-year storm. Unit-flow rates are to be applied for specific drainage areas requiring overcontrol to meet pre-development peak flows;**
- The Regional Storm should be controlled to the pre-development peak flow rate level *if* noted in the subwatershed study (LSRCA Technical Guidelines for Stormwater Management Submissions, November 2010);
- Site specific erosion control and detention time calculations based on individual fluvial assessment of the receiving stream (i.e. 24hr, 48hr, 72hr, etc.);
- Future developments will follow the guidelines as outlined in the Lake Simcoe Protection Plan (LSPP);
- BMPs will be implemented where applicable to establish a treatment train approach (i.e. source, conveyance and end-of-pipe treatment);
- Where opportunities exist, implement enhanced vegetation for shading, bottom draw outlets, cooling trenches at SWMF locations to reduce stormwater temperature;
- Where opportunities exist, reduce phosphorus discharge, improve infiltration and reduce erosion potential within settlement areas and expansion of settlement area boundaries;

- Where opportunities exist, implement rural retrofits for applicable areas outside of existing settlement boundaries; and,
- Proceed with retrofit opportunities and maintenance operations of select SWM facilities as identified by the LSRCA and the SWM Master Plan.

** It is recommended that an investigation regarding the implementation of detailed unit flow criteria should be conducted in the future for the East and West Holland River subwatersheds to establish a reduction of peak flows.

11.0 Public Consultation

11.1. Consultation Activities

In order to fulfill the requirements of a municipal class EA, several opportunities were given to general public, residents, agencies, and interested stakeholders for learning, sharing and responding to the project. The Municipal Class EA requires the Proponent to undertake two (2) mandatory points of public contact during Phase Two (Alternative Solutions). The Project Team has exceeded the mandatory number of public contacts, with the following opportunities for comment provided:

- Notice of Commencement;
- Notice of Public Information Centre;
- Public Information Centre; and,
- Notice of Completion.

11.1.1. Notice of Commencement

The Notice of Commencement was prepared and distributed to stakeholders and review agencies between December 20, 2010 and February 9, 2011. In addition, the notice was posted on the Town's website under "Our Town News". The notice informs stakeholders of the SWMMP being initiated in the Town and the study area that may be affected. The notice provides background information including the purpose, objectives and process. It also notifies the public about the consultation process consisting of one (1) Public Information Center (PIC) and the Public Education Campaign in place and gives locations of where further information can be found. Furthermore, the contact information for the Town's Project Manager and Cole Engineering's Project Manager were made available to the public to engage any initial feedback on the project.

A copy of the Notice of Commencement is provided in **Appendix M**.

11.1.2. Notice of Public Information Centre

A Notice of PIC was prepared and posted on the Town's website under "Our Town News". A copy of the Notice of PIC is available in **Appendix N**. The notice provided a description of the project, provided the details of the PIC, and included a request for comments and input. Contact information was provided for the Town's Project Manager and Cole Engineering's Project Engineer was also provided to encourage the submission of comments.

11.1.3. Public Information Centre

One (1) Public Information Centre (PIC) took place during the project. The PIC was held on March 3, 2011. It was attended by six (6) people mostly consisting of Town council and staff. The Project Team including representatives from Cole and the Town were in attendance to answer any questions that participants had.

The PIC presented the following elements:

- Study Overview and Background;
- Problem / Opportunity Statement;
- Overview of the Municipal Class Environmental Assessment Process;
- Alternative Solutions Being Considered; and,
- Next Steps.

The display panels presented at the PIC can be found in **Appendix O**. The PIC sign-in sheet and comment form are enclosed as **Appendix P**. It is noted that no comments were received as a result of the PIC.

11.2. First Nations Consultation

A letter and Notice of Commencement was sent to the Consultation Assessment Coordinator with Lands, Resources and Consultations at Métis Nation of Ontario. The project notice is currently being reviewed by the community. The impact that this statement may have could restrict the implementation of BMP measures on certain lands. It is expected that these impacts will be minor. A letter received from Indian and Northern Affairs Canada is included as **Appendix Q**.

11.3. Consultation with LSRCA

An initial meeting was held with staff of the LSRCA on January 14, 2011. The purpose of this meeting was to assess LSRCA approval requirements for the Lake Simcoe Protection Plan and future permits to be acquired during the Master Plan EA process.

The meeting minutes which provide preliminary comments on the Master Plan EA, which can be found in **Appendix R** with key points summarized below:

- LSRCA agrees with the intent of the EA process;
- LSRCA requires the SWMMP to follow the requirements of the Lake Simcoe Protection Plan; and,
- LSRCA prefers the development of the SWMMP to follow the Municipal Master Plan EA Process with regards to alternatives and public consultation.

11.4. Consultation with the Ministry of the Environment

A covering letter and the Notice of Commencement were sent to the Ministry of the Environment (MOE) on February 9, 2011. A letter was received from the MOE, dated March 8, 2010, confirming their requirements and suggestions for the EA process. This letter is included in **Appendix S**.

12.0 Implementation

12.1. Policy Considerations

12.1.1. General

As part of Policy 4.5 SA of the LSPP, recommended policies and SWM standards are required for future developments within the Town. Policies examined are discussed below and future SWM guidelines are discussed in **Section 12.1.4**.

12.1.2. Road Salts

An imminent concern in regards to the degradation of water quality is the accumulation of road salts within surface water. The CEPA defines road salt containing chloride as toxic, and therefore need to be managed in order to protect the Town's drinking water and aquatic life. Analysis of the Lake Simcoe Watershed indicates that chloride levels have remained constant or increased in most subwatershed and with the expect growth may further increase. It is recommended that the use, storage, and application of road salt and the disposal of snow be conducted in accordance to the Code of Practice for the Environmental Management of Road Salts (*Environment Canada 2004*). In reference to road salt application timing, schedules can be modelled after the Region of York or the Code of Practice. Alternatives to road salt should be explored such as the use of sand. It should be noted that when sand or other sediments are used, road sweeping is necessarily to be completed in a timely manner to avoid said sediments being carried into local watercourses. The monitoring of road salt usage requires a separate study to determine the best practices for the Town's need.

12.1.3. Water Temperature

The combination of warmer runoff from impervious areas and reduction in groundwater infiltration can produce severely elevated temperatures in the receiving streams, which can contribute to reductions in dissolved oxygen and create conditions outside of the thermal tolerance limits for desirable fish species and other aquatic life.

Chapter 4.4 of the *MOE SWMP Design Manual* states that "an increase in stormwater temperature is inevitable if an area is developed (i.e. urbanization causes stormwater temperature increases). This observation is based on current development practices." Mitigation by way of cooling can be provided if surface water is to be released on lawns or pervious areas before released from the site. In addition, subsurface trench outlets (such as those recommended in **Section 8.2**) has been suggested by MOE (Chapter 4.4) as a technique which reduces stormwater temperature. It is recommended that stormwater be discharged through underground trenches or onto pervious surfaces, where practical, before being released into watercourses. In addition, opportunities to implement SWM pond bottom draw outlets, cooling trenches and enhanced vegetation for shading be investigated for the reduction of stormwater temperature in future developments. It is noted that further analysis regarding the increases / decreases in stormwater temperature may be required during the functional design stage to accurately assess the changes in stormwater temperature as a result of development.

12.1.4. SWM Guidelines

As stated in **Section 10.3**, the overall SWM guidelines for the Town should be as follows:

- Future SWMFs will be designed to MOE standards;
- Stormwater Quality Control: Enhanced - 80% TSS removal, 80% TP removal;
- Stormwater Quantity Control: Post-development peak flows to be reduced to pre-development levels for all storm events up to and including the 100-year storm; **
- Site specific erosion control and detention time calculations based on individual fluvial analysis of the receiving stream (i.e. 24hr, 48hr, 72hr, etc.);
- Future developments will follow the standards as outlined in the Lake Simcoe Protection Plan (LSPP);
- BMPs will be implemented where applicable to establish a treatment train approach (i.e. source, conveyance and end-of-pipe treatment);
- Where opportunities exist, implement enhanced vegetation for shading, bottom draw outlets, cooling trenches at SWMF locations to reduce stormwater temperature;
- Where opportunities exist, reduce phosphorus discharge, improve infiltration and reduce erosion potential within settlement areas and expansion of settlement area boundaries;
- Where opportunities exist, implement rural retrofits for applicable areas outside of existing settlement boundaries; and,
- Proceed with retrofit opportunities and maintenance operations of select SWM facilities as identified by the LSRCA and **Appendix L** of the SWM Master Plan.

It should be noted that although “post-to-pre” stormwater quantity control criteria is recommended for future developments, this level of control may not reduce flows in the watershed to pre-development levels as per the hydrologic analysis in **Section 4.3. It is recommended that unit-flow rates be applied for areas requiring overcontrol to meet pre-development peak flow rates. An investigation regarding the implementation of detailed unit flow criteria should be conducted in the future for the East Holland and West Holland River subwatersheds to establish a reduction of peak flows.

12.2. Public Consultation / Education

It should be noted that SWM can be more effective with the addition of a public education program. A program should be focused on informing residents and businesses about the use of best management practices and low-impact development measures. The LSRCA is committed to continuing community and public outreach to engage the communities and encourage their participation in developing the future implementation plans. The LSRCA currently runs workshops and other outreach programs that the Town could use as a foundation to an education program. Moreover, The Town can model programs after those of The Region of York, such as their Water for Tomorrow Website or their Rain Barrel program to assist homeowners in reusing stormwater in their gardens.

12.3. Recommended Amendments to Official Plan

There are no current amendments to the Town consolidated OP 2031 that have been identified while carrying out this SWMMP.

12.4. Sources of Funding

The Ontario Soil and Crop Improvement Association in partnership with Agriculture and Agri-Food Canada, Ontario Ministry of Agriculture, and Food and Rural Affairs have developed a four (4) year program aimed to help farmers adopt Best Management Practices in four (4) main areas: environment and climate, food safety and traceability, business development and biosecurity. The Canada-Ontario Farm Stewardship Program will provide information, training, workshops, technical advice, as well as cost-sharing opportunities. Farmers can receive aid in proper manure and milkhouse waste storage, stream ditch and floodplain management, wetlands and wildlife ponds and soil management. Applications for the final year of funding will come up in November 2011, but it is highly encouraged to contact a local representative as soon as possible.

Further information regarding this funding program is available on the Ontario Soil and Crop Improvement Association website (http://www.ontariosoilcrop.org/default.htm).

LSRCA also has a similar program that provides landowners with funding and technical assistance for environmental projects on their land. LEAP (Landowner Environmental Assistance Program) can cover up to 100% for projects such as planting trees and shrubs, managing manure, controlling cropland erosion, and upgrading SWM ponds. Applications are made on an individual project basis usually by the landowner. Staff members are available to answer any questions regarding the planning and application process and it is recommended to contact the local stewardship representative before an application is submitted.

Further information regarding this funding program can be found on the LSRCA website (http://www.lsrca.on.ca/leap). Note that in the past this program has been very popular so it is recommended that applications be submitted early in the year.

APPENDIX A
Existing Land Use

Catchment No.	Soil Type	Agriculture (ha)	Forest (ha)	Open Water/Wetlands (ha)	Rural Development (ha)	Residential (ha)	Estate (ha)	Commercial (ha)	Institutional (ha)	Open Space (ha)
Mount Albert										
	Type D	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1
	Type B	89.7	1.1	6.5	0.0	57.2	0.0	0.0	0.0	0.0
3B	Type C	59.5	0.0	0.0	0.0	29.8	0.0	0.0	0.0	0.0
	Type B	4.1	8.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
	Type C	0.6	1.6	2.6	0.0	14.9	0.0	0.0	0.0	0.0
4B	Type A	19.1	5.4	5.7	0.0	37.0	0.0	0.0	0.0	0.0
Total		173.0	21.8	14.8	0.0	143.6	0.0	0.0	0.0	19.1
									TOTAL	**372.4**
Queensville										
238	Type B	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0
	Type D	12.6	18.5	0.0	1.8	0.0	2.3	0.0	0.0	0.0
236	Type B	204.8	147.1	6.9	3.8	0.0	12.9	0.0	0.0	0.0
232	Type B	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Type B	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Type B	69.6	32.9	0.0	0.0	41.9	0.0	0.0	0.0	0.0
	Type D	5.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	20.8	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	59.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Type C	48.6	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	208.0	17.1	2.7	2.8	35.4	2.9	0.0	0.0	12.5
1M	Type C	170.4	19.8	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Total		805.5	254.7	27.4	12.9	77.3	19.2	0.0	0.0	12.5
									TOTAL	**1,209.5**
Holland Landing										
	Type B	57.3	56.4	0.0	28.3	130.6	0.0	0.0	2.0	0.0
342	Type A	0.8	0.7	0.0	0.0	10.6	0.0	0.0	0.0	4.8
	Type B	0.0	6.9	0.0	1.1	16.0	0.0	0.0	0.0	0.0
	Type C	0.0	5.4	2.2	0.0	19.7	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0
240	Type A	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0
242	Type A	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0
	Type A	0.0	32.4	0.0	0.0	21.4	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	5.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0
	Type B	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
238	Type D	0.0	16.3	0.0	0.0	10.3	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	0.0	13.7	15.7	0.0	73.5	0.0	0.0	0.7	0.0
	Type D	0.0	0.0	33.8	0.6	2.8	0.0	0.0	0.0	0.0
234	Type B	0.0	6.9	0.0	0.0	18.2	0.0	0.0	0.0	2.5
	Type B	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	0.0	11.6	3.5	0.0	0.0	0.0	0.0	0.7	32.6
422	Type C	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0
232	Type B	67.4	46.0	9.8	1.7	51.2	0.0	0.0	4.4	0.0
	Type B	22.5	0.0	4.7	0.0	26.7	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	22.1	5.4	6.1	1.5	54.0	0.7	0.0	3.8	13.2
230	Type A	0.0	0.0	1.9	0.0	29.4	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0
220	Type C	2.7	9.3	0.0	0.2	22.0	0.0	0.0	0.0	21.0
	Bottomland	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0
226	Type C	0.0	1.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	20.0	9.5	2.0	0.8	28.2	0.0	0.0	0.0	9.2
	Type B	0.0	1.9	1.1	6.4	0.0	0.0	0.0	0.0	2.2
228	Type A	0.0	5.2	0.0	0.0	9.2	0.0	0.0	0.0	0.0
Total		192.8	259.1	164.6	41.9	568.5	0.7	0.0	11.6	85.5
									TOTAL	**1,324.7**
Sharon										
	Type B	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0
218	Type C	27.3	27.7	0.0	0.0	7.6	0.0	0.0	0.0	0.0
	Type B	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	34.2	2.6	0.0	0.0	27.1	0.0	0.0	0.0	0.0
216	Type A	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	21.1	11.4	0.0	0.0	24.5	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	1.6	0.0	89.2	0.0	0.0	0.0	0.0
214	Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Type C	0.0	0.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0
	Type C	5.1	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0
	Type B	0.8	0.0	0.0	0.0	32.9	0.0	0.0	0.0	0.0
7B	Type A	30.5	0.0	0.0	0.0	72.1	0.0	0.0	0.0	0.0
Total		130.0	41.7	19.5	0.0	296.3	0.0	0.0	0.0	0.0
									TOTAL	**487.5**

Catchment No.	Soil Type	Agriculture (ha)	Forest (ha)	Open Water/Wetlands (ha)	Rural Development (ha)	Residential (ha)	Estate (ha)	Commercial (ha)	Institutional (ha)	Open Space (ha)
Type D Greenfield and Employment Expansion Settlement Area										
	Type B	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
418	Type C	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
416	Type C	5.8	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
414	Type C	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Type C	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	72.2	5.8	0.0	7.0	0.3	0.0	35.3	0.0	5.1
224	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	75.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0	5.4
226	Type D	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Type C	5.7	1.4	0.0	4.1	0.0	0.0	0.0	0.0	1.7
	Type C	19.1	11.8	0.0	0.0	3.3	0.0	3.2	0.0	12.5
222	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Type C	54.6	14.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	153.4	19.6	0.0	0.0	0.9	0.0	0.0	0.0	0.0
210	Type B	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	2.4	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
214	Type B	74.7	15.4	0.0	12.5	1.6	0.0	0.0	0.0	0.0
212	Type B	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6B	Type B	30.7	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	82.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
7B	Type A	19.5	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0
Total Area		645.3	105.1	231.8	40.8	8.4	0.0	38.5	0.0	33.1
									TOTAL	1,103.0

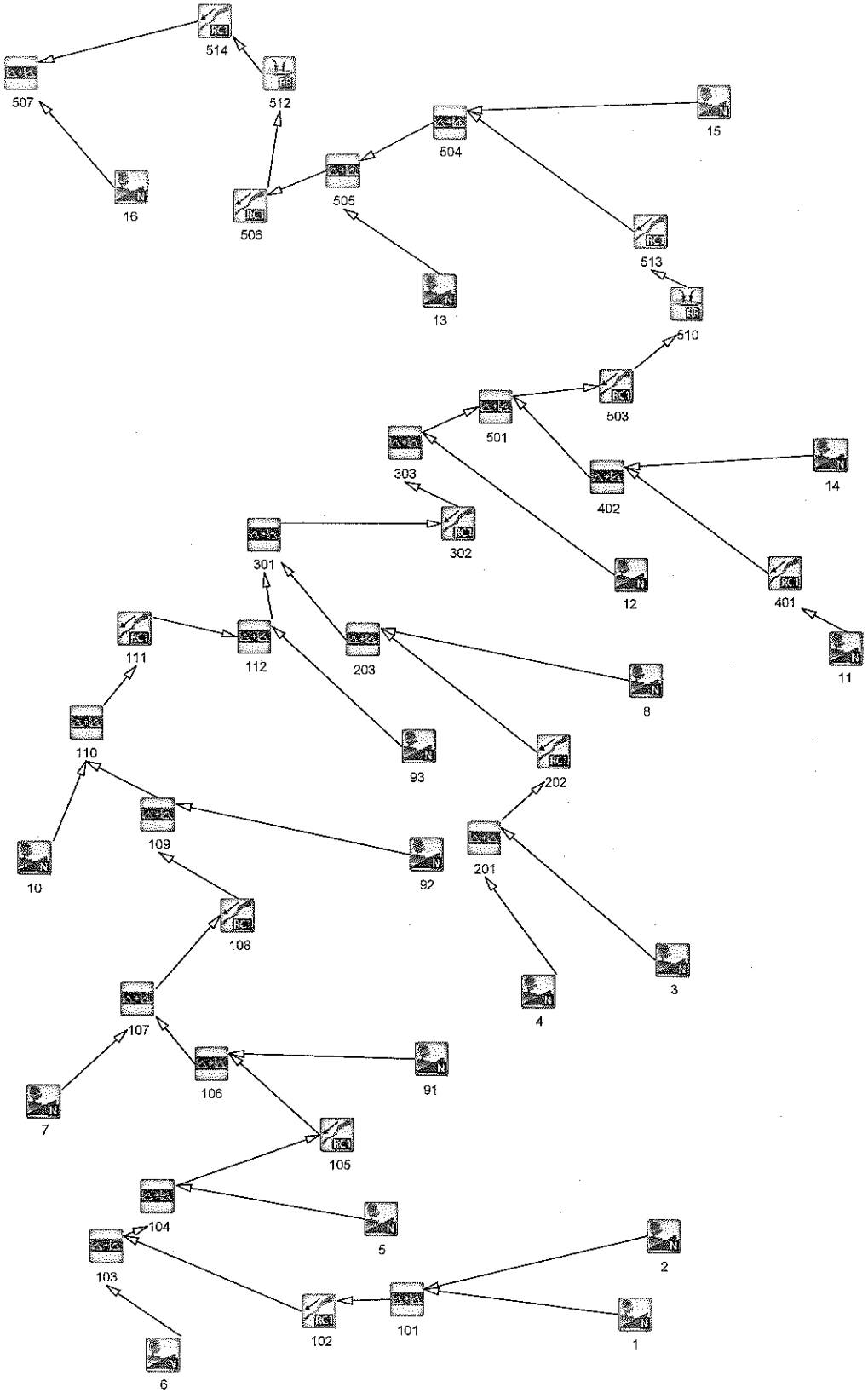
APPENDIX B
Future Land Use

Catchment No.	Soil Type	Agriculture (ha)	Open Water/Wetlands (ha)	Forest (ha)	Med. Density Residential (ha)	Low Density Residential (ha)	Estate (ha)	Institutional (ha)	Commercial (ha)	Open Space (ha)
North Maple Settlement Area										
	Type C	0.0	0.0	0.0	0.0	62.2	0.0	0.0	0.0	22.6
	Type B	0.0	4.9	0.0	1.9	84.8	0.0	7.7	0.0	41.0
	Type D	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	3.4	0.0	0.0	4.4	0.0	0.0	0.3	15.1
3B	Type A	0.0	0.8	0.0	0.0	21.1	0.0	0.0	3.0	1.2
	Type C	2.7	0.0	0.0	0.0	14.5	0.0	0.0	7.1	0.1
	Type B	0.0	0.0	0.0	0.0	8.2	0.0	2.6	0.3	3.5
4B	Type A	6.2	0.0	0.0	0.0	19.1	0.0	2.2	25.1	0.5
Total		8.94	14.78	0.00	1.89	214.31	0.00	12.62	35.88	83.94
									TOTAL	**372.4**
Thornville Settlement Area										
	Type B	0.0	2.7	0.0	12.7	150.4	0.0	1.6	67.4	33.8
	Type C	0.0	4.7	0.0	0.0	0.1	0.0	1.4	139.7	34.0
	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.2	12.5	9.8
1M	Bottomland	0.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Type B	0.0	0.0	0.0	0.0	112.7	0.0	0.0	19.7	10.9
	Type B	0.0	3.4	49.2	11.1	273.8	13.2	0.0	0.0	24.8
236	Type D	0.0	0.0	12.8	0.0	22.6	1.1	0.0	0.0	0.0
238	Type B	0.0	0.0	0.0	0.0	2.0	2.7	0.0	0.0	0.0
232	Type B	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.6
	Type B	0.0	0.0	0.0	0.8	30.2	0.0	0.1	18.4	10.0
	Type D	0.0	0.0	0.0	0.0	23.4	0.0	0.0	5.1	18.0
	Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	12.7
7B	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	2.2
216	Type B	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0
Total		0.0	27.4	62.1	24.6	619.9	17.0	3.3	298.5	156.8
									TOTAL	**1209.5**
Holland Landing Settlement Area										
	Type C	0.0	4.9	2.6	0.0	20.4	0.0	0.0	0.0	0.0
	Type A	0.0	2.3	0.0	0.0	14.2	0.0	0.0	0.0	0.0
	Bottomland	0.0	13.0	0.1	0.0	10.0	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	5.9	0.0	15.3	0.0	0.0	0.0	0.2
240		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	2.1	0.0	3.1	0.0	0.0	0.0	0.0
242	Type A	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	1.8	0.0	20.3	0.0	111.0	0.0	2.9	98.4	2.3
342	Type A	0.0	0.0	0.5	0.0	10.6	0.0	0.0	1.0	2.7
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	8.2
	Type A	0.0	0.0	0.0	0.0	45.2	0.0	0.0	0.0	5.4
422	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	Type A	0.0	6.9	0.0	0.0	41.0	0.0	0.0	2.8	1.9
	Type B	0.0	2.8	0.2	0.0	4.7	0.0	0.0	5.2	0.0
	Type C	0.0	3.0	3.7	0.0	26.8	0.0	0.0	0.0	0.0
	Type D	0.0	2.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0
228	Bottomland	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0	4.7
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
226	Bottomland	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	7.0
	Bottomland	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	9.5
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
220	Type D	0.0	0.0	0.0	0.0	39.5	0.0	0.6	0.0	2.2
	Type D	0.0	0.0	0.0	1.0	66.9	0.0	4.1	0.0	11.2
	Bottomland	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	25.6
	Type A	0.0	2.9	0.0	0.0	28.7	0.0	0.0	0.0	0.0
230	Type B	0.0	0.0	0.0	0.1	33.2	0.0	0.9	0.0	0.0
	Type B	0.0	0.0	27.9	0.0	140.3	0.0	0.0	0.0	7.5
	Type A	0.0	0.0	2.4	0.0	5.9	0.0	0.0	0.0	0.0
232	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	0.0	9.3	6.1	0.0	49.3	0.0	0.0	3.4	5.8
	Type A	0.0	12.4	9.4	0.0	67.0	0.0	0.0	0.0	0.0
	Type D	0.0	44.2	8.0	0.0	0.0	0.0	0.0	0.0	4.5
234	Bottomland	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0	7.9
	Type B	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	0.0	0.0	23.8	0.0	28.8	0.0	0.0	0.0	0.1
	Type C	0.0	0.0	1.5	0.0	7.4	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
238	Type D	0.0	0.0	16.0	0.0	2.8	0.0	0.0	0.0	0.3
Total		1.8	164.6	137.1	1.4	779.7	0.0	8.5	116.8	114.9
									TOTAL	**1324.7**
Sharon Settlement Area										
	Type D	0.0	0.3	11.3	0.0	42.2	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.4	4.9	0.0	0.0	0.0	0.0	0.0	0.9
218	Type B	0.0	0.0	1.9	0.0	7.5	0.0	0.0	0.0	0.0
210	Type D	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0
	Type D	0.0	8.3	0.0	0.0	49.7	0.0	0.0	0.0	0.5
	Type B	0.0	1.6	0.0	0.0	85.6	0.0	0.0	0.0	1.6
	Type A	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
214	Bottomland	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	3.9
	Type B	0.0	0.0	0.0	0.0	27.8	0.0	0.0	0.0	8.0
	Type A	0.0	0.0	0.0	0.0	105.6	0.0	1.8	0.0	12.5
7B	Type D	0.0	0.0	0.0	0.0	23.2	0.0	0.0	0.0	0.0
	Type A	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0
	Type D	0.0	2.7	0.0	0.0	56.5	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
216	Bottomland	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Total		0.0	19.5	18.1	0.0	419.4	0.0	1.8	0.0	28.7
									TOTAL	**487.5**

Catchment No.	Soil Type	Agriculture (ha)	Open Water/Wetlands (ha)	Forest (ha)	Med. Density Residential (ha)	Low Density Residential (ha)	Estate (ha)	Institutional (ha)	Commercial (ha)	Open Space (ha)
	Type C	0.0	0.0	2.6	0.0	6.3	0.0	0.0	0.0	29.6
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1
416	Type B	0.0	0.0	0.0	0.0	14.2	0.0	0.0	0.0	21.6
	Type B	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0
418	Type C	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
414	Type C	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	9.2	0.0	0.0	77.1	0.0
224	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
	Type C	0.0	0.0	0.0	0.0	3.2	0.0	0.0	39.6	0.0
222	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	0.0
	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2	0.0
208	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	108.0	0.0
226	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	0.0
	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0
	Bottomland	0.0	5.1	0.0	0.0	0.0	0.0	0.0	10.0	0.0
210	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0
214	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.9	0.0
6	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.8	0.0
7	Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.0	0.0
212	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
Total		0.0	5.1	2.6	0.0	43.6	0.0	0.0	758.7	66.3
									TOTAL	**876.3**

APPENDIX C
Existing Conditions Hydrologic Model Output

BLACK RIVER SUBWATERSHED



EXISTING
BLACK RIVER 2-100 YEAR STORMS

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\88073fbd-731f-4992-8e5b-76831528f0f7\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\88073fbd-731f-4992-8e5b-76831528f0f7\Scenario.sum


DATE: 08/22/2012                          TIME: 11:56:20

USER:


COMMENTS: _____________________________________________________
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              88073fbd-731f-4992-8e5b-76831528f0f7\f44f96c2
| Ptotal= 51.24 mm |    Comments: 2yr/24hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    4.35 | 12.75    1.79 | 19.00    0.26
                0.50    0.26 |  6.75    4.35 | 13.00    1.79 | 19.25    0.26
                0.75    0.26 |  7.00    4.35 | 13.25    1.79 | 19.50    0.26
                1.00    0.26 |  7.25    4.35 | 13.50    1.79 | 19.75    0.26
                1.25    0.26 |  7.50    4.35 | 13.75    1.79 | 20.00    0.26
                1.50    0.26 |  7.75    4.35 | 14.00    1.79 | 20.25    0.26
                1.75    0.26 |  8.00    4.35 | 14.25    1.79 | 20.50    0.26
                2.00    0.26 |  8.25    4.35 | 14.50    1.02 | 20.75    0.26
                2.25    0.26 |  8.50   11.78 | 14.75    1.02 | 21.00    0.26
                2.50    0.26 |  8.75   11.78 | 15.00    1.02 | 21.25    0.26
                2.75    0.26 |  9.00   11.78 | 15.25    1.02 | 21.50    0.26
                3.00    0.26 |  9.25   11.78 | 15.50    1.02 | 21.75    0.26
                3.25    0.26 |  9.50   11.78 | 15.75    1.02 | 22.00    0.26
                3.50    0.26 |  9.75   11.78 | 16.00    1.02 | 22.25    0.26
                3.75    0.26 | 10.00   11.78 | 16.25    1.02 | 22.50    0.26
                4.00    0.26 | 10.25   11.78 | 16.50    0.51 | 22.75    0.26
                4.25    0.26 | 10.50    3.33 | 16.75    0.51 | 23.00    0.26
                4.50    1.54 | 10.75    3.33 | 17.00    0.51 | 23.25    0.26
                4.75    1.54 | 11.00    3.33 | 17.25    0.51 | 23.50    0.26
                5.00    1.54 | 11.25    3.33 | 17.50    0.51 | 23.75    0.26
                5.25    1.54 | 11.50    3.33 | 17.75    0.51 | 24.00    0.26
                5.50    1.54 | 11.75    3.33 | 18.00    0.51 | 24.25    0.26
                5.75    1.54 | 12.00    3.33 | 18.25    0.51 |
                6.00    1.54 | 12.25    3.33 | 18.50    0.26 |
                6.25    1.54 | 12.50    1.79 | 18.75    0.26 |

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=   4.001 (i)
     TIME TO PEAK    (hrs)=  30.000
     RUNOFF VOLUME    (mm)=  15.782
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   1.790 (i)
     TIME TO PEAK    (hrs)=  27.500
     RUNOFF VOLUME    (mm)=  11.683
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   2.358 (i)
     TIME TO PEAK    (hrs)=  20.750
     RUNOFF VOLUME    (mm)=  15.252
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   1.873 (i)
     TIME TO PEAK    (hrs)=  23.250
     RUNOFF VOLUME    (mm)=  10.248
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.200

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   0.496 (i)
     TIME TO PEAK    (hrs)=  26.750
     RUNOFF VOLUME    (mm)=  13.334
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.260

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=   4.127 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  11.306
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035
```

```
     PEAK FLOW      (cms)=   2.719 (i)
     TIME TO PEAK   (hrs)=  22.250
     RUNOFF VOLUME   (mm)=  15.252
     TOTAL RAINFALL  (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW      (cms)=   2.348 (i)
     TIME TO PEAK   (hrs)=  19.500
     RUNOFF VOLUME   (mm)=   9.918
     TOTAL RAINFALL  (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW      (cms)=   2.663 (i)
     TIME TO PEAK   (hrs)=  24.000
     RUNOFF VOLUME   (mm)=  15.252
     TOTAL RAINFALL  (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW      (cms)=   3.721 (i)
     TIME TO PEAK   (hrs)=  22.750
     RUNOFF VOLUME   (mm)=  10.248
     TOTAL RAINFALL  (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.200

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW      (cms)=   1.357 (i)
     TIME TO PEAK   (hrs)=  20.750
     RUNOFF VOLUME   (mm)=   9.289
     TOTAL RAINFALL  (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0001):  2873.64   3.721    22.75    10.25
      + ID2= 2 (0002):   988.72   1.357    20.75     9.29
        ================================================
        ID = 3 (0101):  3862.36   5.044    22.25    10.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
```

Distance	Elevation	Manning	
0.00	250.00	0.0700	
43.00	240.00	0.0700 /0.0350	Main Channel
44.00	239.20	0.0350	Main Channel
45.00	239.20	0.0350	Main Channel
46.00	240.00	0.0350 /0.0700	Main Channel
63.50	241.00	0.0700	
71.00	250.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	239.60	.642E+04	0.5	0.80	221.73
0.80	240.00	.171E+05	1.8	1.15	155.20
1.39	240.59	.764E+05	8.0	1.12	159.62
1.98	241.18	.214E+06	23.7	1.19	150.23
2.56	241.76	.385E+06	51.8	1.44	123.91
3.15	242.35	.575E+06	90.1	1.68	106.38
3.74	242.94	.784E+06	138.5	1.89	94.40
4.33	243.53	.101E+07	196.9	2.08	85.71
4.92	244.12	.126E+07	265.6	2.26	79.08
5.51	244.71	.153E+07	344.7	2.42	73.81
6.09	245.29	.181E+07	434.5	2.57	69.50
6.68	245.88	.212E+07	535.2	2.71	65.89
7.27	246.47	.244E+07	647.3	2.84	62.81
7.86	247.06	.278E+07	771.1	2.97	60.13
8.45	247.65	.314E+07	906.8	3.09	57.77
9.04	248.24	.352E+07	1054.8	3.20	55.67
9.62	248.82	.392E+07	1215.5	3.32	53.79
10.21	249.41	.434E+07	1389.1	3.42	52.09
10.80	250.00	.478E+07	1576.1	3.53	50.53

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0101)	3862.36	5.04	22.25	10.00	1.11	1.13
OUTFLOW:	ID= 1 (0102)	3862.36	4.79	25.00	10.00	1.08	1.13

```
--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0006):  1504.44   2.663    24.00    15.25
      + ID2= 2 (0102):  3862.36   4.787    25.00    10.00
        ================================================
        ID = 3 (0103):  5366.80   7.438    24.75    11.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0005):  1444.47   2.348    19.50     9.92
      + ID2= 2 (0103):  5366.80   7.438    24.75    11.47
        ================================================
        ID = 3 (0104):  6811.27   9.390    23.25    11.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
```

Distance	Elevation	Manning	
0.00	237.00	0.1000	
330.00	235.00	0.1000 /0.0350	Main Channel
331.00	234.20	0.0350	Main Channel
332.00	234.20	0.0350	Main Channel
333.00	235.00	0.0350 /0.1000	Main Channel
425.00	235.10	0.1000	
698.00	236.00	0.1000	
1101.00	239.00	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	234.33	.490E+03	0.1	0.64	82.66
0.27	234.47	.112E+04	0.3	0.93	56.72
0.40	234.60	.189E+04	0.7	1.14	45.94
0.53	234.73	.280E+04	1.2	1.33	39.64
0.67	234.87	.385E+04	1.8	1.49	35.34
0.80	235.00	.504E+04	2.6	1.63	32.16
0.95	235.15	.442E+05	6.3	0.45	116.42
1.11	235.31	.128E+06	17.7	0.44	120.51
1.26	235.46	.247E+06	38.2	0.49	107.48
1.42	235.62	.400E+06	69.8	0.55	95.60
1.57	235.77	.589E+06	114.0	0.61	86.08

1.72	235.92	.812E+06	172.6	0.67	78.45
1.88	236.08	.107E+07	250.3	0.74	71.19
2.03	236.23	.135E+07	347.8	0.81	64.71
2.18	236.38	.165E+07	461.9	0.88	59.65
2.34	236.54	.198E+07	593.4	0.95	55.58
2.49	236.69	.233E+07	742.8	1.01	52.21
2.65	236.85	.270E+07	910.6	1.06	49.36
2.80	237.00	.309E+07	1097.6	1.12	46.91

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0104)	6811.27	9.39	23.25	11.14	1.00	0.45
OUTFLOW: ID= 1 (0105)	6811.27	9.11	25.75	11.14	0.99	0.45

CALIB			
NASHYD (0091)	Area (ha)=	281.97	Curve Number (CN)= 65.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)=	5.80	

Unit Hyd Qpeak (cms)= 1.906

PEAK FLOW	(cms)=	0.689 (i)
TIME TO PEAK	(hrs)=	17.000
RUNOFF VOLUME	(mm)=	11.683
TOTAL RAINFALL	(mm)=	51.240
RUNOFF COEFFICIENT	=	0.228

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0091):	281.97	0.689	17.00	11.68
	+ ID2= 2 (0105):	6811.27	9.111	25.75	11.14
	ID = 3 (0106):	7093.24	9.411	25.25	11.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0107)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0007):	1373.84	2.719	22.25	15.25
	+ ID2= 2 (0106):	7093.24	9.411	25.25	11.17
	ID = 3 (0107):	8467.08	12.012	24.75	11.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0108)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.00	0.1000	
400.00	231.00	0.1000 /0.0350	Main Channel
401.00	229.70	0.0350	Main Channel
402.00	229.70	0.0350	Main Channel
404.00	230.50	0.0350 /0.1000	Main Channel
495.00	231.00	0.1000	
1234.00	256.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.90	.151E+04	0.1	0.24	395.61
0.40	230.10	.377E+04	0.2	0.35	274.62
0.60	230.30	.677E+04	0.5	0.43	222.06
0.80	230.50	.105E+05	0.9	0.50	190.52
1.03	230.73	.437E+05	2.0	0.27	356.49
1.27	230.97	.134E+06	5.0	0.21	448.69
1.50	231.20	.278E+06	11.4	0.23	405.59
1.73	231.43	.473E+06	21.6	0.26	364.80
1.97	231.67	.718E+06	36.0	0.29	332.76
2.20	231.90	.101E+07	55.1	0.31	306.87
2.43	232.13	.136E+07	79.4	0.33	285.44
2.67	232.37	.176E+07	109.6	0.36	267.34
2.90	232.60	.221E+07	145.9	0.38	251.83
3.13	232.83	.270E+07	189.0	0.40	238.35
3.37	233.07	.325E+07	239.3	0.42	226.51
3.60	233.30	.385E+07	297.1	0.44	216.02
3.83	233.53	.450E+07	363.0	0.46	206.64
4.07	233.77	.520E+07	437.3	0.48	198.20
4.30	234.00	.595E+07	520.5	0.50	190.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0107)	8467.08	12.01	24.75	11.83	1.51	0.24
OUTFLOW: ID= 1 (0108)	8467.08	9.75	30.50	11.83	1.44	0.23

CALIB			
NASHYD (0092)	Area (ha)=	1102.32	Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)=	16.50	

Unit Hyd Qpeak (cms)= 2.620

PEAK FLOW	(cms)=	1.109 (i)
TIME TO PEAK	(hrs)=	28.500
RUNOFF VOLUME	(mm)=	11.306
TOTAL RAINFALL	(mm)=	51.240
RUNOFF COEFFICIENT	=	0.221

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0109)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0092):	1102.32	1.109	28.50	11.31
	+ ID2= 2 (0108):	8467.08	9.754	30.50	11.83
	ID = 3 (0109):	9569.40	10.851	30.25	11.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0010):	2842.76	4.127	22.50	11.31
	+ ID2= 2 (0109):	9569.40	10.851	30.25	11.77
	ID = 3 (0110):	12412.16	14.103	28.50	11.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0111)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.1000	
275.00	232.00	0.1000	
1039.00	230.00	0.1000 /0.0350	Main Channel
1040.00	229.20	0.0350	Main Channel
1041.00	229.20	0.0350	Main Channel
1043.00	230.00	0.0350 /0.1000	Main Channel
1117.00	230.60	0.1000	
1325.00	234.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.40	.985E+03	0.0	0.14	431.34
0.40	229.60	.251E+04	0.1	0.20	298.03
0.60	229.80	.457E+04	0.3	0.25	239.97
0.80	230.00	.717E+04	0.6	0.29	205.17
1.07	230.27	.754E+05	2.2	0.11	561.90
1.33	230.53	.272E+06	8.6	0.11	527.12
1.60	230.80	.594E+06	22.7	0.14	436.37
1.87	231.07	.103E+07	46.2	0.16	371.32
2.13	231.33	.158E+07	80.7	0.18	325.64
2.40	231.60	.224E+07	127.8	0.20	291.74
2.67	231.87	.301E+07	189.0	0.22	265.46
2.93	232.13	.389E+07	271.8	0.25	238.27
3.20	232.40	.481E+07	376.4	0.28	212.79
3.47	232.67	.576E+07	496.0	0.31	193.49
3.73	232.93	.674E+07	630.4	0.33	178.30
4.00	233.20	.776E+07	779.4	0.36	165.99
4.27	233.47	.881E+07	943.0	0.38	155.79
4.53	233.73	.990E+07	1121.1	0.41	147.16
4.80	234.00	.110E+08	1313.9	0.43	139.76

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0110)	*******	14.10	28.50	11.66	1.44	0.12

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     OUTFLOW: ID= 1 (0111) *******    11.33   35.25  11.66      1.38      0.12


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| ADD HYD   (0112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   0.496    26.75    13.33
       + ID2= 2 (0111): 12412.16  11.327    35.25    11.66
         ==================================================
         ID = 3 (0112): 12793.89  11.725    35.00    11.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   2.273 (i)
     TIME TO PEAK    (hrs)=  20.750
     RUNOFF VOLUME    (mm)=   9.918
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.844

     PEAK FLOW       (cms)=   3.641 (i)
     TIME TO PEAK    (hrs)=  25.000
     RUNOFF VOLUME    (mm)=  11.306
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.795

     PEAK FLOW       (cms)=   2.718 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=   7.876
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.154

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0201) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2954.54   3.641    25.00    11.31
       + ID2= 2 (0004):  2672.69   2.718    22.50     7.88
         ==================================================
         ID = 3 (0201):  5627.23   6.301    23.75     9.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
               0.00        239.00        0.1000
             690.00        230.00    0.1000 /0.0350  Main Channel
             691.00        229.20        0.0350      Main Channel
             692.00        229.20        0.0350      Main Channel
             693.00        229.50    0.0350 /0.1000  Main Channel
            1190.00        230.00        0.1000
            1417.00        255.00        0.1000

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.30    229.50    .347E+04       0.4          0.84     136.57
           0.80    230.00    .864E+06      45.2          0.36     318.78
           1.30    230.50    .265E+07     274.1          0.71     161.20
           1.80    231.00    .459E+07     651.8          0.97     117.24
           2.30    231.50    .667E+07    1165.3          1.20      95.34
           2.80    232.00    .889E+07    1810.2          1.40      81.89
           3.30    232.50    .113E+08    2585.1          1.57      72.65
           3.80    233.00    .138E+08    3490.4          1.73      65.85
           4.30    233.50    .165E+08    4527.4          1.89      60.59
           4.80    234.00    .193E+08    5697.8          2.03      56.38
           5.30    234.50    .222E+08    7003.8          2.16      52.91
           5.80    235.00    .253E+08    8447.7          2.28      50.00
           6.30    235.50    .286E+08   10032.3          2.40      47.52
           6.80    236.00    .320E+08   11760.1          2.52      45.36
           7.30    236.50    .356E+08   13634.1          2.63      43.46
           7.80    237.00    .393E+08   15657.0          2.73      41.78
           8.30    237.50    .431E+08   17831.7          2.84      40.28
           8.80    238.00    .471E+08   20161.3          2.93      38.92
           9.30    238.50    .512E+08   22648.7          3.03      37.69

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)   (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23     6.30   23.75   9.68       0.37       0.71
     OUTFLOW: ID= 1 (0202) 5627.23     6.02   27.00   9.68       0.36       0.72


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| ADD HYD   (0203) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97   2.273    20.75     9.92
       + ID2= 2 (0202):  5627.23   6.023    27.00     9.68
         ==================================================
         ID = 3 (0203):  7177.20   7.869    25.25     9.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0301) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  11.725    35.00    11.71
       + ID2= 2 (0203):  7177.20   7.869    25.25     9.73
         ==================================================
         ID = 3 (0301): 19971.09  17.981    31.00    11.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
               0.00        240.00        0.0700
             110.00        239.00        0.0700
             161.00        238.00        0.0700
             250.00        237.00        0.0700
             420.00        236.00        0.0700
             560.00        235.00        0.0700
             589.00        234.40    0.0700 /0.0350  Main Channel
             589.10        233.60        0.0350      Main Channel
             594.00        233.60        0.0350      Main Channel
             594.10        234.40    0.0350 /0.0700  Main Channel
             615.00        235.00        0.0700
             740.00        236.00        0.0700
             860.00        236.50        0.0700
            1340.00        237.00        0.0700
            1460.00        238.00        0.0700
            1470.00        239.00        0.0700
            1510.00        240.00        0.0700

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.27    233.87    .770E+04       1.0          0.74     132.49
           0.53    234.13    .155E+05       2.9          1.10      88.48
           0.80    234.40    .234E+05       5.5          1.37      71.19
           1.15    234.75    .636E+05      11.6          1.07      91.11
           1.50    235.10    .169E+06      24.5          0.85     114.97
           1.85    235.45    .431E+06      54.5          0.74     131.62
           2.20    235.80    .882E+06     117.3          0.78     125.39
           2.55    236.15    .153E+07     218.3          0.83     117.06
           2.90    236.50    .246E+07     375.3          0.89     109.30
           3.25    236.85    .394E+07     579.0          0.86     113.45
           3.60    237.20    .612E+07    1010.3          0.97     101.01
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3.95	237.55	.851E+07	1631.3	1.12	86.99
4.30	237.90	.111E+08	2391.8	1.27	77.05
4.65	238.25	.137E+08	3337.5	1.42	68.52
5.00	238.60	.164E+08	4438.7	1.58	61.71
5.35	238.95	.192E+08	5671.0	1.73	56.40
5.70	239.30	.220E+08	6955.1	1.85	52.75
6.05	239.65	.249E+08	8355.2	1.96	49.76
6.40	240.00	.280E+08	9884.7	2.07	47.18

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0301)	*******	17.98	31.00	11.00	1.32	0.95
OUTFLOW:	ID= 1 (0302)	*******	17.74	33.25	11.00	1.31	0.95

ADD HYD (0303)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0012):	1501.52	1.873	23.25	10.25
+	ID2= 2 (0302):	19971.09	17.744	33.25	11.00
	ID = 3 (0303):	21472.61	18.990	32.50	10.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0011)	Area (ha)=3099.17	Curve Number (CN)= 57.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 11.10		

Unit Hyd Qpeak (cms)= 10.949

PEAK FLOW	(cms)=	3.491 (i)
TIME TO PEAK	(hrs)=	23.000
RUNOFF VOLUME	(mm)=	8.989
TOTAL RAINFALL	(mm)=	51.240
RUNOFF COEFFICIENT	=	0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (0401)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.0500	
72.00	235.00	0.0500	
492.00	230.00	0.0500	
581.00	229.20	0.0500 /0.0350	Main Channel
582.00	228.40	0.0350	Main Channel
583.00	228.40	0.0350	Main Channel
584.00	229.20	0.0350 /0.0500	Main Channel
588.00	229.20	0.0500	
607.00	230.00	0.0500	
627.00	235.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	228.67	.302E+04	0.1	0.21	666.69
0.53	228.93	.756E+04	0.3	0.30	465.92
0.80	229.20	.136E+05	0.6	0.37	377.99
1.16	229.56	.111E+06	3.0	0.23	616.66
1.52	229.92	.358E+06	11.5	0.27	519.91
1.89	230.29	.740E+06	30.1	0.35	410.09
2.25	230.65	.122E+07	59.5	0.41	342.49
2.61	231.01	.180E+07	100.6	0.47	298.58
2.97	231.37	.248E+07	154.6	0.53	267.22
3.34	231.74	.326E+07	222.9	0.58	243.40
3.70	232.10	.413E+07	306.6	0.63	224.51
4.06	232.46	.510E+07	406.9	0.68	209.05
4.42	232.82	.617E+07	524.8	0.72	196.10
4.79	233.19	.734E+07	661.4	0.77	185.06
5.15	233.55	.861E+07	817.9	0.81	175.49
5.51	233.91	.998E+07	995.2	0.85	167.10
5.87	234.27	.114E+08	1194.3	0.89	159.67
6.24	234.64	.130E+08	1416.3	0.93	153.03
6.60	235.00	.147E+08	1662.2	0.96	147.05

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0011)	3099.17	3.49	23.00	8.99	1.18	0.23
OUTFLOW:	ID= 1 (0401)	3099.17	2.54	32.75	8.99	1.09	0.25

CALIB			
NASHYD (0014)	Area (ha)=2163.09	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 25.10		

Unit Hyd Qpeak (cms)= 3.379

PEAK FLOW	(cms)=	1.737 (i)
TIME TO PEAK	(hrs)=	37.000
RUNOFF VOLUME	(mm)=	13.334
TOTAL RAINFALL	(mm)=	51.240
RUNOFF COEFFICIENT	=	0.260

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0402)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0014):	2163.09	1.737	37.00	13.33
+	ID2= 2 (0401):	3099.17	2.543	32.75	8.99
	ID = 3 (0402):	5262.26	4.239	33.75	10.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0501)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0303):	21472.61	18.990	32.50	10.95
+	ID2= 2 (0402):	5262.26	4.239	33.75	10.77
	ID = 3 (0501):	26734.87	23.213	32.75	10.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0503)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0501)	*******	23.21	32.75	10.91	0.52	0.43

```
     OUTFLOW: ID= 1 (0503) *******    23.14   33.75  10.91      0.52      0.43


--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  27.8300    83.9600
                          3.8000    14.0500   |  *******   101.7400
                         11.0800    33.6500   |  *******   145.2700
                         20.8900    61.8900   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0503)   ********     23.142     33.75      10.91
     OUTFLOW: ID= 1 (0510)   ********     20.176     41.25      10.91

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 87.18
                TIME SHIFT OF PEAK FLOW         (min)=450.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 59.8355

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-------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                 0.00         237.00        0.0700
               425.00         235.00        0.0700
               445.00         234.00        0.0700
               480.00         233.50        0.0700
              1535.00         233.50    0.0700 /0.0350  Main Channel
              1536.50         232.70        0.0350      Main Channel
              1537.50         232.70        0.0350      Main Channel
              1540.00         233.50    0.0350 /0.0700  Main Channel
              1605.00         233.20        0.0700
              1610.00         233.10        0.0700
              2135.00         233.10        0.0700
              2440.00         233.50        0.0700
              2505.00         233.50        0.0700
              2530.00         234.00        0.0700
              2535.00         235.00        0.0700
              2540.00         236.00        0.0700
              2605.00         238.00        0.0700
              2645.00         241.00        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.20   232.90    .291E+03         0.2         0.55       29.43
       0.40   233.10    .777E+03         0.6         0.80       20.23
       0.60   233.30    .120E+06        39.5         0.32       50.68
       0.80   233.50    .277E+06       133.3         0.47       34.59
       1.03   233.73    .739E+06       428.7         0.56       28.72
       1.27   233.97    .121E+07       914.3         0.74       22.00
       1.50   234.20    .168E+07      1556.9         0.90       17.98
       1.73   234.43    .215E+07      2336.2         1.05       15.37
       1.97   234.67    .263E+07      3240.2         1.20       13.52
       2.20   234.90    .311E+07      4260.9         1.33       12.15
       2.43   235.13    .359E+07      5359.1         1.45       11.15
       2.67   235.37    .408E+07      6537.6         1.56       10.39
       2.90   235.60    .458E+07      7819.4         1.66        9.76
       3.13   235.83    .509E+07      9203.8         1.76        9.22
       3.37   236.07    .562E+07     10683.6         1.85        8.76
       3.60   236.30    .615E+07     12247.8         1.93        8.37
       3.83   236.53    .670E+07     13912.8         2.01        8.03
       4.07   236.77    .727E+07     15679.0         2.09        7.73
       4.30   237.00    .784E+07     17546.8         2.17        7.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0510) *******    20.18   41.25  10.91      0.50      0.46
     OUTFLOW: ID= 1 (0513) *******    20.15   42.25  10.91      0.50      0.46


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-------------------
| ADD HYD   (0504) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0015):  1059.88   2.358    20.75    15.25
      + ID2= 2 (0513): 26734.87  20.153    42.25    10.91
        ================================================
        ID = 3 (0504): 27794.75  20.464    41.75    11.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0505) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0013):  1627.59   1.790    27.50    11.68
      + ID2= 2 (0504): 27794.75  20.464    41.75    11.08
        ================================================
        ID = 3 (0505): 29422.34  21.562    40.50    11.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                 0.00         251.00        0.0500
               323.00         238.00        0.0500
               400.00         229.00        0.0500
               545.00         228.00        0.0500
               602.00         226.00        0.0500
               604.00         225.80    0.0500 /0.0350  Main Channel
               605.00         225.00        0.0350      Main Channel
               609.00         225.00        0.0350      Main Channel
               610.00         225.80    0.0350 /0.0500  Main Channel
               614.00         226.00        0.0500
               650.00         227.00        0.0500
               810.00         229.50        0.0500
              1855.00         240.00        0.0500
              2617.00         259.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.80   225.80    .292E+05         3.5         0.87      139.36
       2.13   227.13    .441E+06        50.6         0.84      145.20
       3.45   228.45    .197E+07       262.2         0.97      125.42
       4.78   229.78    .557E+07       971.2         1.27       95.57
       6.11   231.11    .106E+08      2326.5         1.61       75.63
       7.43   232.43    .169E+08      4425.6         1.90       63.77
       8.76   233.76    .247E+08      7361.8         2.17       55.90
      10.08   235.08    .338E+08     11229.7         2.42       50.22
      11.41   236.41    .444E+08     16121.0         2.65       45.87
      12.74   237.74    .563E+08     22124.8         2.86       42.40
      14.06   239.06    .697E+08     29005.2         3.03       40.02
      15.39   240.39    .846E+08     37433.0         3.23       37.66
      16.72   241.72    .101E+09     47908.6         3.47       34.97
      18.04   243.04    .117E+09     59742.1         3.71       32.73
      19.37   244.37    .135E+09     72949.0         3.94       30.83
      20.69   245.69    .153E+09     87549.6         4.16       29.20
      22.02   247.02    .173E+09     *******         4.37       27.79
      23.35   248.35    .193E+09     *******         4.58       26.55
      24.67   249.67    .214E+09     *******         4.77       25.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0505) *******    21.56   40.50  11.11      1.31      0.86
     OUTFLOW: ID= 1 (0506) *******    21.31   43.25  11.11      1.30      0.86


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-------------------
| RESERVOIR (0512) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    16.2850
                         27.2000     3.7650   |  *******    20.9160
                         76.8000     7.7410   |  *******    25.9120
                         *******    11.0650   |  *******    36.6600
                         *******    11.9150   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0506)   ********     21.307     43.25      11.11
     OUTFLOW: ID= 1 (0512)   ********     21.301     43.50      11.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.97
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.9485

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-------------------
| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                 0.00         230.00        0.0500
               400.00         229.00        0.0500
               545.00         228.00        0.0500
               602.00         226.00        0.0500
               604.00         225.80    0.0500 /0.0350  Main Channel
```

605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0512) *******	21.30	43.50	11.11	1.63	0.80	
OUTFLOW: ID= 1 (0514) *******	21.25	44.50	11.11	1.63	0.80	

ADD HYD (0507)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	3094.49	4.001	30.00	15.78
+ ID2= 2 (0514):	29422.34	21.253	44.50	11.11
ID = 3 (0507):	32516.83	23.955	43.00	11.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\jscott\AppData\Local\Temp\88073fbd-731f-4992-8e5b-76831528f0f7\631bfb07
Ptotal= 72.50 mm	Comments: 5yr/24hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.16	12.75	2.54	19.00	0.36
0.50	0.36	6.75	6.16	13.00	2.54	19.25	0.36
0.75	0.36	7.00	6.16	13.25	2.54	19.50	0.36
1.00	0.36	7.25	6.16	13.50	2.54	19.75	0.36
1.25	0.36	7.50	6.16	13.75	2.54	20.00	0.36
1.50	0.36	7.75	6.16	14.00	2.54	20.25	0.36
1.75	0.36	8.00	6.16	14.25	2.54	20.50	0.36
2.00	0.36	8.25	6.16	14.50	1.45	20.75	0.36
2.25	0.36	8.50	16.68	14.75	1.45	21.00	0.36
2.50	0.36	8.75	16.68	15.00	1.45	21.25	0.36
2.75	0.36	9.00	16.68	15.25	1.45	21.50	0.36
3.00	0.36	9.25	16.68	15.50	1.45	21.75	0.36
3.25	0.36	9.50	16.68	15.75	1.45	22.00	0.36
3.50	0.36	9.75	16.68	16.00	1.45	22.25	0.36
3.75	0.36	10.00	16.68	16.25	1.45	22.50	0.36
4.00	0.36	10.25	16.68	16.50	0.73	22.75	0.36
4.25	0.36	10.50	4.71	16.75	0.73	23.00	0.36
4.50	2.18	10.75	4.71	17.00	0.73	23.25	0.36
4.75	2.18	11.00	4.71	17.25	0.73	23.50	0.36
5.00	2.18	11.25	4.71	17.50	0.73	23.75	0.36
5.25	2.18	11.50	4.71	17.75	0.73	24.00	0.36
5.50	2.18	11.75	4.71	18.00	0.73	24.25	0.36
5.75	2.18	12.00	4.71	18.25	0.73		
6.00	2.18	12.25	4.71	18.50	0.36		
6.25	2.18	12.50	2.54	18.75	0.36		

CALIB	
NASHYD (0016)	Area (ha)=3094.49 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 18.10

Unit Hyd Qpeak (cms)= 6.704

PEAK FLOW (cms)= 7.377 (i)
TIME TO PEAK (hrs)= 29.750
RUNOFF VOLUME (mm)= 29.068
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.401

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0013)	Area (ha)=1627.59 Curve Number (CN)= 65.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 15.50

Unit Hyd Qpeak (cms)= 4.118

PEAK FLOW (cms)= 3.423 (i)
TIME TO PEAK (hrs)= 27.250
RUNOFF VOLUME (mm)= 22.305
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0015)	Area (ha)=1059.88 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 9.30

Unit Hyd Qpeak (cms)= 4.469

PEAK FLOW (cms)= 4.382 (i)
TIME TO PEAK (hrs)= 20.500
RUNOFF VOLUME (mm)= 28.222
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.389

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0012)	Area (ha)=1501.52 Curve Number (CN)= 61.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 11.50

Unit Hyd Qpeak (cms)= 5.120

PEAK FLOW (cms)= 3.633 (i)
TIME TO PEAK (hrs)= 23.250
RUNOFF VOLUME (mm)= 19.819
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.273

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0093)	Area (ha)= 381.73 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 14.90

Unit Hyd Qpeak (cms)= 1.005

PEAK FLOW (cms)= 0.936 (i)
TIME TO PEAK (hrs)= 26.750
RUNOFF VOLUME (mm)= 25.087
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.346

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0010)	Area (ha)=2842.76 Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 10.80

Unit Hyd Qpeak (cms)= 10.322

PEAK FLOW (cms)= 7.933 (i)
TIME TO PEAK (hrs)= 22.250
RUNOFF VOLUME (mm)= 21.658
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.299

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW       (cms)=   5.050 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  28.222
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   4.575 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  19.238
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW       (cms)=   4.942 (i)
     TIME TO PEAK    (hrs)=  23.750
     RUNOFF VOLUME    (mm)=  28.222
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=   7.220 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  19.819
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   2.658 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  18.121
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64   7.220    22.50    19.82
       + ID2= 2 (0002):   988.72   2.658    20.50    18.12
         ================================================
         ID = 3 (0101):  3862.36   9.813    22.00    19.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        250.00        0.0700
                43.00        240.00     0.0700 /0.0350  Main Channel
                44.00        239.20        0.0350       Main Channel
                45.00        239.20        0.0350       Main Channel
                46.00        240.00     0.0350 /0.0700  Main Channel
                63.50        241.00        0.0700
                71.00        250.00        0.0700

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   239.60    .642E+04        0.5         0.80      221.73
      0.80   240.00    .171E+05        1.8         1.15      155.20
      1.39   240.59    .764E+05        8.0         1.12      159.62
      1.98   241.18    .214E+06       23.7         1.19      150.23
      2.56   241.76    .385E+06       51.8         1.44      123.91
      3.15   242.35    .575E+06       90.1         1.68      106.38
      3.74   242.94    .784E+06      138.5         1.89       94.40
      4.33   243.53    .101E+07      196.9         2.08       85.71
      4.92   244.12    .126E+07      265.6         2.26       79.08
      5.51   244.71    .153E+07      344.7         2.42       73.81
      6.09   245.29    .181E+07      434.5         2.57       69.50
      6.68   245.88    .212E+07      535.2         2.71       65.89
      7.27   246.47    .244E+07      647.3         2.84       62.81
      7.86   247.06    .278E+07      771.1         2.97       60.13
      8.45   247.65    .314E+07      906.8         3.09       57.77
      9.04   248.24    .352E+07     1054.8         3.20       55.67
      9.62   248.82    .392E+07     1215.5         3.32       53.79
     10.21   249.41    .434E+07     1389.1         3.42       52.09
     10.80   250.00    .478E+07     1576.1         3.53       50.53

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0101) 3862.36     9.81   22.00  19.38      1.46      1.12
    OUTFLOW: ID= 1 (0102) 3862.36     9.30   24.75  19.38      1.44      1.12


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| ADD HYD   (0103) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1504.44   4.942    23.75    28.22
       + ID2= 2 (0102):  3862.36   9.297    24.75    19.38
         ================================================
         ID = 3 (0103):  5366.80  14.216    24.50    21.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47   4.575    19.25    19.24
       + ID2= 2 (0103):  5366.80  14.216    24.50    21.86
         ================================================
         ID = 3 (0104):  6811.27  18.023    23.25    21.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        237.00        0.1000
               330.00        235.00     0.1000 /0.0350  Main Channel
               331.00        234.20        0.0350       Main Channel
               332.00        234.20        0.0350       Main Channel
               333.00        235.00     0.0350 /0.1000  Main Channel
               425.00        235.10        0.1000
               698.00        236.00        0.1000
              1101.00        239.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.13	234.33	.490E+03	0.1	0.64	82.66
0.27	234.47	.112E+04	0.3	0.93	56.72
0.40	234.60	.189E+04	0.7	1.14	45.94
0.53	234.73	.280E+04	1.2	1.33	39.64
0.67	234.87	.385E+04	1.8	1.49	35.34
0.80	235.00	.504E+04	2.6	1.63	32.16
0.95	235.15	.442E+05	6.3	0.45	116.42
1.11	235.31	.128E+06	17.7	0.44	120.51
1.26	235.46	.247E+06	38.2	0.49	107.48
1.42	235.62	.400E+06	69.8	0.55	95.60
1.57	235.77	.589E+06	114.0	0.61	86.08
1.72	235.92	.812E+06	172.6	0.67	78.45
1.88	236.08	.107E+07	250.3	0.74	71.19
2.03	236.23	.135E+07	347.8	0.81	64.71
2.18	236.38	.165E+07	461.9	0.88	59.65
2.34	236.54	.198E+07	593.4	0.95	55.58
2.49	236.69	.233E+07	742.8	1.01	52.21
2.65	236.85	.270E+07	910.6	1.06	49.36
2.80	237.00	.309E+07	1097.6	1.12	46.91

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0104)	6811.27	18.02	23.25	21.31	1.11	0.44
OUTFLOW:	ID= 1 (0105)	6811.27	17.48	25.50	21.31	1.10	0.44

CALIB			
NASHYD (0091)	Area (ha)= 281.97	Curve Number (CN)= 65.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 5.80		

Unit Hyd Qpeak (cms)= 1.906

PEAK FLOW (cms)= 1.324 (i)
TIME TO PEAK (hrs)= 16.750
RUNOFF VOLUME (mm)= 22.305
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0091):	281.97	1.324	16.75	22.31	
+ ID2= 2 (0105):	6811.27	17.480	25.50	21.31	
ID = 3 (0106):	7093.24	18.055	25.00	21.35	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0107)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0007):	1373.84	5.050	22.00	28.22	
+ ID2= 2 (0106):	7093.24	18.055	25.00	21.35	
ID = 3 (0107):	8467.08	22.895	24.25	22.46	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0108)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	234.00	0.1000		
400.00	231.00	0.1000 /0.0350	Main Channel	
401.00	229.70	0.0350	Main Channel	
402.00	229.70	0.0350	Main Channel	
404.00	230.50	0.0350 /0.1000	Main Channel	
495.00	231.00	0.1000		
1234.00	256.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.90	.151E+04	0.1	0.24	395.61
0.40	230.10	.377E+04	0.2	0.35	274.62
0.60	230.30	.677E+04	0.5	0.43	222.06
0.80	230.50	.105E+05	0.9	0.50	190.52
1.03	230.73	.437E+05	2.0	0.27	356.49
1.27	230.97	.134E+06	5.0	0.21	448.69
1.50	231.20	.278E+06	11.4	0.23	405.59
1.73	231.43	.473E+06	21.6	0.26	364.80
1.97	231.67	.718E+06	36.0	0.29	332.76
2.20	231.90	.101E+07	55.1	0.31	306.87
2.43	232.13	.136E+07	79.4	0.33	285.44
2.67	232.37	.176E+07	109.6	0.36	267.34
2.90	232.60	.221E+07	145.9	0.38	251.83
3.13	232.83	.270E+07	189.0	0.40	238.35
3.37	233.07	.325E+07	239.3	0.42	226.51
3.60	233.30	.385E+07	297.1	0.44	216.02
3.83	233.53	.450E+07	363.0	0.46	206.64
4.07	233.77	.520E+07	437.3	0.48	198.20
4.30	234.00	.595E+07	520.5	0.50	190.55

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0107)	8467.08	22.90	24.25	22.46	1.75	0.26
OUTFLOW:	ID= 1 (0108)	8467.08	19.18	29.50	22.46	1.68	0.25

CALIB			
NASHYD (0092)	Area (ha)=1102.32	Curve Number (CN)= 64.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 16.50		

Unit Hyd Qpeak (cms)= 2.620

PEAK FLOW (cms)= 2.128 (i)
TIME TO PEAK (hrs)= 28.250
RUNOFF VOLUME (mm)= 21.658
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.299

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0109)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0092):	1102.32	2.128	28.25	21.66	
+ ID2= 2 (0108):	8467.08	19.183	29.50	22.46	
ID = 3 (0109):	9569.40	21.301	29.50	22.37	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0010):	2842.76	7.933	22.25	21.66	
+ ID2= 2 (0109):	9569.40	21.301	29.50	22.37	
ID = 3 (0110):	12412.16	27.735	27.75	22.21	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0111)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	236.00	0.1000		
275.00	232.00	0.1000		
1039.00	230.00	0.1000 /0.0350	Main Channel	
1040.00	229.20	0.0350	Main Channel	
1041.00	229.20	0.0350	Main Channel	
1043.00	230.00	0.0350 /0.1000	Main Channel	
1117.00	230.60	0.1000		
1325.00	234.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.40	.985E+03	0.0	0.14	431.34
0.40	229.60	.251E+04	0.1	0.20	298.03
0.60	229.80	.457E+04	0.3	0.25	239.97
0.80	230.00	.717E+04	0.6	0.29	205.17
1.07	230.27	.754E+05	2.2	0.11	561.90
1.33	230.53	.272E+06	8.6	0.11	527.12
1.60	230.80	.594E+06	22.7	0.14	436.37
1.87	231.07	.103E+07	46.2	0.16	371.32
2.13	231.33	.158E+07	80.7	0.18	325.64
2.40	231.60	.224E+07	127.8	0.20	291.74
2.67	231.87	.301E+07	189.0	0.22	265.46
2.93	232.13	.389E+07	271.8	0.25	238.27

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       3.20   232.40    .481E+07     376.4          0.28     212.79
       3.47   232.67    .576E+07     496.0          0.31     193.49
       3.73   232.93    .674E+07     630.4          0.33     178.30
       4.00   233.20    .776E+07     779.4          0.36     165.99
       4.27   233.47    .881E+07     943.0          0.38     155.79
       4.53   233.73    .990E+07    1121.1          0.41     147.16
       4.80   234.00    .110E+08    1313.9          0.43     139.76

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0110) *******    27.74   27.75  22.21     1.66      0.14
     OUTFLOW: ID= 1 (0111) *******    22.99   33.50  22.21     1.60      0.14



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| ADD HYD   (0112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0093):   381.73   0.936    26.75    25.09
      + ID2= 2 (0111): 12412.16  22.990    33.50    22.21
        ================================================
        ID = 3 (0112): 12793.89  23.791    33.25    22.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   4.426 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  19.238
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.844

     PEAK FLOW       (cms)=   6.991 (i)
     TIME TO PEAK    (hrs)=  24.750
     RUNOFF VOLUME    (mm)=  21.658
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.795

     PEAK FLOW       (cms)=   5.388 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  15.564
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0003):  2954.54   6.991    24.75    21.66
      + ID2= 2 (0004):  2672.69   5.388    22.25    15.56
        ================================================
        ID = 3 (0201):  5627.23  12.267    23.75    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         239.00        0.1000
               690.00         230.00    0.1000 /0.0350  Main Channel
               691.00         229.20        0.0350      Main Channel
               692.00         229.20        0.0350      Main Channel
               693.00         229.50    0.0350 /0.1000  Main Channel
              1190.00         230.00        0.1000
              1417.00         255.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   229.50    .347E+04       0.4         0.84     136.57
       0.80   230.00    .864E+06      45.2         0.36     318.78
       1.30   230.50    .265E+07     274.1         0.71     161.20
       1.80   231.00    .459E+07     651.8         0.97     117.24
       2.30   231.50    .667E+07    1165.3         1.20      95.34
       2.80   232.00    .889E+07    1810.2         1.40      81.89
       3.30   232.50    .113E+08    2585.1         1.57      72.65
       3.80   233.00    .138E+08    3490.4         1.73      65.85
       4.30   233.50    .165E+08    4527.4         1.89      60.59
       4.80   234.00    .193E+08    5697.8         2.03      56.38
       5.30   234.50    .222E+08    7003.8         2.16      52.91
       5.80   235.00    .253E+08    8447.7         2.28      50.00
       6.30   235.50    .286E+08   10032.3         2.40      47.52
       6.80   236.00    .320E+08   11760.1         2.52      45.36
       7.30   236.50    .356E+08   13634.1         2.63      43.46
       7.80   237.00    .393E+08   15657.0         2.73      41.78
       8.30   237.50    .431E+08   17831.7         2.84      40.28
       8.80   238.00    .471E+08   20161.3         2.93      38.92
       9.30   238.50    .512E+08   22648.7         3.03      37.69

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    12.27   23.75  18.76      0.43      0.62
     OUTFLOW: ID= 1 (0202) 5627.23    11.56   27.50  18.76      0.42      0.63

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-------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0008):  1549.97   4.426    20.50    19.24
      + ID2= 2 (0202):  5627.23  11.563    27.50    18.76
        ================================================
        ID = 3 (0203):  7177.20  15.026    25.50    18.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0301) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0112): 12793.89  23.791    33.25    22.29
      + ID2= 2 (0203):  7177.20  15.026    25.50    18.87
        ================================================
        ID = 3 (0301): 19971.09  36.610    30.50    21.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         240.00        0.0700
               110.00         239.00        0.0700
               161.00         238.00        0.0700
               250.00         237.00        0.0700
               420.00         236.00        0.0700
               560.00         235.00        0.0700
               589.00         234.40    0.0700 /0.0350  Main Channel
               589.10         233.60        0.0350      Main Channel
               594.00         233.60        0.0350      Main Channel
               594.10         234.40    0.0350 /0.0700  Main Channel
               615.00         235.00        0.0700
               740.00         236.00        0.0700
               860.00         236.50        0.0700
              1340.00         237.00        0.0700
              1460.00         238.00        0.0700
              1470.00         239.00        0.0700
              1510.00         240.00        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.27	233.87	.770E+04	1.0	0.74	132.49
0.53	234.13	.155E+05	2.9	1.10	88.48
0.80	234.40	.234E+05	5.5	1.37	71.19
1.15	234.75	.636E+05	11.6	1.07	91.11
1.50	235.10	.169E+06	24.5	0.85	114.97
1.85	235.45	.431E+06	54.5	0.74	131.62
2.20	235.80	.882E+06	117.3	0.78	125.39
2.55	236.15	.153E+07	218.3	0.83	117.06
2.90	236.50	.246E+07	375.3	0.89	109.30
3.25	236.85	.394E+07	579.0	0.86	113.45
3.60	237.20	.612E+07	1010.3	0.97	101.01
3.95	237.55	.851E+07	1631.3	1.12	86.99
4.30	237.90	.111E+08	2391.8	1.27	77.05
4.65	238.25	.137E+08	3337.5	1.42	68.52
5.00	238.60	.164E+08	4438.7	1.58	61.71
5.35	238.95	.192E+08	5671.0	1.73	56.40
5.70	239.30	.220E+08	6955.1	1.85	52.75
6.05	239.65	.249E+08	8355.2	1.96	49.76
6.40	240.00	.280E+08	9884.7	2.07	47.18

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0301)	*******	36.61	30.50	21.06	1.64	0.80
OUTFLOW: ID= 1 (0302)	*******	35.93	33.00	21.06	1.63	0.80

ADD HYD (0303)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0012):	1501.52	3.633	23.25	19.82	
+ ID2= 2 (0302):	19971.09	35.930	33.00	21.06	
ID = 3 (0303):	21472.61	38.373	32.00	20.97	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0011)	Area (ha)=3099.17	Curve Number (CN)= 57.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 11.10		

Unit Hyd Qpeak (cms)= 10.949

PEAK FLOW (cms)= 6.850 (i)
TIME TO PEAK (hrs)= 22.750
RUNOFF VOLUME (mm)= 17.584
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (0401)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.0500	
72.00	235.00	0.0500	
492.00	230.00	0.0500	
581.00	229.20	0.0500 /0.0350	Main Channel
582.00	228.40	0.0350	Main Channel
583.00	228.40	0.0350	Main Channel
584.00	229.20	0.0350 /0.0500	Main Channel
588.00	229.20	0.0500	
607.00	230.00	0.0500	
627.00	235.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	228.67	.302E+04	0.1	0.21	666.69
0.53	228.93	.756E+04	0.3	0.30	465.92
0.80	229.20	.136E+05	0.6	0.37	377.99
1.16	229.56	.111E+06	3.0	0.23	616.66
1.52	229.92	.358E+06	11.5	0.27	519.91
1.89	230.29	.740E+06	30.1	0.35	410.09
2.25	230.65	.122E+07	59.5	0.41	342.49
2.61	231.01	.180E+07	100.6	0.47	298.58
2.97	231.37	.248E+07	154.6	0.53	267.22
3.34	231.74	.326E+07	222.9	0.58	243.40
3.70	232.10	.413E+07	306.6	0.63	224.51
4.06	232.46	.510E+07	406.9	0.68	209.05
4.42	232.82	.617E+07	524.8	0.72	196.10
4.79	233.19	.734E+07	661.4	0.77	185.06
5.15	233.55	.861E+07	817.9	0.81	175.49
5.51	233.91	.998E+07	995.2	0.85	167.10
5.87	234.27	.114E+08	1194.3	0.89	159.67
6.24	234.64	.130E+08	1416.3	0.93	153.03
6.60	235.00	.147E+08	1662.2	0.96	147.05

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0011)	3099.17	6.85	22.75	17.58	1.33	0.25
OUTFLOW: ID= 1 (0401)	3099.17	4.86	30.50	17.58	1.24	0.24

CALIB			
NASHYD (0014)	Area (ha)=2163.09	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10	
	U.H. Tp(hrs)= 25.10		

Unit Hyd Qpeak (cms)= 3.379

PEAK FLOW (cms)= 3.271 (i)
TIME TO PEAK (hrs)= 36.750
RUNOFF VOLUME (mm)= 25.087
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.346

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0402)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0014):	2163.09	3.271	36.75	25.09	
+ ID2= 2 (0401):	3099.17	4.859	30.50	17.58	
ID = 3 (0402):	5262.26	7.958	32.25	20.67	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0501)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0303):	21472.61	38.373	32.00	20.97	
+ ID2= 2 (0402):	5262.26	7.958	32.25	20.67	
ID = 3 (0501):	26734.87	46.330	32.00	20.91	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0503)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74

2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501)	*******	46.33	32.00	20.91	0.61	0.33
OUTFLOW: ID= 1 (0503)	*******	46.17	33.00	20.91	0.61	0.33

RESERVOIR (0510)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	27.8300	83.9600
	3.8000	14.0500	*******	101.7400
	11.0800	33.6500	*******	145.2700
	20.8900	61.8900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0503)	********	46.169	33.00	20.91
OUTFLOW: ID= 1 (0510)	********	47.562	30.75	20.91

PEAK FLOW REDUCTION [Qout/Qin](%)=103.02
TIME SHIFT OF PEAK FLOW (min)=******
MAXIMUM STORAGE USED (ha.m.)= 84.4928

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ROUTE CHN (0513)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510)	*******	47.56	30.75	20.91	0.62	0.33
OUTFLOW: ID= 1 (0513)	*******	45.86	34.50	20.91	0.61	0.33

ADD HYD (0504)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	4.382	20.50	28.22
+ ID2= 2 (0513):	26734.87	45.862	34.50	20.91
ID = 3 (0504):	27794.75	47.406	34.50	21.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	3.423	27.25	22.31
+ ID2= 2 (0504):	27794.75	47.406	34.50	21.19
ID = 3 (0505):	29422.34	50.345	34.25	21.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505)	*******	50.35	34.25	21.25	2.12	0.84
OUTFLOW: ID= 1 (0506)	*******	47.42	37.75	21.25	2.03	0.84

RESERVOIR (0512)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	16.2850
	27.2000	3.7650	*******	20.9160
	76.8000	7.7410	*******	25.9120
	*******	11.0650	*******	36.6600
	*******	11.9150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0506)	********	47.421	37.75	21.25
OUTFLOW: ID= 1 (0512)	********	47.408	38.00	21.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.97
TIME SHIFT OF PEAK FLOW (min)= 15.00

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                MAXIMUM  STORAGE   USED       (ha.m.)=  5.3851

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| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         230.00        0.0500
                400.00         229.00        0.0500
                545.00         228.00        0.0500
                602.00         226.00        0.0500
                604.00         225.80    0.0500 /0.0350  Main Channel
                605.00         225.00        0.0350      Main Channel
                609.00         225.00        0.0350      Main Channel
                610.00         225.80    0.0350 /0.0500  Main Channel
                614.00         226.00        0.0500
                650.00         227.00        0.0500
                810.00         229.50        0.0500

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.20   225.20    .243E+04         0.3           0.39      121.91
       0.40   225.40    .515E+04         1.1           0.59       80.58
       0.60   225.60    .815E+04         2.1           0.74       64.02
       0.80   225.80    .114E+05         3.5           0.87       54.69
       1.05   226.05    .184E+05         6.1           0.94       50.48
       1.29   226.29    .346E+05        10.3           0.85       55.99
       1.54   226.54    .620E+05        17.4           0.80       59.38
       1.79   226.79    .101E+06        28.3           0.81       59.18
       2.03   227.03    .151E+06        43.8           0.83       57.35
       2.28   227.28    .215E+06        63.9           0.85       55.99
       2.53   227.53    .295E+06        91.4           0.89       53.82
       2.77   227.77    .391E+06       127.0           0.93       51.35
       3.02   228.02    .504E+06       170.6           0.97       49.24
       3.27   228.27    .644E+06       215.5           0.96       49.84
       3.51   228.51    .821E+06       279.7           0.97       48.92
       3.76   228.76    .103E+07       363.1           1.00       47.47
       4.01   229.01    .128E+07       466.2           1.04       45.89
       4.25   229.25    .159E+07       572.0           1.03       46.41
       4.50   229.50    .198E+07       719.1           1.04       45.95

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0512) *******    47.41   38.00  21.25      2.08      0.83
     OUTFLOW: ID= 1 (0514) *******    47.13   39.00  21.25      2.07      0.83


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| ADD HYD   (0507) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0016):  3094.49   7.377    29.75    29.07
      + ID2= 2 (0514): 29422.34  47.132    39.00    21.25
        ================================================
        ID = 3 (0507): 32516.83  53.221    38.75    22.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   3 **
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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              88073fbd-731f-4992-8e5b-76831528f0f7\34387184
| Ptotal= 86.66 mm |    Comments: 10yr/24hr
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  6.50    7.37 | 12.75    3.03 | 19.00    0.43
               0.50    0.43 |  6.75    7.37 | 13.00    3.03 | 19.25    0.43
               0.75    0.43 |  7.00    7.37 | 13.25    3.03 | 19.50    0.43
               1.00    0.43 |  7.25    7.37 | 13.50    3.03 | 19.75    0.43
               1.25    0.43 |  7.50    7.37 | 13.75    3.03 | 20.00    0.43
               1.50    0.43 |  7.75    7.37 | 14.00    3.03 | 20.25    0.43
               1.75    0.43 |  8.00    7.37 | 14.25    3.03 | 20.50    0.43
               2.00    0.43 |  8.25    7.37 | 14.50    1.73 | 20.75    0.43
               2.25    0.43 |  8.50   19.94 | 14.75    1.73 | 21.00    0.43
               2.50    0.43 |  8.75   19.94 | 15.00    1.73 | 21.25    0.43
               2.75    0.43 |  9.00   19.94 | 15.25    1.73 | 21.50    0.43
               3.00    0.43 |  9.25   19.94 | 15.50    1.73 | 21.75    0.43
               3.25    0.43 |  9.50   19.94 | 15.75    1.73 | 22.00    0.43
               3.50    0.43 |  9.75   19.94 | 16.00    1.73 | 22.25    0.43
               3.75    0.43 | 10.00   19.94 | 16.25    1.73 | 22.50    0.43
               4.00    0.43 | 10.25   19.94 | 16.50    0.87 | 22.75    0.43
               4.25    0.43 | 10.50    5.64 | 16.75    0.87 | 23.00    0.43
               4.50    2.60 | 10.75    5.64 | 17.00    0.87 | 23.25    0.43
               4.75    2.60 | 11.00    5.64 | 17.25    0.87 | 23.50    0.43
               5.00    2.60 | 11.25    5.64 | 17.50    0.87 | 23.75    0.43
               5.25    2.60 | 11.50    5.64 | 17.75    0.87 | 24.00    0.43
               5.50    2.60 | 11.75    5.64 | 18.00    0.87 | 24.25    0.43
               5.75    2.60 | 12.00    5.64 | 18.25    0.87 |
               6.00    2.60 | 12.25    5.64 | 18.50    0.43 |
               6.25    2.60 | 12.50    3.03 | 18.75    0.43 |

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| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=   9.907 (i)
     TIME TO PEAK    (hrs)=  29.750
     RUNOFF VOLUME    (mm)=  39.018
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   4.688 (i)
     TIME TO PEAK    (hrs)=  27.250
     RUNOFF VOLUME    (mm)=  30.529
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   5.908 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  37.974
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   5.015 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  27.323
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   1.271 (i)
     TIME TO PEAK    (hrs)=  26.500
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.393

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  10.894 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  29.699
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW       (cms)=   6.806 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  37.974
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   6.332 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  26.568
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW       (cms)=   6.658 (i)
     TIME TO PEAK    (hrs)=  23.500
     RUNOFF VOLUME    (mm)=  37.974
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=   9.967 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  27.323
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   3.689 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  25.108
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64   9.967    22.50    27.32
        + ID2= 2 (0002):   988.72   3.689    20.50    25.11
          ================================================
          ID = 3 (0101):  3862.36  13.565    21.75    26.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         250.00        0.0700
                 43.00         240.00    0.0700 /0.0350  Main Channel
                 44.00         239.20        0.0350      Main Channel
                 45.00         239.20        0.0350      Main Channel
                 46.00         240.00    0.0350 /0.0700  Main Channel
                 63.50         241.00        0.0700
                 71.00         250.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   239.60    .642E+04       0.5          0.80     221.73
      0.80   240.00    .171E+05       1.8          1.15     155.20
      1.39   240.59    .764E+05       8.0          1.12     159.62
      1.98   241.18    .214E+06      23.7          1.19     150.23
      2.56   241.76    .385E+06      51.8          1.44     123.91
      3.15   242.35    .575E+06      90.1          1.68     106.38
      3.74   242.94    .784E+06     138.5          1.89      94.40
      4.33   243.53    .101E+07     196.9          2.08      85.71
      4.92   244.12    .126E+07     265.6          2.26      79.08
      5.51   244.71    .153E+07     344.7          2.42      73.81
      6.09   245.29    .181E+07     434.5          2.57      69.50
      6.68   245.88    .212E+07     535.2          2.71      65.89
      7.27   246.47    .244E+07     647.3          2.84      62.81
      7.86   247.06    .278E+07     771.1          2.97      60.13
      8.45   247.65    .314E+07     906.8          3.09      57.77
      9.04   248.24    .352E+07    1054.8          3.20      55.67
      9.62   248.82    .392E+07    1215.5          3.32      53.79
     10.21   249.41    .434E+07    1389.1          3.42      52.09
     10.80   250.00    .478E+07    1576.1          3.53      50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    13.56   21.75  26.76      1.60      1.14
     OUTFLOW: ID= 1 (0102) 3862.36    12.88   24.75  26.76      1.57      1.14

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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):  1504.44   6.658    23.50    37.97
        + ID2= 2 (0102):  3862.36  12.877    24.75    26.76
          ================================================
          ID = 3 (0103):  5366.80  19.505    24.25    29.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):  1444.47   6.332    19.25    26.57
        + ID2= 2 (0103):  5366.80  19.505    24.25    29.90
          ================================================
          ID = 3 (0104):  6811.27  24.795    23.00    29.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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--------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         237.00        0.1000
              330.00         235.00    0.1000 /0.0350  Main Channel
              331.00         234.20        0.0350      Main Channel
              332.00         234.20        0.0350      Main Channel
              333.00         235.00    0.0350 /0.1000  Main Channel
              425.00         235.10        0.1000
              698.00         236.00        0.1000
             1101.00         239.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.13   234.33    .490E+03        0.1         0.64      82.66
      0.27   234.47    .112E+04        0.3         0.93      56.72
      0.40   234.60    .189E+04        0.7         1.14      45.94
      0.53   234.73    .280E+04        1.2         1.33      39.64
      0.67   234.87    .385E+04        1.8         1.49      35.34
      0.80   235.00    .504E+04        2.6         1.63      32.16
      0.95   235.15    .442E+05        6.3         0.45     116.42
      1.11   235.31    .128E+06       17.7         0.44     120.51
      1.26   235.46    .247E+06       38.2         0.49     107.48
      1.42   235.62    .400E+06       69.8         0.55      95.60
      1.57   235.77    .589E+06      114.0         0.61      86.08
      1.72   235.92    .812E+06      172.6         0.67      78.45
      1.88   236.08    .107E+07      250.3         0.74      71.19
      2.03   236.23    .135E+07      347.8         0.81      64.71
      2.18   236.38    .165E+07      461.9         0.88      59.65
      2.34   236.54    .198E+07      593.4         0.95      55.58
      2.49   236.69    .233E+07      742.8         1.01      52.21
      2.65   236.85    .270E+07      910.6         1.06      49.36
      2.80   237.00    .309E+07     1097.6         1.12      46.91

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    24.80   23.00  29.19      1.16      0.45
     OUTFLOW: ID= 1 (0105) 6811.27    24.17   25.00  29.19      1.16      0.45


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   1.818 (i)
     TIME TO PEAK    (hrs)=  16.750
     RUNOFF VOLUME    (mm)=  30.529
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   1.818    16.75     30.53
       + ID2= 2 (0105):  6811.27  24.168    25.00     29.19
         ================================================
         ID = 3 (0106):  7093.24  25.007    24.50     29.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):  1373.84   6.806    22.00     37.97
       + ID2= 2 (0106):  7093.24  25.007    24.50     29.25
         ================================================
         ID = 3 (0107):  8467.08  31.569    24.00     30.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.1000
              400.00         231.00    0.1000 /0.0350  Main Channel
              401.00         229.70        0.0350      Main Channel
              402.00         229.70        0.0350      Main Channel
              404.00         230.50    0.0350 /0.1000  Main Channel
              495.00         231.00        0.1000
             1234.00         256.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   229.90    .151E+04        0.1         0.24     395.61
      0.40   230.10    .377E+04        0.2         0.35     274.62
      0.60   230.30    .677E+04        0.5         0.43     222.06
      0.80   230.50    .105E+05        0.9         0.50     190.52
      1.03   230.73    .437E+05        2.0         0.27     356.49
      1.27   230.97    .134E+06        5.0         0.21     448.69
      1.50   231.20    .278E+06       11.4         0.23     405.59
      1.73   231.43    .473E+06       21.6         0.26     364.80
      1.97   231.67    .718E+06       36.0         0.29     332.76
      2.20   231.90    .101E+07       55.1         0.31     306.87
      2.43   232.13    .136E+07       79.4         0.33     285.44
      2.67   232.37    .176E+07      109.6         0.36     267.34
      2.90   232.60    .221E+07      145.9         0.38     251.83
      3.13   232.83    .270E+07      189.0         0.40     238.35
      3.37   233.07    .325E+07      239.3         0.42     226.51
      3.60   233.30    .385E+07      297.1         0.44     216.02
      3.83   233.53    .450E+07      363.0         0.46     206.64
      4.07   233.77    .520E+07      437.3         0.48     198.20
      4.30   234.00    .595E+07      520.5         0.50     190.55

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    31.57   24.00  30.66      1.90      0.28
     OUTFLOW: ID= 1 (0108) 8467.08    26.60   29.00  30.66      1.81      0.27


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| CALIB            |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   2.919 (i)
     TIME TO PEAK    (hrs)=  28.250
     RUNOFF VOLUME    (mm)=  29.698
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32   2.919    28.25     29.70
       + ID2= 2 (0108):  8467.08  26.605    29.00     30.66
         ================================================
         ID = 3 (0109):  9569.40  29.518    29.00     30.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  10.894    22.25     29.70
       + ID2= 2 (0109):  9569.40  29.518    29.00     30.55
         ================================================
         ID = 3 (0110): 12412.16  38.502    27.50     30.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         236.00        0.1000
              275.00         232.00        0.1000
             1039.00         230.00    0.1000 /0.0350  Main Channel
             1040.00         229.20        0.0350      Main Channel
             1041.00         229.20        0.0350      Main Channel
             1043.00         230.00    0.0350 /0.1000  Main Channel
             1117.00         230.60        0.1000
             1325.00         234.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
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DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.40	.985E+03	0.0	0.14	431.34
0.40	229.60	.251E+04	0.1	0.20	298.03
0.60	229.80	.457E+04	0.3	0.25	239.97
0.80	230.00	.717E+04	0.6	0.29	205.17
1.07	230.27	.754E+05	2.2	0.11	561.90
1.33	230.53	.272E+06	8.6	0.11	527.12
1.60	230.80	.594E+06	22.7	0.14	436.37
1.87	231.07	.103E+07	46.2	0.16	371.32
2.13	231.33	.158E+07	80.7	0.18	325.64
2.40	231.60	.224E+07	127.8	0.20	291.74
2.67	231.87	.301E+07	189.0	0.22	265.46
2.93	232.13	.389E+07	271.8	0.25	238.27
3.20	232.40	.481E+07	376.4	0.28	212.79
3.47	232.67	.576E+07	496.0	0.31	193.49
3.73	232.93	.674E+07	630.4	0.33	178.30
4.00	233.20	.776E+07	779.4	0.36	165.99
4.27	233.47	.881E+07	943.0	0.38	155.79
4.53	233.73	.990E+07	1121.1	0.41	147.16
4.80	234.00	.110E+08	1313.9	0.43	139.76

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0110)	*******	38.50	27.50	30.36	1.78	0.15
OUTFLOW: ID= 1 (0111)	*******	32.15	32.50	30.36	1.71	0.15

ADD HYD (0112)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0093):	381.73	1.271	26.50	34.06
	+ ID2= 2 (0111):	12412.16	32.146	32.50	30.36
	ID = 3 (0112):	12793.89	33.270	32.50	30.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0008)	Area (ha)=1549.97	Curve Number (CN)= 60.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10			
	U.H. Tp(hrs)= 9.10				

Unit Hyd Qpeak (cms)= 6.679

PEAK FLOW (cms)= 6.123 (i)
TIME TO PEAK (hrs)= 20.500
RUNOFF VOLUME (mm)= 26.568
TOTAL RAINFALL (mm)= 86.660
RUNOFF COEFFICIENT = 0.307

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0003)	Area (ha)=2954.54	Curve Number (CN)= 64.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10			
	U.H. Tp(hrs)= 13.10				

Unit Hyd Qpeak (cms)= 8.844

PEAK FLOW (cms)= 9.595 (i)
TIME TO PEAK (hrs)= 24.750
RUNOFF VOLUME (mm)= 29.698
TOTAL RAINFALL (mm)= 86.660
RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0004)	Area (ha)=2672.69	Curve Number (CN)= 53.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10			
	U.H. Tp(hrs)= 10.70				

Unit Hyd Qpeak (cms)= 9.795

PEAK FLOW (cms)= 7.532 (i)
TIME TO PEAK (hrs)= 22.250
RUNOFF VOLUME (mm)= 21.728
TOTAL RAINFALL (mm)= 86.660
RUNOFF COEFFICIENT = 0.251

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0201)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0003):	2954.54	9.595	24.75	29.70
	+ ID2= 2 (0004):	2672.69	7.532	22.25	21.73
	ID = 3 (0201):	5627.23	16.974	23.50	25.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0202)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	239.00	0.1000	
690.00	230.00	0.1000 /0.0350	Main Channel
691.00	229.20	0.0350	Main Channel
692.00	229.20	0.0350	Main Channel
693.00	229.50	0.0350 /0.1000	Main Channel
1190.00	230.00	0.1000	
1417.00	255.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	229.50	.347E+04	0.4	0.84	136.57
0.80	230.00	.864E+06	45.2	0.36	318.78
1.30	230.50	.265E+07	274.1	0.71	161.20
1.80	231.00	.459E+07	651.8	0.97	117.24
2.30	231.50	.667E+07	1165.3	1.20	95.34
2.80	232.00	.889E+07	1810.2	1.40	81.89
3.30	232.50	.113E+08	2585.1	1.57	72.65
3.80	233.00	.138E+08	3490.4	1.73	65.85
4.30	233.50	.165E+08	4527.4	1.89	60.59
4.80	234.00	.193E+08	5697.8	2.03	56.38
5.30	234.50	.222E+08	7003.8	2.16	52.91
5.80	235.00	.253E+08	8447.7	2.28	50.00
6.30	235.50	.286E+08	10032.3	2.40	47.52
6.80	236.00	.320E+08	11760.1	2.52	45.36
7.30	236.50	.356E+08	13634.1	2.63	43.46
7.80	237.00	.393E+08	15657.0	2.73	41.78
8.30	237.50	.431E+08	17831.7	2.84	40.28
8.80	238.00	.471E+08	20161.3	2.93	38.92
9.30	238.50	.512E+08	22648.7	3.03	37.69

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0201)	5627.23	16.97	23.50	25.91	0.48	0.56
OUTFLOW: ID= 1 (0202)	5627.23	15.82	27.75	25.91	0.47	0.57

ADD HYD (0203)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0008):	1549.97	6.123	20.50	26.57
	+ ID2= 2 (0202):	5627.23	15.822	27.75	25.91
	ID = 3 (0203):	7177.20	20.481	25.50	26.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0301)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0112):	12793.89	33.270	32.50	30.47
	+ ID2= 2 (0203):	7177.20	20.481	25.50	26.05
	ID = 3 (0301):	19971.09	51.473	30.00	28.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning
0.00	240.00	0.0700
110.00	239.00	0.0700
161.00	238.00	0.0700
250.00	237.00	0.0700
420.00	236.00	0.0700
560.00	235.00	0.0700

```
              589.00        234.40    0.0700 /0.0350  Main Channel
              589.10        233.60        0.0350      Main Channel
              594.00        233.60        0.0350      Main Channel
              594.10        234.40    0.0350 /0.0700  Main Channel
              615.00        235.00        0.0700
              740.00        236.00        0.0700
              860.00        236.50        0.0700
             1340.00        237.00        0.0700
             1460.00        238.00        0.0700
             1470.00        239.00        0.0700
             1510.00        240.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   233.87    .770E+04       1.0          0.74     132.49
       0.53   234.13    .155E+05       2.9          1.10      88.48
       0.80   234.40    .234E+05       5.5          1.37      71.19
       1.15   234.75    .636E+05      11.6          1.07      91.11
       1.50   235.10    .169E+06      24.5          0.85     114.97
       1.85   235.45    .431E+06      54.5          0.74     131.62
       2.20   235.80    .882E+06     117.3          0.78     125.39
       2.55   236.15    .153E+07     218.3          0.83     117.06
       2.90   236.50    .246E+07     375.3          0.89     109.30
       3.25   236.85    .394E+07     579.0          0.86     113.45
       3.60   237.20    .612E+07    1010.3          0.97     101.01
       3.95   237.55    .851E+07    1631.3          1.12      86.99
       4.30   237.90    .111E+08    2391.8          1.27      77.05
       4.65   238.25    .137E+08    3337.5          1.42      68.52
       5.00   238.60    .164E+08    4438.7          1.58      61.71
       5.35   238.95    .192E+08    5671.0          1.73      56.40
       5.70   239.30    .220E+08    6955.1          1.85      52.75
       6.05   239.65    .249E+08    8355.2          1.96      49.76
       6.40   240.00    .280E+08    9884.7          2.07      47.18

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0301) *******    51.47   30.00  28.88      1.81      0.75
     OUTFLOW: ID= 1 (0302) *******    50.29   32.75  28.88      1.80      0.75


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| ADD HYD   (0303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   5.015    23.00    27.32
       + ID2= 2 (0302): 19971.09  50.289    32.75    28.88
         ================================================
         ID = 3 (0303): 21472.61  53.703    32.00    28.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0011) |   Area     (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------    U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=   9.517 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  24.402
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation        Manning
                0.00         236.00         0.0500
               72.00         235.00         0.0500
              492.00         230.00         0.0500
              581.00         229.20    0.0500 /0.0350  Main Channel
              582.00         228.40        0.0350      Main Channel
              583.00         228.40        0.0350      Main Channel
              584.00         229.20    0.0350 /0.0500  Main Channel
              588.00         229.20        0.0500
              607.00         230.00        0.0500
              627.00         235.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   228.67    .302E+04       0.1          0.21     666.69
       0.53   228.93    .756E+04       0.3          0.30     465.92
       0.80   229.20    .136E+05       0.6          0.37     377.99
       1.16   229.56    .111E+06       3.0          0.23     616.66
       1.52   229.92    .358E+06      11.5          0.27     519.91
       1.89   230.29    .740E+06      30.1          0.35     410.09
       2.25   230.65    .122E+07      59.5          0.41     342.49
       2.61   231.01    .180E+07     100.6          0.47     298.58
       2.97   231.37    .248E+07     154.6          0.53     267.22
       3.34   231.74    .326E+07     222.9          0.58     243.40
       3.70   232.10    .413E+07     306.6          0.63     224.51
       4.06   232.46    .510E+07     406.9          0.68     209.05
       4.42   232.82    .617E+07     524.8          0.72     196.10
       4.79   233.19    .734E+07     661.4          0.77     185.06
       5.15   233.55    .861E+07     817.9          0.81     175.49
       5.51   233.91    .998E+07     995.2          0.85     167.10
       5.87   234.27    .114E+08    1194.3          0.89     159.67
       6.24   234.64    .130E+08    1416.3          0.93     153.03
       6.60   235.00    .147E+08    1662.2          0.96     147.05

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17     9.52   22.75  24.40      1.44      0.26
     OUTFLOW: ID= 1 (0401) 3099.17     6.86   30.00  24.40      1.33      0.25


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| CALIB             |
| NASHYD    (0014) |   Area     (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------    U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   4.442 (i)
     TIME TO PEAK    (hrs)=  36.750
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.393

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   4.442    36.75    34.06
       + ID2= 2 (0401):  3099.17   6.858    30.00    24.40
         ================================================
         ID = 3 (0402):  5262.26  11.022    31.50    28.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61  53.703    32.00    28.77
       + ID2= 2 (0402):  5262.26  11.022    31.50    28.37
         ================================================
         ID = 3 (0501): 26734.87  64.720    32.00    28.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation        Manning
                0.00         237.00         0.0700
              425.00         235.00         0.0700
              445.00         234.00         0.0700
              480.00         233.50         0.0700
             1535.00         233.50    0.0700 /0.0350  Main Channel
             1536.50         232.70        0.0350      Main Channel
             1537.50         232.70        0.0350      Main Channel
             1540.00         233.50    0.0350 /0.0700  Main Channel
             1605.00         233.20        0.0700
             1610.00         233.10        0.0700
             2135.00         233.10        0.0700
             2440.00         233.50        0.0700
             2505.00         233.50        0.0700
             2530.00         234.00        0.0700
             2535.00         235.00        0.0700
             2540.00         236.00        0.0700
             2605.00         238.00        0.0700
             2645.00         241.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
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DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501) *******		64.72	32.00	28.69	0.65	0.35
OUTFLOW: ID= 1 (0503) *******		64.52	32.75	28.69	0.65	0.35

RESERVOIR (0510)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	27.8300	83.9600
3.8000	14.0500	*******	101.7400
11.0800	33.6500	*******	145.2700
20.8900	61.8900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0503)	********	64.519	32.75	28.69
OUTFLOW: ID= 1 (0510)	********	64.516	32.75	28.69

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 85.0259

ROUTE CHN (0513)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510) *******		64.52	32.75	28.69	0.65	0.35
OUTFLOW: ID= 1 (0513) *******		64.42	33.50	28.69	0.65	0.35

ADD HYD (0504)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	5.908	20.50	37.97
+ ID2= 2 (0513):	26734.87	64.424	33.50	28.69
ID = 3 (0504):	27794.75	66.841	33.00	29.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	4.688	27.25	30.53
+ ID2= 2 (0504):	27794.75	66.841	33.00	29.05
ID = 3 (0505):	29422.34	71.059	32.75	29.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505) *******		71.06	32.75	29.13	2.25	0.85
OUTFLOW: ID= 1 (0506) *******		68.60	35.75	29.13	2.24	0.85

RESERVOIR (0512)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	16.2850

```
                        27.2000     3.7650   |  *******     20.9160
                        76.8000     7.7410   |  *******     25.9120
                        *******    11.0650   |  *******     36.6600
                        *******    11.9150   |   0.0000      0.0000

                                AREA      QPEAK      TPEAK       R.V.
                                  (ha)     (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (0506)   ********     68.596     35.75      29.13
     OUTFLOW: ID= 1 (0512)   ********     68.582     36.00      29.13

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.98
                    TIME SHIFT OF PEAK FLOW          (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  7.0829

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         230.00        0.0500
                 400.00         229.00        0.0500
                 545.00         228.00        0.0500
                 602.00         226.00        0.0500
                 604.00         225.80    0.0500 /0.0350  Main Channel
                 605.00         225.00        0.0350      Main Channel
                 609.00         225.00        0.0350      Main Channel
                 610.00         225.80    0.0350 /0.0500  Main Channel
                 614.00         226.00        0.0500
                 650.00         227.00        0.0500
                 810.00         229.50        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.20   225.20    .243E+04         0.3         0.39     121.91
        0.40   225.40    .515E+04         1.1         0.59      80.58
        0.60   225.60    .815E+04         2.1         0.74      64.02
        0.80   225.80    .114E+05         3.5         0.87      54.69
        1.05   226.05    .184E+05         6.1         0.94      50.48
        1.29   226.29    .346E+05        10.3         0.85      55.99
        1.54   226.54    .620E+05        17.4         0.80      59.38
        1.79   226.79    .101E+06        28.3         0.81      59.18
        2.03   227.03    .151E+06        43.8         0.83      57.35
        2.28   227.28    .215E+06        63.9         0.85      55.99
        2.53   227.53    .295E+06        91.4         0.89      53.82
        2.77   227.77    .391E+06       127.0         0.93      51.35
        3.02   228.02    .504E+06       170.6         0.97      49.24
        3.27   228.27    .644E+06       215.5         0.96      49.84
        3.51   228.51    .821E+06       279.7         0.97      48.92
        3.76   228.76    .103E+07       363.1         1.00      47.47
        4.01   229.01    .128E+07       466.2         1.04      45.89
        4.25   229.25    .159E+07       572.0         1.03      46.41
        4.50   229.50    .198E+07       719.1         1.04      45.95

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0512) ********    68.58   36.00  29.13      2.32      0.86
     OUTFLOW: ID= 1 (0514) *******     68.30   37.00  29.13      2.31      0.86


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-------------------
| ADD HYD   (0507) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):  3094.49   9.907    29.75    39.02
       + ID2= 2 (0514): 29422.34  68.301    37.00    29.13
         ==========================================================
         ID = 3 (0507): 32516.83  77.034    36.50    30.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   4 **
  ***************************


-------------------
|     READ STORM    |    Filename: C:\Users\jscott\AppD
|                   |              ata\Local\Temp\
|                   |              88073fbd-731f-4992-8e5b-76831528f0f7\06048376
| Ptotal=104.50 mm  |    Comments: 25yr/24hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    8.88 | 12.75    3.66 | 19.00    0.52
                0.50    0.52 |  6.75    8.88 | 13.00    3.66 | 19.25    0.52
                0.75    0.52 |  7.00    8.88 | 13.25    3.66 | 19.50    0.52
                1.00    0.52 |  7.25    8.88 | 13.50    3.66 | 19.75    0.52
                1.25    0.52 |  7.50    8.88 | 13.75    3.66 | 20.00    0.52
                1.50    0.52 |  7.75    8.88 | 14.00    3.66 | 20.25    0.52
                1.75    0.52 |  8.00    8.88 | 14.25    3.66 | 20.50    0.52
                2.00    0.52 |  8.25    8.88 | 14.50    2.09 | 20.75    0.52
                2.25    0.52 |  8.50   24.04 | 14.75    2.09 | 21.00    0.52
                2.50    0.52 |  8.75   24.04 | 15.00    2.09 | 21.25    0.52
                2.75    0.52 |  9.00   24.04 | 15.25    2.09 | 21.50    0.52
                3.00    0.52 |  9.25   24.04 | 15.50    2.09 | 21.75    0.52
                3.25    0.52 |  9.50   24.04 | 15.75    2.09 | 22.00    0.52
                3.50    0.52 |  9.75   24.04 | 16.00    2.09 | 22.25    0.52
                3.75    0.52 | 10.00   24.04 | 16.25    2.09 | 22.50    0.52
                4.00    0.52 | 10.25   24.04 | 16.50    1.05 | 22.75    0.52
                4.25    0.52 | 10.50    6.79 | 16.75    1.05 | 23.00    0.52
                4.50    3.14 | 10.75    6.79 | 17.00    1.05 | 23.25    0.52
                4.75    3.14 | 11.00    6.79 | 17.25    1.05 | 23.50    0.52
                5.00    3.14 | 11.25    6.79 | 17.50    1.05 | 23.75    0.52
                5.25    3.14 | 11.50    6.79 | 17.75    1.05 | 24.00    0.52
                5.50    3.14 | 11.75    6.79 | 18.00    1.05 | 24.25    0.52
                5.75    3.14 | 12.00    6.79 | 18.25    1.05 |
                6.00    3.14 | 12.25    6.79 | 18.50    0.52 |
                6.25    3.14 | 12.50    3.66 | 18.75    0.52 |

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| CALIB             |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=  13.323 (i)
     TIME TO PEAK    (hrs)=  29.500
     RUNOFF VOLUME    (mm)=  52.453
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.502

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   6.437 (i)
     TIME TO PEAK    (hrs)=  27.000
     RUNOFF VOLUME    (mm)=  41.902
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.401

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   7.975 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  51.179
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   6.945 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  37.803
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
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```
--------------------  U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   1.731 (i)
     TIME TO PEAK    (hrs)=  26.500
     RUNOFF VOLUME    (mm)=  46.346
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  15.001 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW       (cms)=   9.183 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  51.179
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   8.792 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  36.827
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW       (cms)=   8.982 (i)
     TIME TO PEAK    (hrs)=  23.500
     RUNOFF VOLUME    (mm)=  51.179
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  13.804 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  37.803
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------  U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   5.139 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  34.930
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.334

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64  13.804    22.50    37.80
        + ID2= 2 (0002):   988.72   5.139    20.50    34.93
          ====================================================
          ID = 3 (0101):  3862.36  18.820    21.75    37.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         250.00         0.0700
                 43.00         240.00    0.0700 /0.0350  Main Channel
                 44.00         239.20         0.0350      Main Channel
                 45.00         239.20         0.0350      Main Channel
                 46.00         240.00    0.0350 /0.0700  Main Channel
                 63.50         241.00         0.0700
                 71.00         250.00         0.0700

      <-------------------- TRAVEL TIME TABLE -------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   239.60    .642E+04       0.5          0.80     221.73
       0.80   240.00    .171E+05       1.8          1.15     155.20
       1.39   240.59    .764E+05       8.0          1.12     159.62
       1.98   241.18    .214E+06      23.7          1.19     150.23
       2.56   241.76    .385E+06      51.8          1.44     123.91
       3.15   242.35    .575E+06      90.1          1.68     106.38
       3.74   242.94    .784E+06     138.5          1.89      94.40
       4.33   243.53    .101E+07     196.9          2.08      85.71
       4.92   244.12    .126E+07     265.6          2.26      79.08
       5.51   244.71    .153E+07     344.7          2.42      73.81
       6.09   245.29    .181E+07     434.5          2.57      69.50
       6.68   245.88    .212E+07     535.2          2.71      65.89
       7.27   246.47    .244E+07     647.3          2.84      62.81
       7.86   247.06    .278E+07     771.1          2.97      60.13
       8.45   247.65    .314E+07     906.8          3.09      57.77
       9.04   248.24    .352E+07    1054.8          3.20      55.67
       9.62   248.82    .392E+07    1215.5          3.32      53.79
      10.21   249.41    .434E+07    1389.1          3.42      52.09
      10.80   250.00    .478E+07    1576.1          3.53      50.53

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    18.82   21.75  37.07      1.79      1.16
     OUTFLOW: ID= 1 (0102) 3862.36    17.90   24.50  37.07      1.76      1.16


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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):  1504.44   8.982    23.50    51.18
        + ID2= 2 (0102):  3862.36  17.900    24.50    37.07
          ====================================================
          ID = 3 (0103):  5366.80  26.849    24.25    41.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0005):  1444.47   8.792    19.25    36.83
      + ID2= 2 (0103):  5366.80  26.849    24.25    41.02
        ================================================
        ID = 3 (0104):  6811.27  34.219    23.00    40.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         237.00        0.1000
              330.00         235.00    0.1000 /0.0350  Main Channel
              331.00         234.20        0.0350      Main Channel
              332.00         234.20        0.0350      Main Channel
              333.00         235.00    0.0350 /0.1000  Main Channel
              425.00         235.10        0.1000
              698.00         236.00        0.1000
             1101.00         239.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.13   234.33    .490E+03       0.1        0.64      82.66
      0.27   234.47    .112E+04       0.3        0.93      56.72
      0.40   234.60    .189E+04       0.7        1.14      45.94
      0.53   234.73    .280E+04       1.2        1.33      39.64
      0.67   234.87    .385E+04       1.8        1.49      35.34
      0.80   235.00    .504E+04       2.6        1.63      32.16
      0.95   235.15    .442E+05       6.3        0.45     116.42
      1.11   235.31    .128E+06      17.7        0.44     120.51
      1.26   235.46    .247E+06      38.2        0.49     107.48
      1.42   235.62    .400E+06      69.8        0.55      95.60
      1.57   235.77    .589E+06     114.0        0.61      86.08
      1.72   235.92    .812E+06     172.6        0.67      78.45
      1.88   236.08    .107E+07     250.3        0.74      71.19
      2.03   236.23    .135E+07     347.8        0.81      64.71
      2.18   236.38    .165E+07     461.9        0.88      59.65
      2.34   236.54    .198E+07     593.4        0.95      55.58
      2.49   236.69    .233E+07     742.8        1.01      52.21
      2.65   236.85    .270E+07     910.6        1.06      49.36
      2.80   237.00    .309E+07    1097.6        1.12      46.91

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    34.22   23.00  40.13      1.23      0.48
     OUTFLOW: ID= 1 (0105) 6811.27    33.48   24.50  40.13      1.23      0.48


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-------------------
| CALIB             |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   2.502 (i)
     TIME TO PEAK    (hrs)=  16.750
     RUNOFF VOLUME    (mm)=  41.902
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.401

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0091):   281.97   2.502    16.75    41.90
      + ID2= 2 (0105):  6811.27  33.479    24.50    40.13
        ================================================
        ID = 3 (0106):  7093.24  34.680    24.25    40.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0007):  1373.84   9.183    22.00    51.18
      + ID2= 2 (0106):  7093.24  34.680    24.25    40.20
        ================================================
        ID = 3 (0107):  8467.08  43.582    23.75    41.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.1000
              400.00         231.00    0.1000 /0.0350  Main Channel
              401.00         229.70        0.0350      Main Channel
              402.00         229.70        0.0350      Main Channel
              404.00         230.50    0.0350 /0.1000  Main Channel
              495.00         231.00        0.1000
             1234.00         256.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.20   229.90    .151E+04       0.1        0.24     395.61
      0.40   230.10    .377E+04       0.2        0.35     274.62
      0.60   230.30    .677E+04       0.5        0.43     222.06
      0.80   230.50    .105E+05       0.9        0.50     190.52
      1.03   230.73    .437E+05       2.0        0.27     356.49
      1.27   230.97    .134E+06       5.0        0.21     448.69
      1.50   231.20    .278E+06      11.4        0.23     405.59
      1.73   231.43    .473E+06      21.6        0.26     364.80
      1.97   231.67    .718E+06      36.0        0.29     332.76
      2.20   231.90    .101E+07      55.1        0.31     306.87
      2.43   232.13    .136E+07      79.4        0.33     285.44
      2.67   232.37    .176E+07     109.6        0.36     267.34
      2.90   232.60    .221E+07     145.9        0.38     251.83
      3.13   232.83    .270E+07     189.0        0.40     238.35
      3.37   233.07    .325E+07     239.3        0.42     226.51
      3.60   233.30    .385E+07     297.1        0.44     216.02
      3.83   233.53    .450E+07     363.0        0.46     206.64
      4.07   233.77    .520E+07     437.3        0.48     198.20
      4.30   234.00    .595E+07     520.5        0.50     190.55

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    43.58   23.75  41.98      2.06      0.29
     OUTFLOW: ID= 1 (0108) 8467.08    37.20   28.50  41.98      1.98      0.29


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| CALIB             |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   4.017 (i)
     TIME TO PEAK    (hrs)=  28.000
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0092):  1102.32   4.017    28.00    40.85
      + ID2= 2 (0108):  8467.08  37.198    28.50    41.98
        ================================================
        ID = 3 (0109):  9569.40  41.213    28.50    41.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0010):  2842.76  15.001    22.25    40.85
      + ID2= 2 (0109):  9569.40  41.213    28.50    41.85
        ================================================
        ID = 3 (0110): 12412.16  53.808    27.00    41.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         236.00        0.1000
                 275.00         232.00        0.1000
                1039.00         230.00    0.1000 /0.0350  Main Channel
                1040.00         229.20        0.0350      Main Channel
                1041.00         229.20        0.0350      Main Channel
                1043.00         230.00    0.0350 /0.1000  Main Channel
                1117.00         230.60        0.1000
                1325.00         234.00        0.1000

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
        0.20   229.40     .985E+03        0.0          0.14     431.34
        0.40   229.60     .251E+04        0.1          0.20     298.03
        0.60   229.80     .457E+04        0.3          0.25     239.97
        0.80   230.00     .717E+04        0.6          0.29     205.17
        1.07   230.27     .754E+05        2.2          0.11     561.90
        1.33   230.53     .272E+06        8.6          0.11     527.12
        1.60   230.80     .594E+06       22.7          0.14     436.37
        1.87   231.07     .103E+07       46.2          0.16     371.32
        2.13   231.33     .158E+07       80.7          0.18     325.64
        2.40   231.60     .224E+07      127.8          0.20     291.74
        2.67   231.87     .301E+07      189.0          0.22     265.46
        2.93   232.13     .389E+07      271.8          0.25     238.27
        3.20   232.40     .481E+07      376.4          0.28     212.79
        3.47   232.67     .576E+07      496.0          0.31     193.49
        3.73   232.93     .674E+07      630.4          0.33     178.30
        4.00   233.20     .776E+07      779.4          0.36     165.99
        4.27   233.47     .881E+07      943.0          0.38     155.79
        4.53   233.73     .990E+07     1121.1          0.41     147.16
        4.80   234.00     .110E+08     1313.9          0.43     139.76

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0110) *******     53.81   27.00  41.62      1.93      0.17
     OUTFLOW: ID= 1 (0111) *******     45.70   32.00  41.62      1.86      0.16


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--------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0093):   381.73   1.731    26.50    46.35
        + ID2= 2 (0111): 12412.16  45.695    32.00    41.62
          ====================================================
          ID = 3 (0112): 12793.89  47.260    31.50    41.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   8.499 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  36.827
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.844

     PEAK FLOW       (cms)=  13.206 (i)
     TIME TO PEAK    (hrs)=  24.750
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.795

     PEAK FLOW       (cms)=  10.578 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  30.486
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0003):  2954.54  13.206    24.75    40.85
        + ID2= 2 (0004):  2672.69  10.578    22.25    30.49
          ====================================================
          ID = 3 (0201):  5627.23  23.574    23.50    35.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         239.00        0.1000
                 690.00         230.00    0.1000 /0.0350  Main Channel
                 691.00         229.20        0.0350      Main Channel
                 692.00         229.20        0.0350      Main Channel
                 693.00         229.50    0.0350 /0.1000  Main Channel
                1190.00         230.00        0.1000
                1417.00         255.00        0.1000

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
        0.30   229.50     .347E+04        0.4          0.84     136.57
        0.80   230.00     .864E+06       45.2          0.36     318.78
        1.30   230.50     .265E+07      274.1          0.71     161.20
        1.80   231.00     .459E+07      651.8          0.97     117.24
        2.30   231.50     .667E+07     1165.3          1.20      95.34
        2.80   232.00     .889E+07     1810.2          1.40      81.89
        3.30   232.50     .113E+08     2585.1          1.57      72.65
        3.80   233.00     .138E+08     3490.4          1.73      65.85
        4.30   233.50     .165E+08     4527.4          1.89      60.59
        4.80   234.00     .193E+08     5697.8          2.03      56.38
        5.30   234.50     .222E+08     7003.8          2.16      52.91
        5.80   235.00     .253E+08     8447.7          2.28      50.00
        6.30   235.50     .286E+08    10032.3          2.40      47.52
        6.80   236.00     .320E+08    11760.1          2.52      45.36
        7.30   236.50     .356E+08    13634.1          2.63      43.46
        7.80   237.00     .393E+08    15657.0          2.73      41.78
        8.30   237.50     .431E+08    17831.7          2.84      40.28
        8.80   238.00     .471E+08    20161.3          2.93      38.92
        9.30   238.50     .512E+08    22648.7          3.03      37.69

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    23.57   23.50  35.93      0.56      0.49
     OUTFLOW: ID= 1 (0202) 5627.23    21.66   28.25  35.93      0.54      0.51


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0008):  1549.97   8.499    20.25    36.83
        + ID2= 2 (0202):  5627.23  21.663    28.25    35.93
          ====================================================
          ID = 3 (0203):  7177.20  27.881    26.00    36.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0112): 12793.89  47.260    31.50    41.76
        + ID2= 2 (0203):  7177.20  27.881    26.00    36.12
          ====================================================
          ID = 3 (0301): 19971.09  72.818    30.00    39.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         240.00        0.0700
                110.00         239.00        0.0700
                161.00         238.00        0.0700
                250.00         237.00        0.0700
                420.00         236.00        0.0700
                560.00         235.00        0.0700
                589.00         234.40    0.0700 /0.0350  Main Channel
                589.10         233.60        0.0350      Main Channel
                594.00         233.60        0.0350      Main Channel
                594.10         234.40    0.0350 /0.0700  Main Channel
                615.00         235.00        0.0700
                740.00         236.00        0.0700
                860.00         236.50        0.0700
               1340.00         237.00        0.0700
               1460.00         238.00        0.0700
               1470.00         239.00        0.0700
               1510.00         240.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.27   233.87    .770E+04         1.0         0.74     132.49
        0.53   234.13    .155E+05         2.9         1.10      88.48
        0.80   234.40    .234E+05         5.5         1.37      71.19
        1.15   234.75    .636E+05        11.6         1.07      91.11
        1.50   235.10    .169E+06        24.5         0.85     114.97
        1.85   235.45    .431E+06        54.5         0.74     131.62
        2.20   235.80    .882E+06       117.3         0.78     125.39
        2.55   236.15    .153E+07       218.3         0.83     117.06
        2.90   236.50    .246E+07       375.3         0.89     109.30
        3.25   236.85    .394E+07       579.0         0.86     113.45
        3.60   237.20    .612E+07      1010.3         0.97     101.01
        3.95   237.55    .851E+07      1631.3         1.12      86.99
        4.30   237.90    .111E+08      2391.8         1.27      77.05
        4.65   238.25    .137E+08      3337.5         1.42      68.52
        5.00   238.60    .164E+08      4438.7         1.58      61.71
        5.35   238.95    .192E+08      5671.0         1.73      56.40
        5.70   239.30    .220E+08      6955.1         1.85      52.75
        6.05   239.65    .249E+08      8355.2         1.96      49.76
        6.40   240.00    .280E+08      9884.7         2.07      47.18

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0301) *******    72.82   30.00  39.74      1.95      0.75
     OUTFLOW: ID= 1 (0302) *******    71.37   32.00  39.74      1.94      0.75


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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   6.945    23.00    37.80
       + ID2= 2 (0302): 19971.09  71.374    32.00    39.74
         ==================================================
         ID = 3 (0303): 21472.61  76.208    31.50    39.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0011) |   Area     (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=  13.278 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  34.008
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         236.00        0.0500
                 72.00         235.00        0.0500
                492.00         230.00        0.0500
                581.00         229.20    0.0500 /0.0350  Main Channel
                582.00         228.40        0.0350      Main Channel
                583.00         228.40        0.0350      Main Channel
                584.00         229.20    0.0350 /0.0500  Main Channel
                588.00         229.20        0.0500
                607.00         230.00        0.0500
                627.00         235.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.27   228.67    .302E+04         0.1         0.21     666.69
        0.53   228.93    .756E+04         0.3         0.30     465.92
        0.80   229.20    .136E+05         0.6         0.37     377.99
        1.16   229.56    .111E+06         3.0         0.23     616.66
        1.52   229.92    .358E+06        11.5         0.27     519.91
        1.89   230.29    .740E+06        30.1         0.35     410.09
        2.25   230.65    .122E+07        59.5         0.41     342.49
        2.61   231.01    .180E+07       100.6         0.47     298.58
        2.97   231.37    .248E+07       154.6         0.53     267.22
        3.34   231.74    .326E+07       222.9         0.58     243.40
        3.70   232.10    .413E+07       306.6         0.63     224.51
        4.06   232.46    .510E+07       406.9         0.68     209.05
        4.42   232.82    .617E+07       524.8         0.72     196.10
        4.79   233.19    .734E+07       661.4         0.77     185.06
        5.15   233.55    .861E+07       817.9         0.81     175.49
        5.51   233.91    .998E+07       995.2         0.85     167.10
        5.87   234.27    .114E+08      1194.3         0.89     159.67
        6.24   234.64    .130E+08      1416.3         0.93     153.03
        6.60   235.00    .147E+08      1662.2         0.96     147.05

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17    13.28   22.50  34.01      1.56      0.28
     OUTFLOW: ID= 1 (0401) 3099.17     9.81   29.00  34.01      1.45      0.26


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| CALIB            |
| NASHYD    (0014) |   Area     (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   6.045 (i)
     TIME TO PEAK    (hrs)=  36.500
     RUNOFF VOLUME    (mm)=  46.346
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   6.045    36.50    46.35
       + ID2= 2 (0401):  3099.17   9.807    29.00    34.01
         ==================================================
         ID = 3 (0402):  5262.26  15.378    31.00    39.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61  76.208    31.50    39.60
       + ID2= 2 (0402):  5262.26  15.378    31.00    39.08
         ==================================================
         ID = 3 (0501): 26734.87  91.569    31.50    39.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         237.00        0.0700
                425.00         235.00        0.0700
                445.00         234.00        0.0700
                480.00         233.50        0.0700
               1535.00         233.50    0.0700 /0.0350  Main Channel
               1536.50         232.70        0.0350      Main Channel
               1537.50         232.70        0.0350      Main Channel
               1540.00         233.50    0.0350 /0.0700  Main Channel
```

```
            1605.00        233.20        0.0700
            1610.00        233.10        0.0700
            2135.00        233.10        0.0700
            2440.00        233.50        0.0700
            2505.00        233.50        0.0700
            2530.00        234.00        0.0700
            2535.00        235.00        0.0700
            2540.00        236.00        0.0700
            2605.00        238.00        0.0700
            2645.00        241.00        0.0700

   <-------------------- TRAVEL TIME TABLE ---------------------->
    DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
     (m)       (m)      (cu.m.)       (cms)         (m/s)      (min)
    0.20   232.90    .385E+03          0.2          0.55       38.92
    0.40   233.10    .103E+04          0.6          0.80       26.75
    0.60   233.30    .159E+06         39.5          0.32       67.02
    0.80   233.50    .366E+06        133.3          0.47       45.74
    1.03   233.73    .977E+06        428.7          0.56       37.97
    1.27   233.97    .160E+07        914.3          0.74       29.09
    1.50   234.20    .222E+07       1556.9          0.90       23.78
    1.73   234.43    .285E+07       2336.2          1.05       20.32
    1.97   234.67    .348E+07       3240.2          1.20       17.88
    2.20   234.90    .411E+07       4260.9          1.33       16.07
    2.43   235.13    .474E+07       5359.1          1.45       14.75
    2.67   235.37    .539E+07       6537.6          1.56       13.74
    2.90   235.60    .605E+07       7819.4          1.66       12.90
    3.13   235.83    .673E+07       9203.8          1.76       12.19
    3.37   236.07    .743E+07      10683.6          1.85       11.59
    3.60   236.30    .814E+07      12247.8          1.93       11.07
    3.83   236.53    .887E+07      13912.8          2.01       10.62
    4.07   236.77    .961E+07      15679.0          2.09       10.22
    4.30   237.00    .104E+08      17546.8          2.17        9.85

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (0501) ********    91.57   31.50  39.50       0.71      0.39
OUTFLOW: ID= 1 (0503) ********    91.37   32.00  39.50       0.71      0.39


--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  27.8300     83.9600
                          3.8000     14.0500   |  *******    101.7400
                         11.0800     33.6500   |  *******    145.2700
                         20.8900     61.8900   |   0.0000      0.0000

                              AREA      QPEAK      TPEAK       R.V.
                              (ha)      (cms)      (hrs)       (mm)
INFLOW : ID= 2 (0503)    ********      91.366      32.00      39.50
OUTFLOW: ID= 1 (0510)    ********      91.365      32.25      39.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 85.8059

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
                0.00         237.00        0.0700
              425.00         235.00        0.0700
              445.00         234.00        0.0700
              480.00         233.50        0.0700
             1535.00         233.50    0.0700 /0.0350  Main Channel
             1536.50         232.70        0.0350      Main Channel
             1537.50         232.70        0.0350      Main Channel
             1540.00         233.50    0.0350 /0.0700  Main Channel
             1605.00         233.20        0.0700
             1610.00         233.10        0.0700
             2135.00         233.10        0.0700
             2440.00         233.50        0.0700
             2505.00         233.50        0.0700
             2530.00         234.00        0.0700
             2535.00         235.00        0.0700
             2540.00         236.00        0.0700
             2605.00         238.00        0.0700
             2645.00         241.00        0.0700

   <-------------------- TRAVEL TIME TABLE ---------------------->
    DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
     (m)       (m)      (cu.m.)       (cms)         (m/s)      (min)
    0.20   232.90    .291E+03          0.2          0.55       29.43
    0.40   233.10    .777E+03          0.6          0.80       20.23
    0.60   233.30    .120E+06         39.5          0.32       50.68
    0.80   233.50    .277E+06        133.3          0.47       34.59
    1.03   233.73    .739E+06        428.7          0.56       28.72
    1.27   233.97    .121E+07        914.3          0.74       22.00
    1.50   234.20    .168E+07       1556.9          0.90       17.98
    1.73   234.43    .215E+07       2336.2          1.05       15.37
    1.97   234.67    .263E+07       3240.2          1.20       13.52
    2.20   234.90    .311E+07       4260.9          1.33       12.15
    2.43   235.13    .359E+07       5359.1          1.45       11.15
    2.67   235.37    .408E+07       6537.6          1.56       10.39
    2.90   235.60    .458E+07       7819.4          1.66        9.76
    3.13   235.83    .509E+07       9203.8          1.76        9.22
    3.37   236.07    .562E+07      10683.6          1.85        8.76
    3.60   236.30    .615E+07      12247.8          1.93        8.37
    3.83   236.53    .670E+07      13912.8          2.01        8.03
    4.07   236.77    .727E+07      15679.0          2.09        7.73
    4.30   237.00    .784E+07      17546.8          2.17        7.45

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (0510) ********    91.36   32.25  39.50       0.71      0.39
OUTFLOW: ID= 1 (0513) ********    91.35   32.50  39.50       0.71      0.39


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--------------------
| ADD HYD   (0504) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0015):  1059.88    7.975    20.50    51.18
        + ID2= 2 (0513): 26734.87  91.349    32.50    39.50
          ==========================================================
          ID = 3 (0504): 27794.75  94.824    32.25    39.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0505) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0013):  1627.59   6.437    27.00    41.90
        + ID2= 2 (0504): 27794.75  94.824    32.25    39.94
          ==========================================================
          ID = 3 (0505): 29422.34 100.762    31.50    40.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
                0.00         251.00        0.0500
              323.00         238.00        0.0500
              400.00         229.00        0.0500
              545.00         228.00        0.0500
              602.00         226.00        0.0500
              604.00         225.80    0.0500 /0.0350  Main Channel
              605.00         225.00        0.0350      Main Channel
              609.00         225.00        0.0350      Main Channel
              610.00         225.80    0.0350 /0.0500  Main Channel
              614.00         226.00        0.0500
              650.00         227.00        0.0500
              810.00         229.50        0.0500
             1855.00         240.00        0.0500
             2617.00         259.00        0.0500

   <-------------------- TRAVEL TIME TABLE ---------------------->
    DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
     (m)       (m)      (cu.m.)       (cms)         (m/s)      (min)
    0.80   225.80    .292E+05          3.5          0.87      139.36
    2.13   227.13    .441E+06         50.6          0.84      145.20
    3.45   228.45    .197E+07        262.2          0.97      125.42
    4.78   229.78    .557E+07        971.2          1.27       95.57
    6.11   231.11    .106E+08       2326.5          1.61       75.63
    7.43   232.43    .169E+08       4425.6          1.90       63.77
    8.76   233.76    .247E+08       7361.8          2.17       55.90
   10.08   235.08    .338E+08      11229.7          2.42       50.22
   11.41   236.41    .444E+08      16121.0          2.65       45.87
   12.74   237.74    .563E+08      22124.8          2.86       42.40
   14.06   239.06    .697E+08      29005.2          3.03       40.02
   15.39   240.39    .846E+08      37433.0          3.23       37.66
   16.72   241.72    .101E+09      47908.6          3.47       34.97
   18.04   243.04    .117E+09      59742.1          3.71       32.73
   19.37   244.37    .135E+09      72949.0          3.94       30.83
   20.69   245.69    .153E+09      87549.6          4.16       29.20
   22.02   247.02    .173E+09      *******          4.37       27.79
   23.35   248.35    .193E+09      *******          4.58       26.55
   24.67   249.67    .214E+09      *******          4.77       25.45

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```

```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0505) *******    100.76   31.50  40.05      2.44      0.86
     OUTFLOW: ID= 1 (0506) *******     97.99   34.50  40.05      2.42      0.86


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-------------------
| RESERVOIR (0512) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  *******     16.2850
                         27.2000    3.7650   |  *******     20.9160
                         76.8000    7.7410   |  *******     25.9120
                         *******   11.0650   |  *******     36.6600
                         *******   11.9150   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0506)   ********     97.993     34.50      40.05
     OUTFLOW: ID= 1 (0512)   ********     97.979     34.75      40.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.99
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  9.1351

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         230.00        0.0500
                400.00         229.00        0.0500
                545.00         228.00        0.0500
                602.00         226.00        0.0500
                604.00         225.80    0.0500 /0.0350  Main Channel
                605.00         225.00        0.0350      Main Channel
                609.00         225.00        0.0350      Main Channel
                610.00         225.80    0.0350 /0.0500  Main Channel
                614.00         226.00        0.0500
                650.00         227.00        0.0500
                810.00         229.50        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
          (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
         0.20   225.20    .243E+04         0.3          0.39      121.91
         0.40   225.40    .515E+04         1.1          0.59       80.58
         0.60   225.60    .815E+04         2.1          0.74       64.02
         0.80   225.80    .114E+05         3.5          0.87       54.69
         1.05   226.05    .184E+05         6.1          0.94       50.48
         1.29   226.29    .346E+05        10.3          0.85       55.99
         1.54   226.54    .620E+05        17.4          0.80       59.38
         1.79   226.79    .101E+06        28.3          0.81       59.18
         2.03   227.03    .151E+06        43.8          0.83       57.35
         2.28   227.28    .215E+06        63.9          0.85       55.99
         2.53   227.53    .295E+06        91.4          0.89       53.82
         2.77   227.77    .391E+06       127.0          0.93       51.35
         3.02   228.02    .504E+06       170.6          0.97       49.24
         3.27   228.27    .644E+06       215.5          0.96       49.84
         3.51   228.51    .821E+06       279.7          0.97       48.92
         3.76   228.76    .103E+07       363.1          1.00       47.47
         4.01   229.01    .128E+07       466.2          1.04       45.89
         4.25   229.25    .159E+07       572.0          1.03       46.41
         4.50   229.50    .198E+07       719.1          1.04       45.95

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0512) *******    97.98   34.75  40.05      2.57      0.89
     OUTFLOW: ID= 1 (0514) *******    97.63   35.50  40.05      2.57      0.89


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-------------------
| ADD HYD   (0507) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0016):  3094.49  13.323    29.50    52.45
        + ID2= 2 (0514): 29422.34  97.631    35.50    40.05
          ================================================
          ID = 3 (0507): 32516.83 109.854    35.25    41.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   5 **
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```
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              88073fbd-731f-4992-8e5b-76831528f0f7\0bbba830
| Ptotal=117.80 mm |    Comments: 50yr/24hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50   10.01 | 12.75    4.12 | 19.00    0.59
                0.50    0.59 |  6.75   10.01 | 13.00    4.12 | 19.25    0.59
                0.75    0.59 |  7.00   10.01 | 13.25    4.12 | 19.50    0.59
                1.00    0.59 |  7.25   10.01 | 13.50    4.12 | 19.75    0.59
                1.25    0.59 |  7.50   10.01 | 13.75    4.12 | 20.00    0.59
                1.50    0.59 |  7.75   10.01 | 14.00    4.12 | 20.25    0.59
                1.75    0.59 |  8.00   10.01 | 14.25    4.12 | 20.50    0.59
                2.00    0.59 |  8.25   10.01 | 14.50    2.36 | 20.75    0.59
                2.25    0.59 |  8.50   27.09 | 14.75    2.36 | 21.00    0.59
                2.50    0.59 |  8.75   27.09 | 15.00    2.36 | 21.25    0.59
                2.75    0.59 |  9.00   27.09 | 15.25    2.36 | 21.50    0.59
                3.00    0.59 |  9.25   27.09 | 15.50    2.36 | 21.75    0.59
                3.25    0.59 |  9.50   27.09 | 15.75    2.36 | 22.00    0.59
                3.50    0.59 |  9.75   27.09 | 16.00    2.36 | 22.25    0.59
                3.75    0.59 | 10.00   27.09 | 16.25    2.36 | 22.50    0.59
                4.00    0.59 | 10.25   27.09 | 16.50    1.18 | 22.75    0.59
                4.25    0.59 | 10.50    7.66 | 16.75    1.18 | 23.00    0.59
                4.50    3.53 | 10.75    7.66 | 17.00    1.18 | 23.25    0.59
                4.75    3.53 | 11.00    7.66 | 17.25    1.18 | 23.50    0.59
                5.00    3.53 | 11.25    7.66 | 17.50    1.18 | 23.75    0.59
                5.25    3.53 | 11.50    7.66 | 17.75    1.18 | 24.00    0.59
                5.50    3.53 | 11.75    7.66 | 18.00    1.18 | 24.25    0.59
                5.75    3.53 | 12.00    7.66 | 18.25    1.18 |
                6.00    3.53 | 12.25    7.66 | 18.50    0.59 |
                6.25    3.53 | 12.50    4.12 | 18.75    0.59 |

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| CALIB             |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=  15.998 (i)
     TIME TO PEAK    (hrs)=  29.500
     RUNOFF VOLUME    (mm)=  62.976
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.535

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   7.834 (i)
     TIME TO PEAK    (hrs)=  27.000
     RUNOFF VOLUME    (mm)=  50.983
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.433

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   9.598 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   8.498 (i)
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```
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  46.236
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.392

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   2.094 (i)
     TIME TO PEAK    (hrs)=  26.250
     RUNOFF VOLUME    (mm)=  56.073
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.476

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  18.288 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  49.766
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW       (cms)=  11.051 (i)
     TIME TO PEAK    (hrs)=  21.750
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=  10.776 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  45.099
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.383

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW       (cms)=  10.806 (i)
     TIME TO PEAK    (hrs)=  23.500
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  16.894 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  46.236
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.392

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   6.314 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  42.880
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.364

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64  16.894    22.25    46.24
        + ID2= 2 (0002):   988.72   6.314    20.25    42.88
          ==========================================================
          ID = 3 (0101):  3862.36  23.056    21.75    45.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         250.00         0.0700
                 43.00         240.00    0.0700 /0.0350  Main Channel
                 44.00         239.20         0.0350      Main Channel
                 45.00         239.20         0.0350      Main Channel
                 46.00         240.00    0.0350 /0.0700  Main Channel
                 63.50         241.00         0.0700
                 71.00         250.00         0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   239.60    .642E+04       0.5          0.80     221.73
       0.80   240.00    .171E+05       1.8          1.15     155.20
       1.39   240.59    .764E+05       8.0          1.12     159.62
       1.98   241.18    .214E+06      23.7          1.19     150.23
       2.56   241.76    .385E+06      51.8          1.44     123.91
       3.15   242.35    .575E+06      90.1          1.68     106.38
       3.74   242.94    .784E+06     138.5          1.89      94.40
       4.33   243.53    .101E+07     196.9          2.08      85.71
       4.92   244.12    .126E+07     265.6          2.26      79.08
       5.51   244.71    .153E+07     344.7          2.42      73.81
       6.09   245.29    .181E+07     434.5          2.57      69.50
       6.68   245.88    .212E+07     535.2          2.71      65.89
       7.27   246.47    .244E+07     647.3          2.84      62.81
       7.86   247.06    .278E+07     771.1          2.97      60.13
       8.45   247.65    .314E+07     906.8          3.09      57.77
       9.04   248.24    .352E+07    1054.8          3.20      55.67
       9.62   248.82    .392E+07    1215.5          3.32      53.79
      10.21   249.41    .434E+07    1389.1          3.42      52.09
      10.80   250.00    .478E+07    1576.1          3.53      50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    23.06   21.75  45.38      1.95      1.18
     OUTFLOW: ID= 1 (0102) 3862.36    21.96   24.25  45.38      1.91      1.18


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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0006):  1504.44  10.806    23.50    61.54
        + ID2= 2 (0102):  3862.36  21.964    24.25    45.38
          ================================================
          ID = 3 (0103):  5366.80  32.735    24.00    49.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):  1444.47  10.776    19.25    45.10
        + ID2= 2 (0103):  5366.80  32.735    24.00    49.91
          ================================================
          ID = 3 (0104):  6811.27  41.803    22.75    48.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.1000
               330.00         235.00    0.1000 /0.0350  Main Channel
               331.00         234.20        0.0350      Main Channel
               332.00         234.20        0.0350      Main Channel
               333.00         235.00    0.0350 /0.1000  Main Channel
               425.00         235.10        0.1000
               698.00         236.00        0.1000
              1101.00         239.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.13  234.33    .490E+03        0.1         0.64      82.66
        0.27  234.47    .112E+04        0.3         0.93      56.72
        0.40  234.60    .189E+04        0.7         1.14      45.94
        0.53  234.73    .280E+04        1.2         1.33      39.64
        0.67  234.87    .385E+04        1.8         1.49      35.34
        0.80  235.00    .504E+04        2.6         1.63      32.16
        0.95  235.15    .442E+05        6.3         0.45     116.42
        1.11  235.31    .128E+06       17.7         0.44     120.51
        1.26  235.46    .247E+06       38.2         0.49     107.48
        1.42  235.62    .400E+06       69.8         0.55      95.60
        1.57  235.77    .589E+06      114.0         0.61      86.08
        1.72  235.92    .812E+06      172.6         0.67      78.45
        1.88  236.08    .107E+07      250.3         0.74      71.19
        2.03  236.23    .135E+07      347.8         0.81      64.71
        2.18  236.38    .165E+07      461.9         0.88      59.65
        2.34  236.54    .198E+07      593.4         0.95      55.58
        2.49  236.69    .233E+07      742.8         1.01      52.21
        2.65  236.85    .270E+07      910.6         1.06      49.36
        2.80  237.00    .309E+07     1097.6         1.12      46.91

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    41.80   22.75  48.89      1.28      0.49
     OUTFLOW: ID= 1 (0105) 6811.27    40.96   24.50  48.89      1.27      0.49
```

```
-------------------
| CALIB           |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   3.048 (i)
     TIME TO PEAK    (hrs)=  16.500
     RUNOFF VOLUME    (mm)=  50.983
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.433

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0091):   281.97   3.048    16.50    50.98
        + ID2= 2 (0105):  6811.27  40.957    24.50    48.89
          ================================================
          ID = 3 (0106):  7093.24  42.433    24.00    48.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0007):  1373.84  11.051    21.75    61.54
        + ID2= 2 (0106):  7093.24  42.433    24.00    48.97
          ================================================
          ID = 3 (0107):  8467.08  53.176    23.75    51.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.1000
               400.00         231.00    0.1000 /0.0350  Main Channel
               401.00         229.70        0.0350      Main Channel
               402.00         229.70        0.0350      Main Channel
               404.00         230.50    0.0350 /0.1000  Main Channel
               495.00         231.00        0.1000
              1234.00         256.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.20  229.90    .151E+04        0.1         0.24     395.61
        0.40  230.10    .377E+04        0.2         0.35     274.62
        0.60  230.30    .677E+04        0.5         0.43     222.06
        0.80  230.50    .105E+05        0.9         0.50     190.52
        1.03  230.73    .437E+05        2.0         0.27     356.49
        1.27  230.97    .134E+06        5.0         0.21     448.69
        1.50  231.20    .278E+06       11.4         0.23     405.59
        1.73  231.43    .473E+06       21.6         0.26     364.80
        1.97  231.67    .718E+06       36.0         0.29     332.76
        2.20  231.90    .101E+07       55.1         0.31     306.87
        2.43  232.13    .136E+07       79.4         0.33     285.44
        2.67  232.37    .176E+07      109.6         0.36     267.34
        2.90  232.60    .221E+07      145.9         0.38     251.83
        3.13  232.83    .270E+07      189.0         0.40     238.35
        3.37  233.07    .325E+07      239.3         0.42     226.51
        3.60  233.30    .385E+07      297.1         0.44     216.02
        3.83  233.53    .450E+07      363.0         0.46     206.64
        4.07  233.77    .520E+07      437.3         0.48     198.20
        4.30  234.00    .595E+07      520.5         0.50     190.55

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    53.18   23.75  51.01      2.18      0.31
     OUTFLOW: ID= 1 (0108) 8467.08    45.63   28.25  51.01      2.08      0.30
```

```
-------------------
| CALIB           |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   4.895 (i)
     TIME TO PEAK    (hrs)=  28.000
     RUNOFF VOLUME    (mm)=  49.766
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0092):  1102.32   4.895    28.00    49.77
        + ID2= 2 (0108):  8467.08  45.631    28.25    51.01
          ================================================
          ID = 3 (0109):  9569.40  50.525    28.25    50.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0010):  2842.76  18.288    22.00    49.77
        + ID2= 2 (0109):  9569.40  50.525    28.25    50.87
          ================================================
          ID = 3 (0110): 12412.16  66.080    26.75    50.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         236.00         0.1000
                275.00         232.00         0.1000
               1039.00         230.00    0.1000 /0.0350  Main Channel
               1040.00         229.20         0.0350      Main Channel
               1041.00         229.20         0.0350      Main Channel
               1043.00         230.00    0.0350 /0.1000  Main Channel
               1117.00         230.60         0.1000
               1325.00         234.00         0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.20   229.40    .985E+03        0.0           0.14     431.34
       0.40   229.60    .251E+04        0.1           0.20     298.03
       0.60   229.80    .457E+04        0.3           0.25     239.97
       0.80   230.00    .717E+04        0.6           0.29     205.17
       1.07   230.27    .754E+05        2.2           0.11     561.90
       1.33   230.53    .272E+06        8.6           0.11     527.12
       1.60   230.80    .594E+06       22.7           0.14     436.37
       1.87   231.07    .103E+07       46.2           0.16     371.32
       2.13   231.33    .158E+07       80.7           0.18     325.64
       2.40   231.60    .224E+07      127.8           0.20     291.74
       2.67   231.87    .301E+07      189.0           0.22     265.46
       2.93   232.13    .389E+07      271.8           0.25     238.27
       3.20   232.40    .481E+07      376.4           0.28     212.79
       3.47   232.67    .576E+07      496.0           0.31     193.49
       3.73   232.93    .674E+07      630.4           0.33     178.30
       4.00   233.20    .776E+07      779.4           0.36     165.99
       4.27   233.47    .881E+07      943.0           0.38     155.79
       4.53   233.73    .990E+07     1121.1           0.41     147.16
       4.80   234.00    .110E+08     1313.9           0.43     139.76

                                  <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0110) *******    66.08   26.75  50.62      2.02      0.17
     OUTFLOW: ID= 1 (0111) *******    56.29   31.50  50.62      1.95      0.17


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-------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0093):   381.73   2.094    26.25    56.07
        + ID2= 2 (0111): 12412.16  56.291    31.50    50.62
          ================================================
          ID = 3 (0112): 12793.89  58.221    31.00    50.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=  10.418 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  45.099
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.383

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.844

     PEAK FLOW       (cms)=  16.096 (i)
     TIME TO PEAK    (hrs)=  24.500
     RUNOFF VOLUME    (mm)=  49.766
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.795

     PEAK FLOW       (cms)=  13.066 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  37.639
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0003):  2954.54  16.096    24.50    49.77
        + ID2= 2 (0004):  2672.69  13.066    22.00    37.64
          ================================================
          ID = 3 (0201):  5627.23  28.905    23.25    44.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         239.00         0.1000
                690.00         230.00    0.1000 /0.0350  Main Channel
                691.00         229.20         0.0350      Main Channel
                692.00         229.20         0.0350      Main Channel
                693.00         229.50    0.0350 /0.1000  Main Channel
               1190.00         230.00         0.1000
               1417.00         255.00         0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.30   229.50    .347E+04        0.4           0.84     136.57
       0.80   230.00    .864E+06       45.2           0.36     318.78
       1.30   230.50    .265E+07      274.1           0.71     161.20
       1.80   231.00    .459E+07      651.8           0.97     117.24
       2.30   231.50    .667E+07     1165.3           1.20      95.34
       2.80   232.00    .889E+07     1810.2           1.40      81.89
       3.30   232.50    .113E+08     2585.1           1.57      72.65
       3.80   233.00    .138E+08     3490.4           1.73      65.85
       4.30   233.50    .165E+08     4527.4           1.89      60.59
       4.80   234.00    .193E+08     5697.8           2.03      56.38
       5.30   234.50    .222E+08     7003.8           2.16      52.91
       5.80   235.00    .253E+08     8447.7           2.28      50.00
       6.30   235.50    .286E+08    10032.3           2.40      47.52
       6.80   236.00    .320E+08    11760.1           2.52      45.36
       7.30   236.50    .356E+08    13634.1           2.63      43.46
       7.80   237.00    .393E+08    15657.0           2.73      41.78
       8.30   237.50    .431E+08    17831.7           2.84      40.28
       8.80   238.00    .471E+08    20161.3           2.93      38.92
       9.30   238.50    .512E+08    22648.7           3.03      37.69

                                  <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    28.91   23.25  44.01      0.62      0.45
     OUTFLOW: ID= 1 (0202) 5627.23    26.27   28.75  44.01      0.59      0.47


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-------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0008):  1549.97  10.418    20.25    45.10
        + ID2= 2 (0202):  5627.23  26.270    28.75    44.01
          ================================================
          ID = 3 (0203):  7177.20  33.663    26.00    44.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0301) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  58.221    31.00    50.78
       + ID2= 2 (0203):  7177.20  33.663    26.00    44.24
         ====================================================
         ID = 3 (0301): 19971.09  89.797    29.50    48.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         240.00        0.0700
              110.00         239.00        0.0700
              161.00         238.00        0.0700
              250.00         237.00        0.0700
              420.00         236.00        0.0700
              560.00         235.00        0.0700
              589.00         234.40    0.0700 /0.0350  Main Channel
              589.10         233.60        0.0350      Main Channel
              594.00         233.60        0.0350      Main Channel
              594.10         234.40    0.0350 /0.0700  Main Channel
              615.00         235.00        0.0700
              740.00         236.00        0.0700
              860.00         236.50        0.0700
             1340.00         237.00        0.0700
             1460.00         238.00        0.0700
             1470.00         239.00        0.0700
             1510.00         240.00        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.27   233.87    .770E+04         1.0         0.74     132.49
       0.53   234.13    .155E+05         2.9         1.10      88.48
       0.80   234.40    .234E+05         5.5         1.37      71.19
       1.15   234.75    .636E+05        11.6         1.07      91.11
       1.50   235.10    .169E+06        24.5         0.85     114.97
       1.85   235.45    .431E+06        54.5         0.74     131.62
       2.20   235.80    .882E+06       117.3         0.78     125.39
       2.55   236.15    .153E+07       218.3         0.83     117.06
       2.90   236.50    .246E+07       375.3         0.89     109.30
       3.25   236.85    .394E+07       579.0         0.86     113.45
       3.60   237.20    .612E+07      1010.3         0.97     101.01
       3.95   237.55    .851E+07      1631.3         1.12      86.99
       4.30   237.90    .111E+08      2391.8         1.27      77.05
       4.65   238.25    .137E+08      3337.5         1.42      68.52
       5.00   238.60    .164E+08      4438.7         1.58      61.71
       5.35   238.95    .192E+08      5671.0         1.73      56.40
       5.70   239.30    .220E+08      6955.1         1.85      52.75
       6.05   239.65    .249E+08      8355.2         1.96      49.76
       6.40   240.00    .280E+08      9884.7         2.07      47.18

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (0301) *******    89.80   29.50  48.43      2.05      0.76
    OUTFLOW: ID= 1 (0302) *******    88.02   31.75  48.43      2.03      0.76

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| ADD HYD   (0303) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   8.498    23.00    46.24
       + ID2= 2 (0302): 19971.09  88.024    31.75    48.43
         ================================================
         ID = 3 (0303): 21472.61  94.050    31.25    48.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

    Unit Hyd Qpeak  (cms)=  10.949

    PEAK FLOW       (cms)=  16.328 (i)
    TIME TO PEAK    (hrs)=  22.500
    RUNOFF VOLUME    (mm)=  41.798
    TOTAL RAINFALL   (mm)= 117.800
    RUNOFF COEFFICIENT   =   0.355

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         236.00        0.0500
               72.00         235.00        0.0500
              492.00         230.00        0.0500
              581.00         229.20    0.0500 /0.0350  Main Channel
              582.00         228.40        0.0350      Main Channel
              583.00         228.40        0.0350      Main Channel
              584.00         229.20    0.0350 /0.0500  Main Channel
              588.00         229.20        0.0500
              607.00         230.00        0.0500
              627.00         235.00        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.27   228.67    .302E+04         0.1         0.21     666.69
       0.53   228.93    .756E+04         0.3         0.30     465.92
       0.80   229.20    .136E+05         0.6         0.37     377.99
       1.16   229.56    .111E+06         3.0         0.23     616.66
       1.52   229.92    .358E+06        11.5         0.27     519.91
       1.89   230.29    .740E+06        30.1         0.35     410.09
       2.25   230.65    .122E+07        59.5         0.41     342.49
       2.61   231.01    .180E+07       100.6         0.47     298.58
       2.97   231.37    .248E+07       154.6         0.53     267.22
       3.34   231.74    .326E+07       222.9         0.58     243.40
       3.70   232.10    .413E+07       306.6         0.63     224.51
       4.06   232.46    .510E+07       406.9         0.68     209.05
       4.42   232.82    .617E+07       524.8         0.72     196.10
       4.79   233.19    .734E+07       661.4         0.77     185.06
       5.15   233.55    .861E+07       817.9         0.81     175.49
       5.51   233.91    .998E+07       995.2         0.85     167.10
       5.87   234.27    .114E+08      1194.3         0.89     159.67
       6.24   234.64    .130E+08      1416.3         0.93     153.03
       6.60   235.00    .147E+08      1662.2         0.96     147.05

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (0011) 3099.17    16.33   22.50  41.80      1.62      0.29
    OUTFLOW: ID= 1 (0401) 3099.17    12.26   29.25  41.80      1.54      0.27

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-------------------
| CALIB             |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

    Unit Hyd Qpeak  (cms)=   3.379

    PEAK FLOW       (cms)=   7.314 (i)
    TIME TO PEAK    (hrs)=  36.500
    RUNOFF VOLUME    (mm)=  56.073
    TOTAL RAINFALL   (mm)= 117.800
    RUNOFF COEFFICIENT   =   0.476

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0402) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   7.314    36.50    56.07
       + ID2= 2 (0401):  3099.17  12.262    29.25    41.80
         ================================================
         ID = 3 (0402):  5262.26  19.035    31.00    47.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61  94.050    31.25    48.28
       + ID2= 2 (0402):  5262.26  19.035    31.00    47.66
         ================================================
         ID = 3 (0501): 26734.87 113.072    31.25    48.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0503) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501)	*******	113.07	31.25	48.16	0.76	0.43
OUTFLOW: ID= 1 (0503)	*******	112.95	31.50	48.16	0.76	0.42

RESERVOIR (0510)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	27.8300	83.9600
3.8000	14.0500	*******	101.7400
11.0800	33.6500	*******	145.2700
20.8900	61.8900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0503)	********	112.953	31.50	48.16
OUTFLOW: ID= 1 (0510)	********	112.947	31.50	48.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.99
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 86.4330

ROUTE CHN (0513)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510)	*******	112.95	31.50	48.16	0.76	0.43
OUTFLOW: ID= 1 (0513)	*******	113.02	32.00	48.16	0.76	0.42

ADD HYD (0504)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	9.598	20.25	61.54
+ ID2= 2 (0513):	26734.87	113.016	32.00	48.16
ID = 3 (0504):	27794.75	117.410	31.75	48.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	7.834	27.00	50.98
+ ID2= 2 (0504):	27794.75	117.410	31.75	48.67
ID = 3 (0505):	29422.34	124.714	31.25	48.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40

14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505)	*******	124.71	31.25	48.79	2.59	0.88
OUTFLOW: ID= 1 (0506)	*******	121.52	33.75	48.79	2.56	0.88

RESERVOIR (0512)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	*******	16.2850
DT= 15.0 min	27.2000	3.7650	*******	20.9160
	76.8000	7.7410	*******	25.9120
	*******	11.0650	*******	36.6600
	*******	11.9150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0506)	********	121.516	33.75	48.79
OUTFLOW: ID= 1 (0512)	********	121.503	34.00	48.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.99
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 10.6839

ROUTE CHN (0514)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0512)	*******	121.50	34.00	48.79	2.73	0.92
OUTFLOW: ID= 1 (0514)	*******	121.11	34.75	48.79	2.73	0.92

ADD HYD (0507)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0016):	3094.49	15.998	29.50	62.98
+ ID2= 2 (0514):	29422.34	121.109	34.75	48.79

==========
ID = 3 (0507): 32516.83 136.048 34.50 50.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 6 **

READ STORM	Filename: C:\Users\jscott\AppData\Local\Temp\88073fbd-731f-4992-8e5b-76831528f0f7\ef2ec18b
Ptotal=130.88 mm	Comments: 100yr/24hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	11.13	12.75	4.58	19.00	0.65
0.50	0.65	6.75	11.13	13.00	4.58	19.25	0.65
0.75	0.65	7.00	11.13	13.25	4.58	19.50	0.65
1.00	0.65	7.25	11.13	13.50	4.58	19.75	0.65
1.25	0.65	7.50	11.13	13.75	4.58	20.00	0.65
1.50	0.65	7.75	11.13	14.00	4.58	20.25	0.65
1.75	0.65	8.00	11.13	14.25	4.58	20.50	0.65
2.00	0.65	8.25	11.13	14.50	2.62	20.75	0.65
2.25	0.65	8.50	30.11	14.75	2.62	21.00	0.65
2.50	0.65	8.75	30.11	15.00	2.62	21.25	0.65
2.75	0.65	9.00	30.11	15.25	2.62	21.50	0.65
3.00	0.65	9.25	30.11	15.50	2.62	21.75	0.65
3.25	0.65	9.50	30.11	15.75	2.62	22.00	0.65
3.50	0.65	9.75	30.11	16.00	2.62	22.25	0.65
3.75	0.65	10.00	30.11	16.25	2.62	22.50	0.65
4.00	0.65	10.25	30.11	16.50	1.31	22.75	0.65
4.25	0.65	10.50	8.51	16.75	1.31	23.00	0.65
4.50	3.93	10.75	8.51	17.00	1.31	23.25	0.65
4.75	3.93	11.00	8.51	17.25	1.31	23.50	0.65
5.00	3.93	11.25	8.51	17.50	1.31	23.75	0.65
5.25	3.93	11.50	8.51	17.75	1.31	24.00	0.65
5.50	3.93	11.75	8.51	18.00	1.31	24.25	0.65
5.75	3.93	12.00	8.51	18.25	1.31		
6.00	3.93	12.25	8.51	18.50	0.65		
6.25	3.93	12.50	4.58	18.75	0.65		

CALIB NASHYD (0016)	Area (ha)=3094.49	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 18.10	

Unit Hyd Qpeak (cms)= 6.704

PEAK FLOW (cms)= 18.718 (i)
TIME TO PEAK (hrs)= 29.500
RUNOFF VOLUME (mm)= 73.659
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = 0.563

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0013)	Area (ha)=1627.59	Curve Number (CN)= 65.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 15.50	

Unit Hyd Qpeak (cms)= 4.118

PEAK FLOW (cms)= 9.275 (i)
TIME TO PEAK (hrs)= 27.000
RUNOFF VOLUME (mm)= 60.331
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = 0.461

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0015)	Area (ha)=1059.88	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 9.30	

Unit Hyd Qpeak (cms)= 4.469

PEAK FLOW (cms)= 11.257 (i)
TIME TO PEAK (hrs)= 20.250
RUNOFF VOLUME (mm)= 72.084
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = 0.551

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=  10.114 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  54.968
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   2.468 (i)
     TIME TO PEAK    (hrs)=  26.250
     RUNOFF VOLUME    (mm)=  66.025
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  21.693 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  58.960
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW       (cms)=  12.958 (i)
     TIME TO PEAK    (hrs)=  21.750
     RUNOFF VOLUME    (mm)=  72.084
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.551

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=  12.846 (i)
     TIME TO PEAK    (hrs)=  19.000
     RUNOFF VOLUME    (mm)=  53.676
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.410

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW       (cms)=  12.668 (i)
     TIME TO PEAK    (hrs)=  23.250
     RUNOFF VOLUME    (mm)=  72.084
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.551

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  20.108 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  54.968
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   7.542 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  51.147
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64  20.108    22.25    54.97
        + ID2= 2 (0002):   988.72   7.542    20.25    51.15
          ================================================
          ID = 3 (0101):  3862.36  27.467    21.75    53.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         250.00         0.0700
                 43.00         240.00    0.0700 /0.0350  Main Channel
                 44.00         239.20         0.0350      Main Channel
                 45.00         239.20         0.0350      Main Channel
                 46.00         240.00    0.0350 /0.0700  Main Channel
                 63.50         241.00         0.0700
                 71.00         250.00         0.0700

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   239.60    .642E+04       0.5          0.80      221.73
      0.80   240.00    .171E+05       1.8          1.15      155.20
      1.39   240.59    .764E+05       8.0          1.12      159.62
      1.98   241.18    .214E+06      23.7          1.19      150.23
      2.56   241.76    .385E+06      51.8          1.44      123.91
      3.15   242.35    .575E+06      90.1          1.68      106.38
      3.74   242.94    .784E+06     138.5          1.89       94.40
      4.33   243.53    .101E+07     196.9          2.08       85.71
      4.92   244.12    .126E+07     265.6          2.26       79.08
      5.51   244.71    .153E+07     344.7          2.42       73.81
      6.09   245.29    .181E+07     434.5          2.57       69.50
      6.68   245.88    .212E+07     535.2          2.71       65.89
      7.27   246.47    .244E+07     647.3          2.84       62.81
      7.86   247.06    .278E+07     771.1          2.97       60.13
      8.45   247.65    .314E+07     906.8          3.09       57.77
      9.04   248.24    .352E+07    1054.8          3.20       55.67
      9.62   248.82    .392E+07    1215.5          3.32       53.79
     10.21   249.41    .434E+07    1389.1          3.42       52.09
     10.80   250.00    .478E+07    1576.1          3.53       50.53

                                   <---- hydrograph ---->   <-pipe / channel->
```

```
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    27.47   21.75  53.99      2.06      1.22
     OUTFLOW: ID= 1 (0102) 3862.36    26.23   24.25  53.99      2.02      1.20
```

```
-------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1504.44  12.668    23.25    72.08
       + ID2= 2 (0102):  3862.36  26.232    24.25    53.99
         ================================================
         ID = 3 (0103):  5366.80  38.873    24.00    59.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47  12.846    19.00    53.68
       + ID2= 2 (0103):  5366.80  38.873    24.00    59.06
         ================================================
         ID = 3 (0104):  6811.27  49.757    22.75    57.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.1000
               330.00         235.00    0.1000 /0.0350  Main Channel
               331.00         234.20        0.0350      Main Channel
               332.00         234.20        0.0350      Main Channel
               333.00         235.00    0.0350 /0.1000  Main Channel
               425.00         235.10        0.1000
               698.00         236.00        0.1000
              1101.00         239.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.13   234.33    .490E+03        0.1         0.64      82.66
        0.27   234.47    .112E+04        0.3         0.93      56.72
        0.40   234.60    .189E+04        0.7         1.14      45.94
        0.53   234.73    .280E+04        1.2         1.33      39.64
        0.67   234.87    .385E+04        1.8         1.49      35.34
        0.80   235.00    .504E+04        2.6         1.63      32.16
        0.95   235.15    .442E+05        6.3         0.45     116.42
        1.11   235.31    .128E+06       17.7         0.44     120.51
        1.26   235.46    .247E+06       38.2         0.49     107.48
        1.42   235.62    .400E+06       69.8         0.55      95.60
        1.57   235.77    .589E+06      114.0         0.61      86.08
        1.72   235.92    .812E+06      172.6         0.67      78.45
        1.88   236.08    .107E+07      250.3         0.74      71.19
        2.03   236.23    .135E+07      347.8         0.81      64.71
        2.18   236.38    .165E+07      461.9         0.88      59.65
        2.34   236.54    .198E+07      593.4         0.95      55.58
        2.49   236.69    .233E+07      742.8         1.01      52.21
        2.65   236.85    .270E+07      910.6         1.06      49.36
        2.80   237.00    .309E+07     1097.6         1.12      46.91

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    49.76   22.75  57.92      1.32      0.51
     OUTFLOW: ID= 1 (0105) 6811.27    48.78   24.25  57.92      1.31      0.51
```

```
-------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   3.616 (i)
     TIME TO PEAK    (hrs)=  16.500
     RUNOFF VOLUME    (mm)=  60.331
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.461

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   3.616    16.50    60.33
       + ID2= 2 (0105):  6811.27  48.777    24.25    57.92
         ================================================
         ID = 3 (0106):  7093.24  50.553    24.00    58.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):  1373.84  12.958    21.75    72.08
       + ID2= 2 (0106):  7093.24  50.553    24.00    58.02
         ================================================
         ID = 3 (0107):  8467.08  63.176    23.50    60.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.1000
               400.00         231.00    0.1000 /0.0350  Main Channel
               401.00         229.70        0.0350      Main Channel
               402.00         229.70        0.0350      Main Channel
               404.00         230.50    0.0350 /0.1000  Main Channel
               495.00         231.00        0.1000
              1234.00         256.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.20   229.90    .151E+04        0.1         0.24     395.61
        0.40   230.10    .377E+04        0.2         0.35     274.62
        0.60   230.30    .677E+04        0.5         0.43     222.06
        0.80   230.50    .105E+05        0.9         0.50     190.52
        1.03   230.73    .437E+05        2.0         0.27     356.49
        1.27   230.97    .134E+06        5.0         0.21     448.69
        1.50   231.20    .278E+06       11.4         0.23     405.59
        1.73   231.43    .473E+06       21.6         0.26     364.80
        1.97   231.67    .718E+06       36.0         0.29     332.76
        2.20   231.90    .101E+07       55.1         0.31     306.87
        2.43   232.13    .136E+07       79.4         0.33     285.44
        2.67   232.37    .176E+07      109.6         0.36     267.34
        2.90   232.60    .221E+07      145.9         0.38     251.83
        3.13   232.83    .270E+07      189.0         0.40     238.35
        3.37   233.07    .325E+07      239.3         0.42     226.51
        3.60   233.30    .385E+07      297.1         0.44     216.02
        3.83   233.53    .450E+07      363.0         0.46     206.64
        4.07   233.77    .520E+07      437.3         0.48     198.20
        4.30   234.00    .595E+07      520.5         0.50     190.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    63.18   23.50  60.30      2.28      0.32
     OUTFLOW: ID= 1 (0108) 8467.08    54.64   28.00  60.30      2.19      0.31
```

```
-------------------
| CALIB            |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   5.802 (i)
     TIME TO PEAK    (hrs)=  28.000
     RUNOFF VOLUME    (mm)=  58.960
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32   5.802    28.00    58.96
```

```
       + ID2= 2 (0108):  8467.08  54.645    28.00    60.30
         ==================================================
         ID = 3 (0109):  9569.40  60.447    28.00    60.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  21.693    22.00    58.96
       + ID2= 2 (0109):  9569.40  60.447    28.00    60.14
         ==================================================
         ID = 3 (0110): 12412.16  78.997    26.75    59.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         236.00        0.1000
              275.00         232.00        0.1000
             1039.00         230.00    0.1000 /0.0350  Main Channel
             1040.00         229.20        0.0350      Main Channel
             1041.00         229.20        0.0350      Main Channel
             1043.00         230.00    0.0350 /0.1000  Main Channel
             1117.00         230.60        0.1000
             1325.00         234.00        0.1000

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.20   229.40   .985E+03       0.0          0.14     431.34
      0.40   229.60   .251E+04       0.1          0.20     298.03
      0.60   229.80   .457E+04       0.3          0.25     239.97
      0.80   230.00   .717E+04       0.6          0.29     205.17
      1.07   230.27   .754E+05       2.2          0.11     561.90
      1.33   230.53   .272E+06       8.6          0.11     527.12
      1.60   230.80   .594E+06      22.7          0.14     436.37
      1.87   231.07   .103E+07      46.2          0.16     371.32
      2.13   231.33   .158E+07      80.7          0.18     325.64
      2.40   231.60   .224E+07     127.8          0.20     291.74
      2.67   231.87   .301E+07     189.0          0.22     265.46
      2.93   232.13   .389E+07     271.8          0.25     238.27
      3.20   232.40   .481E+07     376.4          0.28     212.79
      3.47   232.67   .576E+07     496.0          0.31     193.49
      3.73   232.93   .674E+07     630.4          0.33     178.30
      4.00   233.20   .776E+07     779.4          0.36     165.99
      4.27   233.47   .881E+07     943.0          0.38     155.79
      4.53   233.73   .990E+07    1121.1          0.41     147.16
      4.80   234.00   .110E+08    1313.9          0.43     139.76

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0110) *******    79.00   26.75  59.87      2.12      0.18
    OUTFLOW: ID= 1 (0111) *******    67.66   30.75  59.87      2.03      0.17


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-------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   2.468    26.25    66.03
       + ID2= 2 (0111): 12412.16  67.663    30.75    59.87
         ==================================================
         ID = 3 (0112): 12793.89  69.961    30.75    60.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

    Unit Hyd Qpeak  (cms)=   6.679

    PEAK FLOW       (cms)=  12.417 (i)
    TIME TO PEAK    (hrs)=  20.250
    RUNOFF VOLUME    (mm)=  53.676
    TOTAL RAINFALL   (mm)= 130.880
    RUNOFF COEFFICIENT   =   0.410

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

    Unit Hyd Qpeak  (cms)=   8.844

    PEAK FLOW       (cms)=  19.085 (i)
    TIME TO PEAK    (hrs)=  24.500
    RUNOFF VOLUME    (mm)=  58.960
    TOTAL RAINFALL   (mm)= 130.880
    RUNOFF COEFFICIENT   =   0.450

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

    Unit Hyd Qpeak  (cms)=   9.795

    PEAK FLOW       (cms)=  15.685 (i)
    TIME TO PEAK    (hrs)=  22.000
    RUNOFF VOLUME    (mm)=  45.129
    TOTAL RAINFALL   (mm)= 130.880
    RUNOFF COEFFICIENT   =   0.345

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2954.54  19.085    24.50    58.96
       + ID2= 2 (0004):  2672.69  15.685    22.00    45.13
         ==================================================
         ID = 3 (0201):  5627.23  34.465    23.25    52.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         239.00        0.1000
              690.00         230.00    0.1000 /0.0350  Main Channel
              691.00         229.20        0.0350      Main Channel
              692.00         229.20        0.0350      Main Channel
              693.00         229.50    0.0350 /0.1000  Main Channel
             1190.00         230.00        0.1000
             1417.00         255.00        0.1000

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.30   229.50   .347E+04       0.4          0.84     136.57
      0.80   230.00   .864E+06      45.2          0.36     318.78
      1.30   230.50   .265E+07     274.1          0.71     161.20
      1.80   231.00   .459E+07     651.8          0.97     117.24
      2.30   231.50   .667E+07    1165.3          1.20      95.34
      2.80   232.00   .889E+07    1810.2          1.40      81.89
      3.30   232.50   .113E+08    2585.1          1.57      72.65
      3.80   233.00   .138E+08    3490.4          1.73      65.85
      4.30   233.50   .165E+08    4527.4          1.89      60.59
      4.80   234.00   .193E+08    5697.8          2.03      56.38
      5.30   234.50   .222E+08    7003.8          2.16      52.91
      5.80   235.00   .253E+08    8447.7          2.28      50.00
      6.30   235.50   .286E+08   10032.3          2.40      47.52
      6.80   236.00   .320E+08   11760.1          2.52      45.36
      7.30   236.50   .356E+08   13634.1          2.63      43.46
      7.80   237.00   .393E+08   15657.0          2.73      41.78
      8.30   237.50   .431E+08   17831.7          2.84      40.28
      8.80   238.00   .471E+08   20161.3          2.93      38.92
      9.30   238.50   .512E+08   22648.7          3.03      37.69

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0201) 5627.23    34.47   23.25  52.39      0.68      0.42
    OUTFLOW: ID= 1 (0202) 5627.23    30.95   28.75  52.39      0.64      0.44


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```
| ADD HYD   (0203) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97  12.417    20.25    53.68
       + ID2= 2 (0202):  5627.23  30.950    28.75    52.39
         ================================================
         ID = 3 (0203):  7177.20  39.511    26.25    52.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  69.961    30.75    60.06
       + ID2= 2 (0203):  7177.20  39.511    26.25    52.67
         ================================================
         ID = 3 (0301): 19971.09 107.663    29.25    57.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         240.00        0.0700
               110.00         239.00        0.0700
               161.00         238.00        0.0700
               250.00         237.00        0.0700
               420.00         236.00        0.0700
               560.00         235.00        0.0700
               589.00         234.40    0.0700 /0.0350  Main Channel
               589.10         233.60        0.0350      Main Channel
               594.00         233.60        0.0350      Main Channel
               594.10         234.40    0.0350 /0.0700  Main Channel
               615.00         235.00        0.0700
               740.00         236.00        0.0700
               860.00         236.50        0.0700
              1340.00         237.00        0.0700
              1460.00         238.00        0.0700
              1470.00         239.00        0.0700
              1510.00         240.00        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.27  233.87    .770E+04         1.0          0.74     132.49
       0.53  234.13    .155E+05         2.9          1.10      88.48
       0.80  234.40    .234E+05         5.5          1.37      71.19
       1.15  234.75    .636E+05        11.6          1.07      91.11
       1.50  235.10    .169E+06        24.5          0.85     114.97
       1.85  235.45    .431E+06        54.5          0.74     131.62
       2.20  235.80    .882E+06       117.3          0.78     125.39
       2.55  236.15    .153E+07       218.3          0.83     117.06
       2.90  236.50    .246E+07       375.3          0.89     109.30
       3.25  236.85    .394E+07       579.0          0.86     113.45
       3.60  237.20    .612E+07      1010.3          0.97     101.01
       3.95  237.55    .851E+07      1631.3          1.12      86.99
       4.30  237.90    .111E+08      2391.8          1.27      77.05
       4.65  238.25    .137E+08      3337.5          1.42      68.52
       5.00  238.60    .164E+08      4438.7          1.58      61.71
       5.35  238.95    .192E+08      5671.0          1.73      56.40
       5.70  239.30    .220E+08      6955.1          1.85      52.75
       6.05  239.65    .249E+08      8355.2          1.96      49.76
       6.40  240.00    .280E+08      9884.7          2.07      47.18

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0301) *******   107.66   29.25  57.40      2.15      0.77
     OUTFLOW: ID= 1 (0302) *******   105.59   31.50  57.40      2.13      0.77
```

```
-------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52  10.114    22.75    54.97
       + ID2= 2 (0302): 19971.09 105.590    31.50    57.40
         ================================================
         ID = 3 (0303): 21472.61 112.839    31.00    57.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| CALIB             |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=  19.517 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  49.909
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.381

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         236.00        0.0500
                72.00         235.00        0.0500
               492.00         230.00        0.0500
               581.00         229.20    0.0500 /0.0350  Main Channel
               582.00         228.40        0.0350      Main Channel
               583.00         228.40        0.0350      Main Channel
               584.00         229.20    0.0350 /0.0500  Main Channel
               588.00         229.20        0.0500
               607.00         230.00        0.0500
               627.00         235.00        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.27  228.67    .302E+04         0.1          0.21     666.69
       0.53  228.93    .756E+04         0.3          0.30     465.92
       0.80  229.20    .136E+05         0.6          0.37     377.99
       1.16  229.56    .111E+06         3.0          0.23     616.66
       1.52  229.92    .358E+06        11.5          0.27     519.91
       1.89  230.29    .740E+06        30.1          0.35     410.09
       2.25  230.65    .122E+07        59.5          0.41     342.49
       2.61  231.01    .180E+07       100.6          0.47     298.58
       2.97  231.37    .248E+07       154.6          0.53     267.22
       3.34  231.74    .326E+07       222.9          0.58     243.40
       3.70  232.10    .413E+07       306.6          0.63     224.51
       4.06  232.46    .510E+07       406.9          0.68     209.05
       4.42  232.82    .617E+07       524.8          0.72     196.10
       4.79  233.19    .734E+07       661.4          0.77     185.06
       5.15  233.55    .861E+07       817.9          0.81     175.49
       5.51  233.91    .998E+07       995.2          0.85     167.10
       5.87  234.27    .114E+08      1194.3          0.89     159.67
       6.24  234.64    .130E+08      1416.3          0.93     153.03
       6.60  235.00    .147E+08      1662.2          0.96     147.05

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17    19.52   22.50  49.91      1.68      0.30
     OUTFLOW: ID= 1 (0401) 3099.17    14.77   29.00  49.91      1.59      0.28
```

```
-------------------
| CALIB             |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   8.614 (i)
     TIME TO PEAK    (hrs)=  36.500
     RUNOFF VOLUME    (mm)=  66.025
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   8.614    36.50    66.03
       + ID2= 2 (0401):  3099.17  14.771    29.00    49.91
         ================================================
         ID = 3 (0402):  5262.26  22.690    30.75    56.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (0501) |
```

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61 112.830    31.00    57.23
       + ID2= 2 (0402):  5262.26  22.690    30.75    56.53
         ================================================
         ID = 3 (0501): 26734.87 135.523    31.00    57.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.0700
               425.00         235.00        0.0700
               445.00         234.00        0.0700
               480.00         233.50        0.0700
              1535.00         233.50    0.0700 /0.0350  Main Channel
              1536.50         232.70        0.0350      Main Channel
              1537.50         232.70        0.0350      Main Channel
              1540.00         233.50    0.0350 /0.0700  Main Channel
              1605.00         233.20        0.0700
              1610.00         233.10        0.0700
              2135.00         233.10        0.0700
              2440.00         233.50        0.0700
              2505.00         233.50        0.0700
              2530.00         234.00        0.0700
              2535.00         235.00        0.0700
              2540.00         236.00        0.0700
              2605.00         238.00        0.0700
              2645.00         241.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.20   232.90   .385E+03       0.2         0.55       38.92
      0.40   233.10   .103E+04       0.6         0.80       26.75
      0.60   233.30   .159E+06      39.5         0.32       67.02
      0.80   233.50   .366E+06     133.3         0.47       45.74
      1.03   233.73   .977E+06     428.7         0.56       37.97
      1.27   233.97   .160E+07     914.3         0.74       29.09
      1.50   234.20   .222E+07    1556.9         0.90       23.78
      1.73   234.43   .285E+07    2336.2         1.05       20.32
      1.97   234.67   .348E+07    3240.2         1.20       17.88
      2.20   234.90   .411E+07    4260.9         1.33       16.07
      2.43   235.13   .474E+07    5359.1         1.45       14.75
      2.67   235.37   .539E+07    6537.6         1.56       13.74
      2.90   235.60   .605E+07    7819.4         1.66       12.90
      3.13   235.83   .673E+07    9203.8         1.76       12.19
      3.37   236.07   .743E+07   10683.6         1.85       11.59
      3.60   236.30   .814E+07   12247.8         1.93       11.07
      3.83   236.53   .887E+07   13912.8         2.01       10.62
      4.07   236.77   .961E+07   15679.0         2.09       10.22
      4.30   237.00   .104E+08   17546.8         2.17        9.85

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0501) *******   135.52   31.00  57.09      0.80      0.47
     OUTFLOW: ID= 1 (0503) *******   135.33   31.50  57.09      0.80      0.47


--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |  27.8300    83.9600
                          3.8000     14.0500   |  *******   101.7400
                         11.0800     33.6500   |  *******   145.2700
                         20.8900     61.8900   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0503)  ********   135.326     31.50      57.09
     OUTFLOW: ID= 1 (0510)  ********   135.318     31.75      57.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.99
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED        (ha.m.)= 87.0832

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-------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.0700
               425.00         235.00        0.0700
               445.00         234.00        0.0700
               480.00         233.50        0.0700
              1535.00         233.50    0.0700 /0.0350  Main Channel
              1536.50         232.70        0.0350      Main Channel
              1537.50         232.70        0.0350      Main Channel
              1540.00         233.50    0.0350 /0.0700  Main Channel
              1605.00         233.20        0.0700
              1610.00         233.10        0.0700
              2135.00         233.10        0.0700
              2440.00         233.50        0.0700
              2505.00         233.50        0.0700
              2530.00         234.00        0.0700
              2535.00         235.00        0.0700
              2540.00         236.00        0.0700
              2605.00         238.00        0.0700
              2645.00         241.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.20   232.90   .291E+03       0.2         0.55       29.43
      0.40   233.10   .777E+03       0.6         0.80       20.23
      0.60   233.30   .120E+06      39.5         0.32       50.68
      0.80   233.50   .277E+06     133.3         0.47       34.59
      1.03   233.73   .739E+06     428.7         0.56       28.72
      1.27   233.97   .121E+07     914.3         0.74       22.00
      1.50   234.20   .168E+07    1556.9         0.90       17.98
      1.73   234.43   .215E+07    2336.2         1.05       15.37
      1.97   234.67   .263E+07    3240.2         1.20       13.52
      2.20   234.90   .311E+07    4260.9         1.33       12.15
      2.43   235.13   .359E+07    5359.1         1.45       11.15
      2.67   235.37   .408E+07    6537.6         1.56       10.39
      2.90   235.60   .458E+07    7819.4         1.66        9.76
      3.13   235.83   .509E+07    9203.8         1.76        9.22
      3.37   236.07   .562E+07   10683.6         1.85        8.76
      3.60   236.30   .615E+07   12247.8         1.93        8.37
      3.83   236.53   .670E+07   13912.8         2.01        8.03
      4.07   236.77   .727E+07   15679.0         2.09        7.73
      4.30   237.00   .784E+07   17546.8         2.17        7.45

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0510) *******   135.32   31.75  57.09      0.80      0.47
     OUTFLOW: ID= 1 (0513) *******   135.19   32.25  57.09      0.80      0.47


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (0504) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0015):  1059.88  11.257    20.25    72.08
       + ID2= 2 (0513): 26734.87 135.188    32.25    57.09
         ================================================
         ID = 3 (0504): 27794.75 140.420    31.25    57.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0505) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0013):  1627.59   9.275    27.00    60.33
       + ID2= 2 (0504): 27794.75 140.420    31.25    57.67
         ================================================
         ID = 3 (0505): 29422.34 149.210    30.75    57.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         251.00        0.0500
               323.00         238.00        0.0500
               400.00         229.00        0.0500
               545.00         228.00        0.0500
               602.00         226.00        0.0500
               604.00         225.80    0.0500 /0.0350  Main Channel
               605.00         225.00        0.0350      Main Channel
               609.00         225.00        0.0350      Main Channel
               610.00         225.80    0.0350 /0.0500  Main Channel
               614.00         226.00        0.0500
               650.00         227.00        0.0500
               810.00         229.50        0.0500
              1855.00         240.00        0.0500
              2617.00         259.00        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505)	*******	149.21	30.75	57.81	2.74	0.89
OUTFLOW: ID= 1 (0506)	*******	146.12	33.50	57.81	2.72	0.89

RESERVOIR (0512)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	16.2850
	27.2000	3.7650	*******	20.9160
	76.8000	7.7410	*******	25.9120
	*******	11.0650	*******	36.6600
	*******	11.9150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0506)	********	146.118	33.50	57.81
OUTFLOW: ID= 1 (0512)	********	146.170	33.75	57.81

PEAK FLOW REDUCTION [Qout/Qin](%)=100.04
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 11.1190

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ROUTE CHN (0514)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0512)	*******	146.17	33.75	57.81	2.88	0.95
OUTFLOW: ID= 1 (0514)	*******	145.71	34.25	57.81	2.87	0.94

ADD HYD (0507)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	3094.49	18.718	29.50	73.66
+ ID2= 2 (0514):	29422.34	145.709	34.25	57.81
ID = 3 (0507):	32516.83	163.388	34.00	59.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

EXISTING
BLACK RIVER REGIONAL STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I      SS   U   U  AAAAA  L
         V V    I       SS  U   U A   A  L
          VV    I    SSSSS  UUUUU A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO               Serial
```


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
Output filename: C:\Users\jscott\AppData\Local\Temp\adf6531f-2fd9-4ba7-8cd9-5205a923b97a\Scenario.out
Summary filename: C:\Users\jscott\AppData\Local\Temp\adf6531f-2fd9-4ba7-8cd9-5205a923b97a\Scenario.sum

DATE: 08/22/2012 TIME: 11:59:27

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

READ STORM	Filename: C:\Users\jscott\AppData\Local\Temp\adf6531f-2fd9-4ba7-8cd9-5205a923b97a\d2aa967d
Ptotal=212.00 mm	Comments: * REGIONAL DESIGN STORM

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.20	6.00	3.20	13.00	6.20	23.00	9.20	53.00
0.40	6.00	3.40	13.00	6.40	23.00	9.40	53.00
0.60	6.00	3.60	13.00	6.60	23.00	9.60	53.00
0.80	6.00	3.80	13.00	6.80	23.00	9.80	53.00
1.00	6.00	4.00	13.00	7.00	23.00	10.00	53.00
1.20	4.00	4.20	17.00	7.20	13.00	10.20	38.00
1.40	4.00	4.40	17.00	7.40	13.00	10.40	38.00
1.60	4.00	4.60	17.00	7.60	13.00	10.60	38.00
1.80	4.00	4.80	17.00	7.80	13.00	10.80	38.00
2.00	4.00	5.00	17.00	8.00	13.00	11.00	38.00
2.20	6.00	5.20	13.00	8.20	13.00	11.20	13.00
2.40	6.00	5.40	13.00	8.40	13.00	11.40	13.00
2.60	6.00	5.60	13.00	8.60	13.00	11.60	13.00
2.80	6.00	5.80	13.00	8.80	13.00	11.80	13.00
3.00	6.00	6.00	13.00	9.00	13.00	12.00	13.00

MODIFY STORM	MODIFYING PARAMETERS
CASE= 1	Multiplication Factor= 0.99
	Time shift (min) = 0.00

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.200	5.95	3.200	12.90	6.200	22.82	9.20	52.58
0.400	5.95	3.400	12.90	6.400	22.82	9.40	52.58
0.600	5.95	3.600	12.90	6.600	22.82	9.60	52.58
0.800	5.95	3.800	12.90	6.800	22.82	9.80	52.58
1.000	5.95	4.000	12.90	7.000	22.82	10.00	52.58
1.200	3.97	4.200	16.86	7.200	12.90	10.20	37.70
1.400	3.97	4.400	16.86	7.400	12.90	10.40	37.70
1.600	3.97	4.600	16.86	7.600	12.90	10.60	37.70
1.800	3.97	4.800	16.86	7.800	12.90	10.80	37.70
2.000	3.97	5.000	16.86	8.000	12.90	11.00	37.70
2.200	5.95	5.200	12.90	8.200	12.90	11.20	12.90
2.400	5.95	5.400	12.90	8.400	12.90	11.40	12.90
2.600	5.95	5.600	12.90	8.600	12.90	11.60	12.90
2.800	5.95	5.800	12.90	8.800	12.90	11.80	12.90
3.000	5.95	6.000	12.90	9.000	12.90	12.00	12.90

CALIB	
NASHYD (0016)	Area (ha)=3094.49 Curve Number (CN)= 88.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 18.10

NOTE: RAINFALL WAS TRANSFORMED TO 15.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.250	5.95	3.250	12.90	6.250	22.82	9.25	52.58
0.500	5.95	3.500	12.90	6.500	22.82	9.50	52.58
0.750	5.95	3.750	12.90	6.750	22.82	9.75	52.58
1.000	5.95	4.000	12.90	7.000	22.82	10.00	52.58
1.250	3.97	4.250	16.86	7.250	12.90	10.25	37.70
1.500	3.97	4.500	16.86	7.500	12.90	10.50	37.70
1.750	3.97	4.750	16.86	7.750	12.90	10.75	37.70
2.000	3.97	5.000	16.86	8.000	12.90	11.00	37.70
2.250	5.95	5.250	12.90	8.250	12.90	11.25	12.90
2.500	5.95	5.500	12.90	8.500	12.90	11.50	12.90
2.750	5.95	5.750	12.90	8.750	12.90	11.75	12.90
3.000	5.95	6.000	12.90	9.000	12.90	12.00	12.90

Unit Hyd Qpeak (cms)= 6.704

PEAK FLOW (cms)= 45.605 (i)
TIME TO PEAK (hrs)= 26.750
RUNOFF VOLUME (mm)= 175.668
TOTAL RAINFALL (mm)= 210.304
RUNOFF COEFFICIENT = 0.835

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0013)	Area (ha)=1627.59 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 15.50

Unit Hyd Qpeak (cms)= 4.118

PEAK FLOW (cms)= 25.641 (i)
TIME TO PEAK (hrs)= 24.250
RUNOFF VOLUME (mm)= 161.456
TOTAL RAINFALL (mm)= 210.304
RUNOFF COEFFICIENT = 0.768

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0015)	Area (ha)=1059.88 Curve Number (CN)= 87.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 9.30

Unit Hyd Qpeak (cms)= 4.469

PEAK FLOW (cms)= 28.804 (i)
TIME TO PEAK (hrs)= 18.250
RUNOFF VOLUME (mm)= 173.272
TOTAL RAINFALL (mm)= 210.304
RUNOFF COEFFICIENT = 0.824

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0012)	Area (ha)=1501.52 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 11.50

Unit Hyd Qpeak (cms)= 5.120

PEAK FLOW (cms)= 29.637 (i)
TIME TO PEAK (hrs)= 20.500
RUNOFF VOLUME (mm)= 152.196
TOTAL RAINFALL (mm)= 210.304
RUNOFF COEFFICIENT = 0.724

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0093)	Area (ha)= 381.73 Curve Number (CN)= 84.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 14.90

Unit Hyd Qpeak (cms)= 1.005

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     PEAK FLOW      (cms)=   6.424 (i)
     TIME TO PEAK   (hrs)=  23.500
     RUNOFF VOLUME   (mm)= 166.150
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.790

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW      (cms)=  62.126 (i)
     TIME TO PEAK   (hrs)=  19.750
     RUNOFF VOLUME   (mm)= 159.125
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.757

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0007) |   Area    (ha)=1373.84   Curve Number   (CN)= 87.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   5.035

     PEAK FLOW      (cms)=  32.872 (i)
     TIME TO PEAK   (hrs)=  19.500
     RUNOFF VOLUME   (mm)= 173.272
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.824

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW      (cms)=  39.691 (i)
     TIME TO PEAK   (hrs)=  17.000
     RUNOFF VOLUME   (mm)= 152.196
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.724

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0006) |   Area    (ha)=1504.44   Curve Number   (CN)= 87.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.836

     PEAK FLOW      (cms)=  31.870 (i)
     TIME TO PEAK   (hrs)=  21.000
     RUNOFF VOLUME   (mm)= 173.272
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.824

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW      (cms)=  59.124 (i)
     TIME TO PEAK   (hrs)=  20.000
     RUNOFF VOLUME   (mm)= 152.196
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.724

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW      (cms)=  23.509 (i)
     TIME TO PEAK   (hrs)=  18.250
     RUNOFF VOLUME   (mm)= 147.628
     TOTAL RAINFALL  (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.702

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64  59.124    20.00   152.20
       + ID2= 2 (0002):   988.72  23.509    18.25   147.63
         ================================================
         ID = 3 (0101):  3862.36  82.078    19.25   151.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        250.00        0.0700
                 43.00        240.00    0.0700 /0.0350  Main Channel
                 44.00        239.20        0.0350      Main Channel
                 45.00        239.20        0.0350      Main Channel
                 46.00        240.00    0.0350 /0.0700  Main Channel
                 63.50        241.00        0.0700
                 71.00        250.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)       (cms)        (m/s)      (min)
        0.40   239.60    .642E+04         0.5          0.80     221.73
        0.80   240.00    .171E+05         1.8          1.15     155.20
        1.39   240.59    .764E+05         8.0          1.12     159.62
        1.98   241.18    .214E+06        23.7          1.19     150.23
        2.56   241.76    .385E+06        51.8          1.44     123.91
        3.15   242.35    .575E+06        90.1          1.68     106.38
        3.74   242.94    .784E+06       138.5          1.89      94.40
        4.33   243.53    .101E+07       196.9          2.08      85.71
        4.92   244.12    .126E+07       265.6          2.26      79.08
        5.51   244.71    .153E+07       344.7          2.42      73.81
        6.09   245.29    .181E+07       434.5          2.57      69.50
        6.68   245.88    .212E+07       535.2          2.71      65.89
        7.27   246.47    .244E+07       647.3          2.84      62.81
        7.86   247.06    .278E+07       771.1          2.97      60.13
        8.45   247.65    .314E+07       906.8          3.09      57.77
        9.04   248.24    .352E+07      1054.8          3.20      55.67
        9.62   248.82    .392E+07      1215.5          3.32      53.79
       10.21   249.41    .434E+07      1389.1          3.42      52.09
       10.80   250.00    .478E+07      1576.1          3.53      50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    82.08   19.25 151.03      3.03      1.62
     OUTFLOW: ID= 1 (0102) 3862.36    79.95   20.75 151.03      2.99      1.60

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-------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1504.44  31.870    21.00   173.27
       + ID2= 2 (0102):  3862.36  79.949    20.75   151.03
         ================================================
         ID = 3 (0103):  5366.80 111.814    20.75   157.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47  39.691    17.00   152.20
       + ID2= 2 (0103):  5366.80 111.814    20.75   157.26
         ================================================
```

```
          ID = 3 (0104):  6811.27 146.613    19.75   156.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.1000
                 330.00         235.00    0.1000 /0.0350  Main Channel
                 331.00         234.20        0.0350      Main Channel
                 332.00         234.20        0.0350      Main Channel
                 333.00         235.00    0.0350 /0.1000  Main Channel
                 425.00         235.10        0.1000
                 698.00         236.00        0.1000
                1101.00         239.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.13   234.33    .490E+03         0.1          0.64       82.66
        0.27   234.47    .112E+04         0.3          0.93       56.72
        0.40   234.60    .189E+04         0.7          1.14       45.94
        0.53   234.73    .280E+04         1.2          1.33       39.64
        0.67   234.87    .385E+04         1.8          1.49       35.34
        0.80   235.00    .504E+04         2.6          1.63       32.16
        0.95   235.15    .442E+05         6.3          0.45      116.42
        1.11   235.31    .128E+06        17.7          0.44      120.51
        1.26   235.46    .247E+06        38.2          0.49      107.48
        1.42   235.62    .400E+06        69.8          0.55       95.60
        1.57   235.77    .589E+06       114.0          0.61       86.08
        1.72   235.92    .812E+06       172.6          0.67       78.45
        1.88   236.08    .107E+07       250.3          0.74       71.19
        2.03   236.23    .135E+07       347.8          0.81       64.71
        2.18   236.38    .165E+07       461.9          0.88       59.65
        2.34   236.54    .198E+07       593.4          0.95       55.58
        2.49   236.69    .233E+07       742.8          1.01       52.21
        2.65   236.85    .270E+07       910.6          1.06       49.36
        2.80   237.00    .309E+07      1097.6          1.12       46.91

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27   146.61   19.75 150.19      1.65      0.64
     OUTFLOW: ID= 1 (0105) 6811.27   144.30   21.00 156.19      1.65      0.64


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=  10.743 (i)
     TIME TO PEAK    (hrs)=  15.000
     RUNOFF VOLUME    (mm)= 161.456
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.768

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97  10.743    15.00   161.46
       + ID2= 2 (0105):  6811.27 144.301    21.00   156.19
         ================================================
         ID = 3 (0106):  7093.24 150.071    20.50   156.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):  1373.84  32.872    19.50   173.27
       + ID2= 2 (0106):  7093.24 150.071    20.50   156.40
         ================================================
         ID = 3 (0107):  8467.08 182.659    20.50   159.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         234.00        0.1000
                 400.00         231.00    0.1000 /0.0350  Main Channel
                 401.00         229.70        0.0350      Main Channel
                 402.00         229.70        0.0350      Main Channel
                 404.00         230.50    0.0350 /0.1000  Main Channel
                 495.00         231.00        0.1000
                1234.00         256.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.20   229.90    .151E+04         0.1          0.24      395.61
        0.40   230.10    .377E+04         0.2          0.35      274.62
        0.60   230.30    .677E+04         0.5          0.43      222.06
        0.80   230.50    .105E+05         0.9          0.50      190.52
        1.03   230.73    .437E+05         2.0          0.27      356.49
        1.27   230.97    .134E+06         5.0          0.21      448.69
        1.50   231.20    .278E+06        11.4          0.23      405.59
        1.73   231.43    .473E+06        21.6          0.26      364.80
        1.97   231.67    .718E+06        36.0          0.29      332.76
        2.20   231.90    .101E+07        55.1          0.31      306.87
        2.43   232.13    .136E+07        79.4          0.33      285.44
        2.67   232.37    .176E+07       109.6          0.36      267.34
        2.90   232.60    .221E+07       145.9          0.38      251.83
        3.13   232.83    .270E+07       189.0          0.40      238.35
        3.37   233.07    .325E+07       239.3          0.42      226.51
        3.60   233.30    .385E+07       297.1          0.44      216.02
        3.83   233.53    .450E+07       363.0          0.46      206.64
        4.07   233.77    .520E+07       437.3          0.48      198.20
        4.30   234.00    .595E+07       520.5          0.50      190.55

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08   182.66   20.50 159.13      3.10      0.40
     OUTFLOW: ID= 1 (0108) 8467.08   159.93   24.00 159.13      2.97      0.38


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-------------------
| CALIB             |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=  16.118 (i)
     TIME TO PEAK    (hrs)=  25.250
     RUNOFF VOLUME    (mm)= 159.125
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.757

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32  16.118    25.25   159.13
       + ID2= 2 (0108):  8467.08 159.933    24.00   159.13
         ================================================
         ID = 3 (0109):  9569.40 175.954    24.00   159.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  62.126    19.75   159.13
       + ID2= 2 (0109):  9569.40 175.954    24.00   159.13
         ================================================
         ID = 3 (0110): 12412.16 231.783    23.00   159.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         236.00        0.1000
                 275.00         232.00        0.1000
```

```
             1039.00        230.00    0.1000 /0.0350  Main Channel
             1040.00        229.20       0.0350       Main Channel
             1041.00        229.20       0.0350       Main Channel
             1043.00        230.00    0.0350 /0.1000  Main Channel
             1117.00        230.60       0.1000
             1325.00        234.00       0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.20   229.40    .985E+03       0.0         0.14      431.34
        0.40   229.60    .251E+04       0.1         0.20      298.03
        0.60   229.80    .457E+04       0.3         0.25      239.97
        0.80   230.00    .717E+04       0.6         0.29      205.17
        1.07   230.27    .754E+05       2.2         0.11      561.90
        1.33   230.53    .272E+06       8.6         0.11      527.12
        1.60   230.80    .594E+06      22.7         0.14      436.37
        1.87   231.07    .103E+07      46.2         0.16      371.32
        2.13   231.33    .158E+07      80.7         0.18      325.64
        2.40   231.60    .224E+07     127.8         0.20      291.74
        2.67   231.87    .301E+07     189.0         0.22      265.46
        2.93   232.13    .389E+07     271.8         0.25      238.27
        3.20   232.40    .481E+07     376.4         0.28      212.79
        3.47   232.67    .576E+07     496.0         0.31      193.49
        3.73   232.93    .674E+07     630.4         0.33      178.30
        4.00   233.20    .776E+07     779.4         0.36      165.99
        4.27   233.47    .881E+07     943.0         0.38      155.79
        4.53   233.73    .990E+07    1121.1         0.41      147.16
        4.80   234.00    .110E+08    1313.9         0.43      139.76

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)     (cms)    (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0110) *******   231.78   23.00 159.13      2.80      0.24
     OUTFLOW: ID= 1 (0111) *******   203.20   26.50 159.13      2.71      0.23


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| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   6.424    23.50    166.15
       + ID2= 2 (0111): 12412.16 203.203    26.50    159.13
         ================================================
         ID = 3 (0112): 12793.89 209.409    26.50    159.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=  37.954 (i)
     TIME TO PEAK    (hrs)=  18.000
     RUNOFF VOLUME    (mm)= 152.196
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.724

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0003) |   Area    (ha)=2954.54   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.844

     PEAK FLOW       (cms)=  53.877 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)= 159.125
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.757

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0004) |   Area    (ha)=2672.69   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.795

     PEAK FLOW       (cms)=  51.500 (i)
     TIME TO PEAK    (hrs)=  19.750

     RUNOFF VOLUME    (mm)= 138.613
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.659

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2954.54  53.877    22.00    159.13
       + ID2= 2 (0004):  2672.69  51.500    19.75    138.61
         ================================================
         ID = 3 (0201):  5627.23 104.474    20.75    149.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         239.00         0.1000
               690.00         230.00    0.1000 /0.0350  Main Channel
               691.00         229.20       0.0350       Main Channel
               692.00         229.20       0.0350       Main Channel
               693.00         229.50    0.0350 /0.1000  Main Channel
              1190.00         230.00       0.1000
              1417.00         255.00       0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.30   229.50    .347E+04       0.4         0.84      136.57
        0.80   230.00    .864E+06      45.2         0.36      318.78
        1.30   230.50    .265E+07     274.1         0.71      161.20
        1.80   231.00    .459E+07     651.8         0.97      117.24
        2.30   231.50    .667E+07    1165.3         1.20       95.34
        2.80   232.00    .889E+07    1810.2         1.40       81.89
        3.30   232.50    .113E+08    2585.1         1.57       72.65
        3.80   233.00    .138E+08    3490.4         1.73       65.85
        4.30   233.50    .165E+08    4527.4         1.89       60.59
        4.80   234.00    .193E+08    5697.8         2.03       56.38
        5.30   234.50    .222E+08    7003.8         2.16       52.91
        5.80   235.00    .253E+08    8447.7         2.28       50.00
        6.30   235.50    .286E+08   10032.3         2.40       47.52
        6.80   236.00    .320E+08   11760.1         2.52       45.36
        7.30   236.50    .356E+08   13634.1         2.63       43.46
        7.80   237.00    .393E+08   15657.0         2.73       41.78
        8.30   237.50    .431E+08   17831.7         2.84       40.28
        8.80   238.00    .471E+08   20161.3         2.93       38.92
        9.30   238.50    .512E+08   22648.7         3.03       37.69

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)     (cms)    (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23   104.47   20.75 149.38      0.93      0.41
     OUTFLOW: ID= 1 (0202) 5627.23    91.05   25.25 149.38      0.90      0.40


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-------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97  37.954    18.00    152.20
       + ID2= 2 (0202):  5627.23  91.050    25.25    149.38
         ================================================
         ID = 3 (0203):  7177.20 118.815    23.25    149.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89 209.409    26.50    159.34
       + ID2= 2 (0203):  7177.20 118.815    23.25    149.99
         ================================================
         ID = 3 (0301): 19971.09 323.828    25.25    155.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```
            <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
               0.00         240.00        0.0700
             110.00         239.00        0.0700
             161.00         238.00        0.0700
             250.00         237.00        0.0700
             420.00         236.00        0.0700
             560.00         235.00        0.0700
             589.00         234.40    0.0700 /0.0350  Main Channel
             589.10         233.60       0.0350       Main Channel
             594.00         233.60       0.0350       Main Channel
             594.10         234.40    0.0350 /0.0700  Main Channel
             615.00         235.00        0.0700
             740.00         236.00        0.0700
             860.00         236.50        0.0700
            1340.00         237.00        0.0700
            1460.00         238.00        0.0700
            1470.00         239.00        0.0700
            1510.00         240.00        0.0700

   <--------------------- TRAVEL TIME TABLE ---------------------->
    DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
     (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
    0.27   233.87    .770E+04       1.0          0.74      132.49
    0.53   234.13    .155E+05       2.9          1.10       88.48
    0.80   234.40    .234E+05       5.5          1.37       71.19
    1.15   234.75    .636E+05      11.6          1.07       91.11
    1.50   235.10    .169E+06      24.5          0.85      114.97
    1.85   235.45    .431E+06      54.5          0.74      131.62
    2.20   235.80    .882E+06     117.3          0.78      125.39
    2.55   236.15    .153E+07     218.3          0.83      117.06
    2.90   236.50    .246E+07     375.3          0.89      109.30
    3.25   236.85    .394E+07     579.0          0.86      113.45
    3.60   237.20    .612E+07    1010.3          0.97      101.01
    3.95   237.55    .851E+07    1631.3          1.12       86.99
    4.30   237.90    .111E+08    2391.8          1.27       77.05
    4.65   238.25    .137E+08    3337.5          1.42       68.52
    5.00   238.60    .164E+08    4438.7          1.58       61.71
    5.35   238.95    .192E+08    5671.0          1.73       56.40
    5.70   239.30    .220E+08    6955.1          1.85       52.75
    6.05   239.65    .249E+08    8355.2          1.96       49.76
    6.40   240.00    .280E+08    9884.7          2.07       47.18

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0301) *******   323.83   25.25 155.98      2.79      0.87
     OUTFLOW: ID= 1 (0302) *******   317.46   27.00 155.98      2.77      0.87


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52  29.637    20.50   152.20
       + ID2= 2 (0302): 19971.09 317.457    27.00   155.98
         ================================================
         ID = 3 (0303): 21472.61 340.661    26.75   155.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=  60.453 (i)
     TIME TO PEAK    (hrs)=  20.000
     RUNOFF VOLUME    (mm)= 145.359
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.691

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

            <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
                0.00         236.00        0.0500
               72.00         235.00        0.0500
              492.00         230.00        0.0500
              581.00         229.20    0.0500 /0.0350  Main Channel
              582.00         228.40       0.0350       Main Channel
              583.00         228.40       0.0350       Main Channel
              584.00         229.20    0.0350 /0.0500  Main Channel
              588.00         229.20       0.0500
              607.00         230.00       0.0500
              627.00         235.00       0.0500

   <--------------------- TRAVEL TIME TABLE ---------------------->
    DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
     (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
    0.27   228.67    .302E+04       0.1          0.21      666.69
    0.53   228.93    .756E+04       0.3          0.30      465.92
    0.80   229.20    .136E+05       0.6          0.37      377.99
    1.16   229.56    .111E+06       3.0          0.23      616.66
    1.52   229.92    .358E+06      11.5          0.27      519.91
    1.89   230.29    .740E+06      30.1          0.35      410.09
    2.25   230.65    .122E+07      59.5          0.41      342.49
    2.61   231.01    .180E+07     100.6          0.47      298.58
    2.97   231.37    .248E+07     154.6          0.53      267.22
    3.34   231.74    .326E+07     222.9          0.58      243.40
    3.70   232.10    .413E+07     306.6          0.63      224.51
    4.06   232.46    .510E+07     406.9          0.68      209.05
    4.42   232.82    .617E+07     524.8          0.72      196.10
    4.79   233.19    .734E+07     661.4          0.77      185.06
    5.15   233.55    .861E+07     817.9          0.81      175.49
    5.51   233.91    .998E+07     995.2          0.85      167.10
    5.87   234.27    .114E+08    1194.3          0.89      159.67
    6.24   234.64    .130E+08    1416.3          0.93      153.03
    6.60   235.00    .147E+08    1662.2          0.96      147.05

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17    60.45   20.00 145.36      2.26      0.41
     OUTFLOW: ID= 1 (0401) 3099.17    49.03   24.50 145.36      2.12      0.39


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-------------------
| CALIB            |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=  21.922 (i)
     TIME TO PEAK    (hrs)=  33.750
     RUNOFF VOLUME    (mm)= 166.150
     TOTAL RAINFALL   (mm)= 210.304
     RUNOFF COEFFICIENT   =   0.790

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09  21.922    33.75   166.15
       + ID2= 2 (0401):  3099.17  49.034    24.50   145.36
         ================================================
         ID = 3 (0402):  5262.26  67.923    26.00   153.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61 340.661    26.75   155.72
       + ID2= 2 (0402):  5262.26  67.923    26.00   153.90
         ================================================
         ID = 3 (0501): 26734.87 408.399    26.75   155.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

            <------ DATA FOR SECTION (   1.1) ------>
            Distance      Elevation       Manning
               0.00         237.00        0.0700
             425.00         235.00        0.0700
             445.00         234.00        0.0700
             480.00         233.50        0.0700
            1535.00         233.50    0.0700 /0.0350  Main Channel
            1536.50         232.70       0.0350       Main Channel
            1537.50         232.70       0.0350       Main Channel
            1540.00         233.50    0.0350 /0.0700  Main Channel
            1605.00         233.20        0.0700
            1610.00         233.10        0.0700
            2135.00         233.10        0.0700
            2440.00         233.50        0.0700
```

2505.00	233.50	0.0700
2530.00	234.00	0.0700
2535.00	235.00	0.0700
2540.00	236.00	0.0700
2605.00	238.00	0.0700
2645.00	241.00	0.0700

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501) *******	408.40	26.75	155.36	1.02	0.56	
OUTFLOW: ID= 1 (0503) *******	407.94	27.00	155.36	1.02	0.56	

ROUTE CHN (0513)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0503) *******	407.94	27.00	155.36	1.02	0.56	
OUTFLOW: ID= 1 (0513) *******	407.62	27.50	155.36	1.02	0.56	

ADD HYD (0504)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	28.804	18.25	173.27
+ ID2= 2 (0513):	26734.87	407.621	27.50	155.36
ID = 3 (0504):	27794.75	423.238	27.25	156.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	25.641	24.25	161.46
+ ID2= 2 (0504):	27794.75	423.238	27.25	156.04
ID = 3 (0505):	29422.34	448.004	27.25	156.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505) *******	448.00	27.25	156.34	3.80	1.03	
OUTFLOW: ID= 1 (0506) *******	438.81	29.00	156.34	3.78	1.03	

ROUTE CHN (0514)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0506) *******		438.81	29.00	156.34	3.94	1.03
OUTFLOW:	ID= 1 (0514) *******		437.39	29.50	156.34	3.93	1.03

ADD HYD (0507)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	3094.49	45.605	26.75	175.67
	+ ID2= 2 (0514):	29422.34	437.388	29.50	156.34
	ID = 3 (0507):	32516.83	481.948	29.50	158.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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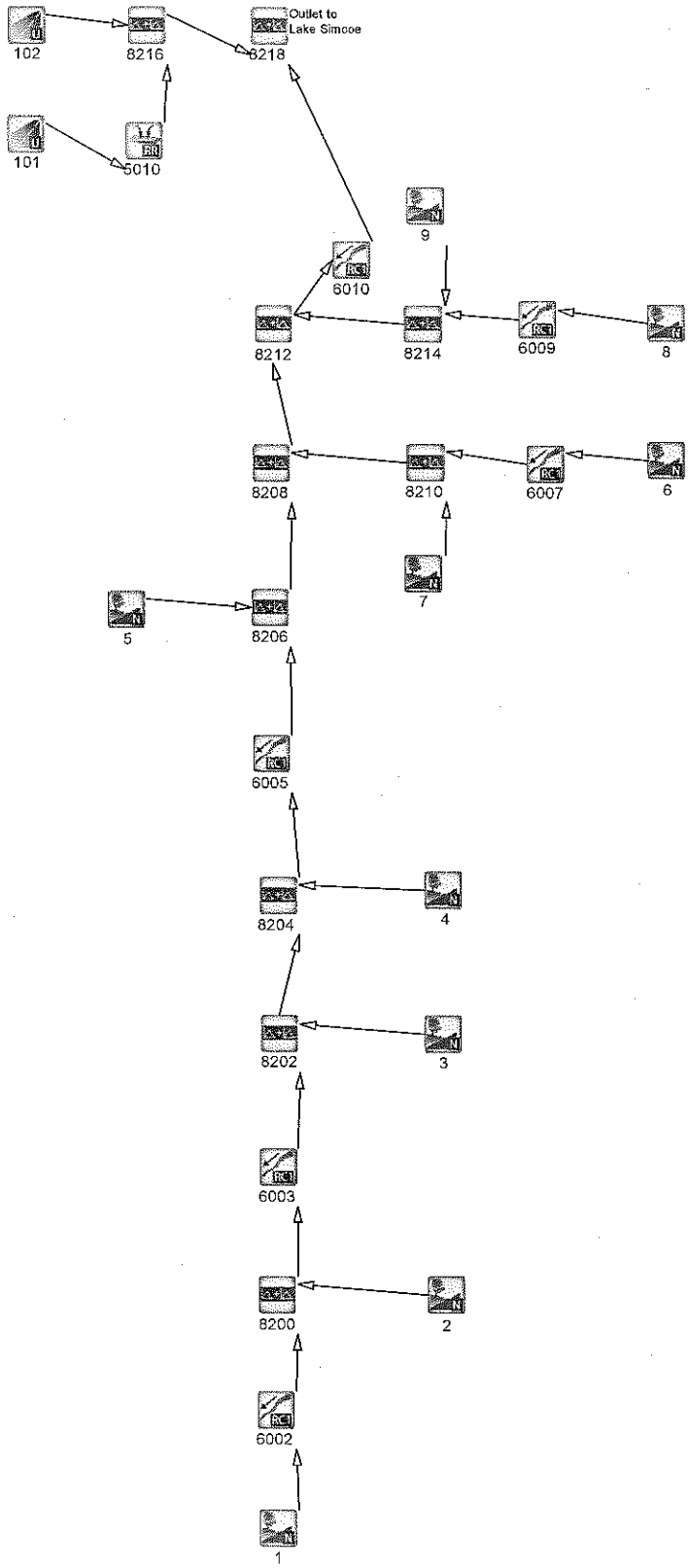
MASKINONGE RIVER SUBWATERSHED



EXISTING
WEST HOLLAND RIVER 2-100 YEAR STORMS

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       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****

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DATE: 08/22/2012                          TIME: 01:32:16

USER:

COMMENTS: _____

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  ** SIMULATION NUMBER:   1 **
  ****************************

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|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\5cad6041
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.25     1.05 |  3.25     1.68 |  6.25     7.56 |  9.25     1.47
                0.50     1.05 |  3.50     1.68 |  6.50     7.56 |  9.50     1.47
                0.75     1.05 |  3.75     1.68 |  6.75     3.36 |  9.75     1.47
                1.00     1.05 |  4.00     1.68 |  7.00     3.36 | 10.00     1.47
                1.25     1.05 |  4.25     2.52 |  7.25     2.52 | 10.25     0.84
                1.50     1.05 |  4.50     2.52 |  7.50     2.52 | 10.50     0.84
                1.75     1.05 |  4.75     3.36 |  7.75     2.52 | 10.75     0.84
                2.00     1.05 |  5.00     3.36 |  8.00     2.52 | 11.00     0.84
                2.25     1.26 |  5.25     5.04 |  8.25     1.47 | 11.25     0.84
                2.50     1.26 |  5.50     5.04 |  8.50     1.47 | 11.50     0.84
                2.75     1.26 |  5.75    20.16 |  8.75     1.47 | 11.75     0.84
                3.00     1.26 |  6.00    55.44 |  9.00     1.47 | 12.00     0.84

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| CALIB            |
| NASHYD    (0356) |   Area     (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   1.461 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.058
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0354) |   Area     (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   0.268 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   2.897
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0352) |   Area     (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   1.066 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.329
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0346) |   Area     (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   1.534 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.284
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0350) |   Area     (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   0.676 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   4.345
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.103

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0348) |   Area     (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   0.711 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   4.368
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (3501.0) ------>
               Distance      Elevation       Manning
                  0.00         287.00        0.0500
                 23.66         283.72        0.0500
                 70.98         280.94        0.0500
                112.38         280.23        0.0500
                171.52         276.80        0.0500
                260.24         274.46        0.0500
                266.16         274.26        0.0500
                272.07         274.12        0.0500
                276.49         274.12     0.0500 /0.0300  Main Channel
                276.99         273.82        0.0300       Main Channel
                277.99         273.82        0.0300       Main Channel
                279.49         273.82        0.0300       Main Channel
                280.49         274.27     0.0300 /0.0500  Main Channel
                283.90         274.27        0.0500
                289.81         274.57        0.0500
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            325.30        275.75        0.0500
            396.28        278.98        0.0500
            449.51        280.97        0.0500
            496.83        283.90        0.0500
            585.54        287.92        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   274.12    .273E+04       0.9         0.99       49.81
        0.98   274.80    .583E+05      20.8         1.05       46.71
        1.66   275.48    .203E+06      95.2         1.38       35.53
        2.33   276.15    .438E+06     256.0         1.73       28.50
        3.01   276.83    .755E+06     524.8         2.05       23.97
        3.69   277.51    .114E+07     935.8         2.43       20.26
        4.37   278.19    .157E+07    1472.0         2.76       17.82
        5.05   278.87    .206E+07    2140.7         3.06       16.06
        5.72   279.54    .261E+07    2938.6         3.33       14.79
        6.40   280.22    .321E+07    3887.6         3.57       13.77
        7.08   280.90    .390E+07    4795.4         3.63       13.56
        7.76   281.58    .468E+07    6196.2         3.91       12.58
        8.43   282.25    .550E+07    7803.9         4.19       11.74
        9.11   282.93    .637E+07    9601.9         4.45       11.05
        9.79   283.61    .728E+07   11594.8         4.70       10.46
       10.47   284.29    .823E+07   13845.3         4.96        9.91
       11.15   284.97    .922E+07   16293.4         5.21        9.43
       11.82   285.64    .103E+08   18952.0         5.45        9.02
       12.50   286.32    .113E+08   21824.3         5.69        8.65

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     0.71    9.25   4.37      0.23      0.99
     OUTFLOW: ID= 1 (6350)  590.18     0.70   10.25   4.37      0.23      0.99


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--------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0350):   366.84   0.676     7.75     4.35
       + ID2= 2 (6350):   590.18   0.695    10.25     4.37
         ================================================
         ID = 3 (8220):   957.02   1.262     8.75     4.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8222) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):   350.93   1.534     7.25     9.28
       + ID2= 2 (8220):   957.02   1.262     8.75     4.36
         ================================================
         ID = 3 (8222):  1307.95   2.712     8.00     5.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3521.0) ------>
            Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.60   239.41    .224E+04       2.2         1.52       17.12
        1.58   240.39    .216E+05      22.3         1.61       16.16
        2.55   241.36    .804E+05     101.0         1.96       13.27
        3.53   242.34    .173E+06     275.6         2.48       10.46
        4.50   243.31    .293E+06     553.9         2.95        8.80
        5.48   244.29    .438E+06     961.8         3.42        7.60
        6.45   245.26    .599E+06    1534.4         3.99        6.51
        7.43   246.24    .770E+06    2228.4         4.51        5.76
        8.41   247.22    .951E+06    3043.6         4.98        5.21
        9.38   248.19    .114E+07    3982.1         5.43        4.78
       10.36   249.17    .134E+07    5040.1         5.85        4.44
       11.33   250.14    .155E+07    6218.5         6.24        4.16
       12.31   251.12    .177E+07    7518.6         6.61        3.93
       13.29   252.10    .200E+07    8969.0         6.98        3.72
       14.26   253.07    .224E+07   10554.1         7.35        3.53
       15.24   254.05    .248E+07   12257.1         7.71        3.37
       16.21   255.02    .272E+07   14045.1         8.03        3.23
       17.19   256.00    .298E+07   15954.8         8.34        3.11
       18.16   256.97    .325E+07   17780.4         8.53        3.04

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     2.71    8.00   5.68      0.63      1.52
     OUTFLOW: ID= 1 (6352) 1307.95     2.69    8.25   5.68      0.62      1.52


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--------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):   381.43   1.066     7.00     5.33
       + ID2= 2 (6352):  1307.95   2.690     8.25     5.68
         ================================================
         ID = 3 (8224):  1689.38   3.668     8.00     5.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3541.0) ------>
            Distance      Elevation       Manning
                0.00         253.92        0.0500
                7.95         251.83        0.0500
               15.89         249.97        0.0500
               19.87         249.05        0.0500
               47.68         242.00        0.0500
               67.55         237.10        0.0500
               83.44         231.11        0.0500
               85.43         230.75        0.0500
               85.66         230.61    0.0500 /0.0300  Main Channel
               85.76         230.01        0.0300      Main Channel
               87.41         230.01        0.0300      Main Channel
               88.06         230.01        0.0300      Main Channel
               88.16         230.61    0.0300 /0.0500  Main Channel
               89.40         230.72        0.0500
               91.39         230.88        0.0500
               93.37         231.03        0.0500
              133.11         233.96        0.0500
              150.99         235.39        0.0500
              172.84         239.03        0.0500
              196.68         250.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.60   230.61    .451E+04       1.5         1.06       49.40
        1.62   231.63    .394E+05      14.6         1.16       45.13
        2.64   232.65    .128E+06      58.8         1.44       36.30
        3.66   233.67    .269E+06     149.7         1.74       30.00
        4.68   234.69    .463E+06     301.5         2.04       25.58
        5.70   235.71    .705E+06     530.5         2.36       22.14
        6.72   236.73    .980E+06     848.4         2.71       19.25
        7.74   237.75    .128E+07    1237.9         3.02       17.29
        8.76   238.77    .162E+07    1706.7         3.30       15.83
        9.78   239.79    .199E+07    2291.9         3.61       14.45
       10.81   240.82    .237E+07    2973.7         3.92       13.30
       11.83   241.84    .278E+07    3742.2         4.21       12.38
       12.85   242.86    .321E+07    4599.1         4.49       11.62
       13.87   243.88    .365E+07    5544.6         4.75       10.98
       14.89   244.90    .412E+07    6579.7         5.00       10.44
       15.91   245.92    .461E+07    7705.9         5.23        9.97
       16.93   246.94    .512E+07    8924.6         5.46        9.55
       17.95   247.96    .564E+07   10237.5         5.68        9.19
       18.97   248.98    .619E+07   11646.2         5.89        8.86

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8224) 1689.38     3.67    8.00   5.60      0.77      1.07
     OUTFLOW: ID= 1 (6354) 1689.38     3.41    9.00   5.60      0.75      1.07
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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68   0.268     8.25     2.90
      + ID2= 2 (6354):  1689.38   3.413     9.00     5.60
        ==========================================================
        ID = 3 (8226):  1952.06   3.673     9.00     5.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   1.096 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.331
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         4.42
               over (min)       15.00        60.00
     Storage Coeff.  (min)=   18.13 (ii)   55.39 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.14         1.13       3.461 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.75        6.00
     RUNOFF VOLUME    (mm)=     40.00         5.40        9.90
     TOTAL RAINFALL   (mm)=     42.00        42.00       42.00
     RUNOFF COEFFICIENT   =      0.95         0.13        0.24

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         8.48
               over (min)       15.00        45.00
     Storage Coeff.  (min)=   11.48 (ii)   40.19 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.34         0.35       1.474 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     40.00         6.57       13.59
     TOTAL RAINFALL   (mm)=     42.00        42.00       42.00
     RUNOFF COEFFICIENT   =      0.95         0.16        0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360     1.7877
                         0.1730     0.6348   |   7.2780     2.2185
                         1.8360     0.8250   |   9.1880     2.6486
                         2.1540     1.1051   |   9.5880     2.6586
                         3.3950     1.3506   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3401)     51.200     1.474     6.00       13.59
    OUTFLOW: ID= 1 (5340)     51.200     0.126     8.75       13.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.58
                  TIME SHIFT OF PEAK FLOW          (min)=165.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.4644

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3402):   234.60   3.461     6.00     9.90
      + ID2= 2 (5340):    51.20   0.126     8.75    13.57
        ==========================================================
        ID = 3 (8232):   285.80   3.513     6.00    10.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   1.208 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   5.390
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   1.144 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   5.383
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   0.844 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.360
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64
```

```
     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   0.897 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.074
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   2.165 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.744
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   1.234 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   6.828
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.145 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   2.885
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   0.850 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.266 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   4.049
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.096

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   1.407 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.039
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   0.504 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.495
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0364):   155.27   0.504     7.00     5.50
       + ID2= 2 (0366):   462.62   1.407     7.75     7.04
         ================================================
         ID = 3 (8302):   617.89   1.886     7.25     6.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          3.78
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      14.78 (ii)    54.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.07          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.07          0.54          1.224 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00          4.74          7.56
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.11          0.18

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.496 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   2.665
     TOTAL RAINFALL   (mm)=  42.000
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     RUNOFF COEFFICIENT   =   0.063

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD     (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.367 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.995
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8358):   429.87   0.496     7.75     2.66
     + ID2= 2 (8360):   138.37   0.367     6.75     4.00
       ================================================
       ID = 3 (8306):   568.24   0.839     7.00     2.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3621.0) ------>
            Distance      Elevation       Manning
               0.00         261.46        0.0550
              27.86         254.23        0.0550
              51.07         251.96        0.0550
              74.29         250.77        0.0550
              97.50         249.91        0.0550
             125.36         249.40        0.0550
             150.93         247.40        0.0550
             155.93         247.33    0.0550 /0.0350  Main Channel
             157.93         246.85        0.0350      Main Channel
             159.18         246.65        0.0350      Main Channel
             160.18         246.63        0.0350      Main Channel
             160.93         246.85        0.0350      Main Channel
             161.93         247.18    0.0350 /0.0550  Main Channel
             163.18         248.03        0.0550
             168.18         248.58        0.0550
             183.18         250.18        0.0550
             201.97         252.59        0.0550
             213.57         256.02        0.0550
             225.18         260.31        0.0550
             229.82         261.00        0.0550

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55   247.18   .556E+04       1.9         1.03      49.95
       1.28   247.91   .336E+05      16.7         1.53      33.61
       2.00   248.63   .913E+05      53.6         1.81      28.40
       2.73   249.36   .185E+06     122.3         2.05      25.18
       3.46   250.09   .344E+06     224.6         2.02      25.52
       4.19   250.82   .574E+06     417.9         2.25      22.91
       4.91   251.54   .855E+06     699.1         2.53      20.38
       5.64   252.27   .118E+07    1075.3         2.82      18.26
       6.37   253.00   .153E+07    1559.9         3.15      16.38
       7.10   253.73   .191E+07    2137.6         3.46      14.89
       7.82   254.45   .231E+07    2815.2         3.77      13.67
       8.55   255.18   .272E+07    3608.5         4.10      12.58
       9.28   255.91   .315E+07    4488.2         4.41      11.69
      10.01   256.64   .358E+07    5458.0         4.71      10.95
      10.73   257.36   .403E+07    6512.4         4.99      10.32
      11.46   258.09   .449E+07    7649.8         5.27       9.78
      12.19   258.82   .496E+07    8869.5         5.53       9.32
      12.92   259.55   .544E+07   10171.2         5.78       8.91
      13.64   260.27   .593E+07   11554.8         6.02       8.55

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     0.84    7.00   2.99      0.25      1.03
     OUTFLOW: ID= 1 (6362)  568.24     0.75    8.25   2.99      0.22      1.03


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| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8362):   118.78   1.224     6.00     7.56
     + ID2= 2 (6362):   568.24   0.746     8.25     2.99
       ================================================
       ID = 3 (8304):   687.02   1.321     6.00     3.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8302):   617.89   1.886     7.25     6.65
     + ID2= 2 (8304):   687.02   1.321     6.00     3.78
       ================================================
       ID = 3 (8300):  1304.91   3.036     7.25     5.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3681.0) ------>
            Distance      Elevation       Manning
               0.00         230.00        0.0370
              18.48         223.26        0.0370
              36.96         223.05        0.0370
              64.67         222.94        0.0370
             110.87         222.86        0.0370
             133.96         222.74        0.0370
             147.82         222.65        0.0370
             170.92         222.31        0.0370
             174.79         222.26    0.0370 /0.0300  Main Channel
             174.89         221.86        0.0300      Main Channel
             175.54         221.86        0.0300      Main Channel
             176.19         221.86        0.0300      Main Channel
             176.29         222.26    0.0300 /0.0370  Main Channel
             180.16         222.25        0.0370
             184.78         222.28        0.0370
             189.40         222.31        0.0370
             332.60         222.37        0.0370
             450.00         230.00        0.0370

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.40   222.26   .771E+03        0.3         0.52      41.74
       0.81   222.67   .784E+05       30.3         0.51      43.17
       1.21   223.07   .210E+06      123.2         0.77      28.42
       1.62   223.48   .384E+06      301.0         1.03      21.25
       2.03   223.89   .563E+06      550.2         1.28      17.06
       2.44   224.30   .747E+06      860.7         1.51      14.46
       2.84   224.70   .934E+06     1228.1         1.73      12.68
       3.25   225.11   .113E+07     1649.3         1.92      11.37
       3.66   225.52   .132E+07     2122.3         2.11      10.37
       4.07   225.93   .152E+07     2645.5         2.29       9.58
       4.47   226.33   .172E+07     3217.8         2.45       8.92
       4.88   226.74   .193E+07     3838.3         2.61       8.38
       5.29   227.15   .214E+07     4506.3         2.76       7.92
       5.70   227.56   .236E+07     5221.3         2.91       7.52
       6.10   227.96   .258E+07     5983.0         3.05       7.17
       6.51   228.37   .280E+07     6790.9         3.19       6.87
       6.92   228.78   .303E+07     7645.0         3.32       6.60
       7.33   229.19   .326E+07     8545.1         3.45       6.35
       7.73   229.59   .349E+07     9491.0         3.57       6.13

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91     3.04    7.25   5.14      0.44      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     2.84    8.25   5.14      0.43      0.52


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| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0368):   159.48   0.266     8.00     4.05
     + ID2= 2 (6368):  1304.91   2.837     8.25     5.14
       ================================================
       ID = 3 (8298):  1464.39   3.099     8.25     5.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85   0.850     6.75     7.22
      + ID2= 2 (8298):  1464.39   3.099     8.25     5.02
        ================================================
        ID = 3 (8296):  1656.24   3.807     8.00     5.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3721.0) ------>
            Distance      Elevation       Manning
               0.00         225.00        0.0390
              30.80         219.38        0.0390
              61.61         219.30        0.0390
              77.01         219.27        0.0390
             469.76         219.14        0.0390
             477.46         219.13        0.0390
             485.16         219.10        0.0390
             492.86         219.09        0.0390
             495.56         219.09    0.0390 /0.0310  Main Channel
             495.66         218.51        0.0310      Main Channel
             500.56         218.51        0.0310      Main Channel
             505.46         218.51        0.0310      Main Channel
             505.56         219.09    0.0310 /0.0390  Main Channel
             508.26         219.09        0.0390
             515.96         219.10        0.0390
             523.67         219.21        0.0390
             562.17         219.32        0.0390
             654.58         219.43        0.0390
             731.59         219.46        0.0390
             762.39         225.00        0.0390

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   218.80    .431E+04       1.7         0.58      43.48
       0.58   219.09    .867E+04       5.1         0.89      28.32
       0.93   219.44    .200E+06      58.2         0.44      57.35
       1.28   219.79    .568E+06     278.6         0.74      33.99
       1.62   220.13    .939E+06     630.2         1.01      24.84
       1.97   220.48    .131E+07    1090.4         1.25      20.05
       2.32   220.83    .169E+07    1647.7         1.47      17.06
       2.67   221.18    .206E+07    2294.6         1.68      14.99
       3.01   221.52    .244E+07    3025.6         1.87      13.46
       3.36   221.87    .282E+07    3836.5         2.05      12.27
       3.71   222.22    .321E+07    4723.7         2.22      11.31
       4.06   222.57    .359E+07    5684.6         2.39      10.53
       4.40   222.91    .398E+07    6716.6         2.55       9.87
       4.75   223.26    .437E+07    7817.7         2.70       9.31
       5.10   223.61    .476E+07    8986.2         2.85       8.83
       5.45   223.96    .515E+07   10220.4         2.99       8.40
       5.79   224.30    .555E+07   11519.1         3.13       8.03
       6.14   224.65    .594E+07   12880.8         3.27       7.69
       6.49   225.00    .634E+07   14304.5         3.40       7.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24     3.81    8.00   5.27      0.47      0.74
    OUTFLOW: ID= 1 (6372) 1656.24     3.70    8.50   5.27      0.46      0.73
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-------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42   0.145     7.50     2.88
      + ID2= 2 (6372):  1656.24   3.698     8.50     5.27
        ================================================
        ID = 3 (8294):  1766.66   3.833     8.50     5.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   1.234     8.25     6.83
      + ID2= 2 (8294):  1766.66   3.833     8.50     5.13
        ================================================
        ID = 3 (8292):  2312.36   5.066     8.50     5.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8292)   2312.360     5.066      8.50       5.53
    OUTFLOW: ID= 1 (5505)   2312.360     3.659     11.25       5.53

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.23
                TIME SHIFT OF PEAK FLOW          (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.5421
```

```
-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85   2.165     7.50    10.74
      + ID2= 2 (5505):  2312.36   3.659    11.25     5.53
        ================================================
        ID = 3 (8272):  2776.21   5.098    10.25     6.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.977
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.214

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.160
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   0.992 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.541
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=   7.500
```

```
     RUNOFF VOLUME    (mm)=   6.132
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0386)  |   Area     (ha)= 241.27   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   0.799     7.25     6.78
       + ID2= 2 (0388):   220.77   0.615     7.50     6.13
         ================================================
         ID = 3 (8286):   462.04   1.411     7.25     6.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0384)  |   Area     (ha)= 199.07   Curve Number    (CN)= 44.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   3.759
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380)  |   Area     (ha)= 182.01   Curve Number    (CN)= 40.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.407 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.195
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.076

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382)  |   Area     (ha)= 216.59   Curve Number    (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   0.697 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.118
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.407     6.75     3.20
       + ID2= 2 (0382):   216.59   0.697     6.75     5.12
         ================================================
         ID = 3 (8290):   398.60   1.104     6.75     4.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3841.0) ------>
           Distance      Elevation       Manning
               0.00         294.40        0.0380
              10.59         291.93        0.0380
              21.17         289.19        0.0380
              26.46         287.99        0.0380
              31.76         286.79        0.0380
              71.45         279.97        0.0380
              74.10         279.79        0.0380
              76.74         279.71        0.0380
              78.99         279.64   0.0380 /0.0300  Main Channel
              79.14         279.30        0.0300     Main Channel
              79.39         279.30        0.0300     Main Channel
              79.64         279.30        0.0300     Main Channel
              79.79         279.64   0.0300 /0.0380  Main Channel
              89.98         279.78        0.0380
             119.09         281.86        0.0380
             145.55         282.87        0.0380
             198.48         284.85        0.0380
             211.71         286.31        0.0380
             230.23         287.59        0.0380
             261.99         294.00        0.0380

    <-------------------- TRAVEL TIME TABLE --------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.34    279.64    .715E+03        0.2         0.85      63.42
     1.10    280.40    .507E+05       21.9         1.40      38.54
     1.85    281.15    .141E+06       91.8         2.10      25.69
     2.61    281.91    .269E+06      218.9         2.63      20.46
     3.36    282.66    .445E+06      407.1         2.96      18.23
     4.12    283.42    .681E+06      698.3         3.31      16.26
     4.87    284.17    .977E+06     1111.8         3.68      14.65
     5.63    284.93    .133E+07     1674.3         4.06      13.27
     6.39    285.69    .173E+07     2457.8         4.59      11.73
     7.14    286.44    .215E+07     3378.8         5.07      10.63
     7.90    287.20    .261E+07     4418.4         5.47       9.85
     8.65    287.95    .310E+07     5676.3         5.92       9.11
     9.41    288.71    .361E+07     7150.5         6.40       8.42
    10.17    289.47    .414E+07     8783.1         6.86       7.86
    10.92    290.22    .469E+07    10575.1         7.30       7.38
    11.68    290.98    .525E+07    12520.4         7.72       6.98
    12.43    291.73    .582E+07    14619.0         8.12       6.64
    13.19    292.49    .642E+07    16863.2         8.50       6.34
    13.94    293.24    .703E+07    19259.8         8.86       6.08

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
    INFLOW : ID= 2 (8290)  398.60     1.10    6.75   4.24      0.37      0.86
    OUTFLOW: ID= 1 (6384)  398.60     0.87    8.00   4.24      0.36      0.86

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.343     7.50     3.76
       + ID2= 2 (6384):   398.60   0.866     8.00     4.24
         ================================================
         ID = 3 (8288):   597.67   1.204     8.00     4.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   1.411     7.25     6.47
       + ID2= 2 (8288):   597.67   1.204     8.00     4.08
         ================================================
         ID = 3 (8284):  1059.71   2.590     7.75     5.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0390):   420.00   0.992     7.75     5.54
        + ID2= 2 (8284):  1059.71   2.590     7.75     5.12
          ================================================
          ID = 3 (8280):  1479.71   3.582     7.75     5.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   0.666 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   6.993
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   1.341 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.547
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8282)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0378):   606.72   1.341     8.00     5.55
        + ID2= 2 (0392):   167.22   0.666     7.00     6.99
          ================================================
          ID = 3 (8282):   773.94   1.958     7.50     5.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8278)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8280):  1479.71   3.582     7.75     5.24
        + ID2= 2 (8282):   773.94   1.958     7.50     5.86
          ================================================
          ID = 3 (8278):  2253.65   5.533     7.75     5.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6394)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                  0.00         283.00        0.0380
                 13.48         282.87        0.0380
                 53.92         280.08        0.0380
                 74.13         276.62        0.0380
                 97.72         265.45        0.0380
                114.57         256.93        0.0380
                131.42         253.04        0.0380
                134.79         252.58        0.0380
                138.53         251.74    0.0380 /0.0300  Main Channel
                139.03         251.20        0.0300      Main Channel
                141.53         251.20        0.0300      Main Channel
                144.03         251.20        0.0300      Main Channel
                144.53         251.74    0.0300 /0.0380  Main Channel
                148.27         252.69        0.0380
                151.64         252.97        0.0380
                185.34         255.08        0.0380
                219.03         257.54        0.0380
                262.84         259.43        0.0380
                310.02         262.80        0.0380
                333.60         283.00        0.0380

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.54   251.74    .827E+04        4.5         1.51       30.71
       2.19   253.39    .758E+05       73.2         2.69       17.27
       3.83   255.03    .282E+06      331.8         3.27       14.17
       5.48   256.68    .633E+06      917.3         4.03       11.51
       7.12   258.32    .112E+07     1889.5         4.69        9.90
       8.77   259.97    .179E+07     3410.2         5.31        8.73
      10.41   261.61    .259E+07     5627.6         6.05        7.66
      12.06   263.26    .351E+07     8605.1         6.83        6.79
      13.70   264.90    .447E+07    12544.9         7.81        5.94
      15.35   266.55    .546E+07    17101.4         8.71        5.32
      16.99   268.19    .648E+07    22251.7         9.56        4.85
      18.64   269.84    .752E+07    27979.0        10.36        4.48
      20.28   271.48    .858E+07    34269.0        11.11        4.17
      21.93   273.13    .967E+07    41110.8        11.83        3.92
      23.57   274.77    .108E+08    48495.9        12.51        3.71
      25.22   276.42    .119E+08    56418.1        13.17        3.52
      26.86   278.06    .131E+08    64410.6        13.69        3.39
      28.51   279.71    .143E+08    73002.1        14.18        3.27
      30.15   281.35    .156E+08    81379.3        14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65     5.53    7.75   5.45      0.57      1.52
     OUTFLOW: ID= 1 (6394) 2253.65     5.37    8.25   5.45      0.56      1.52

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8276)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0394):   325.45   0.799     7.25     5.16
        + ID2= 2 (6394):  2253.65   5.366     8.25     5.45
          ================================================
          ID = 3 (8276):  2579.10   6.118     8.25     5.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                  0.00         263.00        0.0410
                 11.75         257.14        0.0410
                 23.50         253.97        0.0410
                 41.13         247.83        0.0410
                 76.38         232.09        0.0410
                135.13         229.07        0.0410
                149.82         228.97        0.0410
                152.75         228.96    0.0410 /0.0300  Main Channel
                154.19         228.73        0.0300      Main Channel
                154.69         228.20        0.0300      Main Channel
                155.69         228.20        0.0300      Main Channel
                156.69         228.20        0.0300      Main Channel
                157.19         228.73        0.0300      Main Channel
                158.63         228.95    0.0300 /0.0410  Main Channel
                161.57         228.96        0.0410
                164.51         229.71        0.0410
                196.82         241.70        0.0410
                223.26         249.21        0.0410
                246.76         255.13        0.0410
                290.82         263.51        0.0410

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.75   228.95    .780E+04        2.2         0.98       58.06
       2.54   230.74    .277E+06      145.1         1.78       31.76
       4.33   232.53    .786E+06      609.1         2.63       21.50
       6.13   234.33    .140E+07     1481.5         3.59       15.77
       7.92   236.12    .207E+07     2677.3         4.39       12.90
       9.71   237.91    .280E+07     4184.8         5.09       11.14
      11.50   239.70    .357E+07     6001.4         5.71        9.93
      13.29   241.49    .441E+07     8129.1         6.27        9.03
      15.09   243.29    .530E+07    10549.4         6.77        8.37
      16.88   245.08    .625E+07    13300.6         7.24        7.83
      18.67   246.87    .726E+07    16396.2         7.68        7.38
      20.46   248.66    .834E+07    19809.8         8.07        7.02
      22.26   250.46    .949E+07    23532.5         8.43        6.72
      24.05   252.25    .107E+08    27641.2         8.77        6.46
      25.84   254.04    .120E+08    32155.2         9.10        6.22
      27.63   255.83    .134E+08    36901.0         9.37        6.05
      29.42   257.62    .149E+08    42147.7         9.64        5.88
      31.22   259.42    .164E+08    48149.1         9.97        5.68
      33.01   261.21    .181E+08    54644.8        10.29        5.51

                                  <---- hydrograph ---->   <-pipe / channel->
```

```
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10     6.12    8.25  5.42     0.80      0.99
     OUTFLOW: ID= 1 (6396) 2579.10     5.54    9.25  5.42     0.79      0.99


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   1.174     7.75     8.98
       + ID2= 2 (6396):  2579.10   5.542     9.25     5.42
         ================================================
         ID = 3 (8274):  2884.31   6.553     9.25     5.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21   5.098    10.25     6.40
       + ID2= 2 (8274):  2884.31   6.553     9.25     5.79
         ================================================
         ID = 3 (8270):  5660.52  11.498     9.50     6.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520    11.498     9.50       6.09
     OUTFLOW: ID= 1 (5506)   5660.520     9.572    12.00       6.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 83.25
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.5866

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-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   0.781 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.974
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.467 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.188
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   0.710 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.803
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.390 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   4.872
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   0.938 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.517
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   0.938     7.00     5.52
       + ID2= 2 (0400):    93.97   0.390     6.50     4.87
         ================================================
         ID = 3 (8268):   422.16   1.286     7.00     5.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36       38.31
      0.81   226.06    .804E+04        5.0         1.93       27.02
      1.22   226.47    .124E+05        9.1         2.30       22.61
      1.84   227.09    .308E+05       23.3         2.36       22.03
      2.46   227.71    .904E+05       62.0         2.14       24.31
      3.09   228.34    .223E+06      188.3         2.63       19.75
      3.71   228.96    .379E+06      410.2         3.38       15.39
      4.33   229.58    .550E+06      711.5         4.04       12.89
      4.95   230.20    .737E+06     1091.3         4.62       11.25
```

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      5.58   230.83    .939E+06    1550.6          5.15      10.10
      6.20   231.45    .116E+07    2072.4          5.59       9.31
      6.82   232.07    .140E+07    2659.2          5.93       8.77
      7.44   232.69    .167E+07    3345.8          6.27       8.30
      8.07   233.32    .195E+07    4159.0          6.64       7.83
      8.69   233.94    .226E+07    5100.8          7.03       7.39
      9.31   234.56    .259E+07    6081.3          7.32       7.11
      9.93   235.18    .295E+07    7183.1          7.60       6.84
     10.56   235.81    .334E+07    8145.2          7.62       6.83
     11.18   236.43    .379E+07    9116.0          7.51       6.92

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8268)  422.16     1.29    7.00   5.37      0.31      1.36
   OUTFLOW: ID= 1 (6402)  422.16     1.15    7.75   5.37      0.28      1.36


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--------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   0.710     7.75     6.80
       + ID2= 2 (6402):   422.16   1.155     7.75     5.37
         ================================================
         ID = 3 (8266):   666.16   1.865     7.75     5.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   0.467     7.50     4.19
       + ID2= 2 (8266):   666.16   1.865     7.75     5.90
         ================================================
         ID = 3 (8264):   912.62   2.329     7.75     5.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   0.781     6.75     7.97
       + ID2= 2 (8264):   912.62   2.329     7.75     5.44
         ================================================
         ID = 3 (8262):  1055.27   3.000     7.50     5.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52   9.572    12.00     6.09
       + ID2= 2 (8262):  1055.27   3.000     7.50     5.78
         ================================================
         ID = 3 (8260):  6715.79  10.967    11.25     6.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   0.897     6.75     6.07
       + ID2= 2 (8260):  6715.79  10.967    11.25     6.04
         ================================================
         ID = 3 (8258):  6947.41  11.251    11.25     6.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   0.844     8.25     4.36
       + ID2= 2 (8258):  6947.41  11.251    11.25     6.04
         ================================================
         ID = 3 (8256):  7519.42  11.941    11.00     5.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421    11.941     11.00       5.91
    OUTFLOW: ID= 1 (5507)   7519.421    11.702     12.00       5.91

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.00
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.6414

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--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   0.476 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.148
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   0.600 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.539
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   1.251 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.557
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   0.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.327
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          15.73          27.97
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         539.75          40.00
     Mannings n            =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44          11.49
               over (min)            15.00          45.00
     Storage Coeff.  (min)=       10.95 (ii)     36.37 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=           0.94           0.50          1.138 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=          40.00           9.81          14.94
     TOTAL RAINFALL   (mm)=          42.00          42.00          42.00
     RUNOFF COEFFICIENT   =           0.95           0.23           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720     1.9177
                         0.3820     0.3152   |   3.8720     1.9277
                         1.8280     0.4690   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700     1.138     6.00      14.94
     OUTFLOW: ID= 1 (5414)     43.700     0.329     7.25      14.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.91
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2718

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-------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          30.30         114.00
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         980.82          40.00
     Mannings n            =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44           8.83
               over (min)            15.00          45.00
     Storage Coeff.  (min)=       15.67 (ii)     43.91 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=           1.59           1.42          2.138 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=          40.00           8.68          11.81
     TOTAL RAINFALL   (mm)=          42.00          42.00          42.00
     RUNOFF COEFFICIENT   =           0.95           0.21           0.28

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4142):   144.30   2.138     6.00     11.81
      + ID2= 2 (5414):    43.70   0.329     7.25     14.94
        ================================================
        ID = 3 (8254):   188.00   2.278     6.00     12.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70   0.677     7.00      5.33
      + ID2= 2 (8254):   188.00   2.278     6.00     12.54
        ================================================
        ID = 3 (8252):   426.70   2.814     6.50      8.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4161.0) ------>
              Distance      Elevation        Manning
                 0.00         270.07         0.0340
                20.67         267.91         0.0340
                62.01         264.33         0.0340
               113.69         259.75         0.0340
               165.37         253.30         0.0340
               227.38         246.29         0.0340
               232.55         246.03         0.0340
               237.72         246.16         0.0340
               241.39         246.02    0.0340 /0.0300  Main Channel
               241.64         245.75         0.0300      Main Channel
               242.89         245.75         0.0300      Main Channel
               244.14         245.75         0.0300      Main Channel
               244.39         246.02    0.0300 /0.0340  Main Channel
               248.06         246.20         0.0340
               253.22         246.28         0.0340
               258.39         246.63         0.0340
               346.25         252.57         0.0340
               413.43         257.77         0.0340
               465.11         261.78         0.0340
               511.62         270.00         0.0340

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.27   246.02    .295E+04        0.6         0.75       88.26
      1.53   247.28    .168E+06       69.7         1.65       40.13
      2.79   248.54    .490E+06      299.5         2.42       27.28
      4.06   249.81    .962E+06      740.1         3.05       21.67
      5.32   251.07    .158E+07     1440.0         3.61       18.33
      6.58   252.33    .235E+07     2443.8         4.12       16.06
      7.84   253.59    .327E+07     3811.2         4.63       14.30
      9.10   254.85    .432E+07     5565.1         5.11       12.94
     10.37   256.12    .550E+07     7721.3         5.57       11.88
     11.63   257.38    .682E+07    10309.9         6.00       11.02
     12.89   258.64    .827E+07    13360.6         6.42       10.31
     14.15   259.90    .985E+07    16884.5         6.81        9.72
     15.42   261.17    .116E+08    20818.4         7.14        9.26
     16.68   262.43    .134E+08    25510.4         7.53        8.78
     17.94   263.69    .154E+08    30958.0         7.97        8.30
     19.20   264.95    .175E+08    36988.3         8.38        7.89
     20.46   266.21    .197E+08    43617.1         8.78        7.53
     21.73   267.48    .220E+08    50868.1         9.17        7.22
     22.99   268.74    .244E+08    58854.0         9.56        6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)       (m/s)
     INFLOW : ID= 2 (8252)  426.70     2.81    6.50   8.50      0.31      0.76
     OUTFLOW: ID= 1 (6416)  426.70     1.66    7.75   8.50      0.29      0.76

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   1.251     8.00      7.56
      + ID2= 2 (6416):   426.70   1.663     7.75      8.50
        ================================================
        ID = 3 (8250):   866.00   2.906     8.00      8.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   0.600     7.50      7.54
      + ID2= 2 (8250):   866.00   2.906     8.00      8.02
        ================================================
        ID = 3 (8248):  1048.79   3.503     8.00      7.94
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   0.476    7.00     5.15
      + ID2= 2 (8248):  1048.79   3.503    8.00     7.94
        ================================================
        ID = 3 (8246):  1224.61   3.958    7.75     7.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  11.702   12.00     5.91
      + ID2= 2 (8246):  1224.61   3.958    7.75     7.54
        ================================================
        ID = 3 (8244):  8744.03  13.941   11.25     6.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   1.144    9.50     5.38
      + ID2= 2 (8244):  8744.03  13.941   11.25     6.14
        ================================================
        ID = 3 (8242):  9524.23  15.007   11.00     6.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231    15.007     11.00       6.08
     OUTFLOW: ID= 1 (5508)   9524.231    14.571     12.25       6.08

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.09
                   TIME SHIFT OF PEAK FLOW       (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  5.8793

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| CALIB            |
| NASHYD    (0336) |   Area     (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   1.223 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  10.068
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area     (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     194.58       331.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1872.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        12.71
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      26.92 (ii)   51.33 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.48         5.14          9.230 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75           6.25
     RUNOFF VOLUME    (mm)=      40.00        10.61          15.61
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.25           0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area     (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.77        37.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     697.61        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        16.56
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.77 (ii)   34.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.01         0.99          2.410 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        11.94          18.39
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.28           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)   73.000     2.410      6.00       18.39
     OUTFLOW: ID= 1 (5338)   73.000     0.897      7.00       18.39

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.23
                   TIME SHIFT OF PEAK FLOW       (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5258

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| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90   9.230    6.25     15.61
      + ID2= 2 (5338):    73.00   0.897    7.00     18.39
        ================================================
        ID = 3 (8310):   598.90   9.798    6.25     15.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3342) |   Area     (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.275 (i)
     TIME TO PEAK    (hrs)=  15.500
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     RUNOFF VOLUME    (mm)=   5.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83        16.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     469.04        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.00
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     10.07 (ii)   38.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.33         0.22          1.415 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         7.21          17.38
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.17           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  52.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6540     0.4604
                         0.0390     0.1699   |   0.8330     0.5249
                         0.1860     0.2610   |   1.0130     0.5896
                         0.3750     0.3534   |   1.4130     0.5996
                         0.4340     0.3813   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     1.415     6.00      17.38
     OUTFLOW: ID= 1 (5334)     33.000     0.280     7.00      17.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.76
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3077

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| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3342):   587.10   0.275    15.50     5.78
        + ID2= 2 (5334):    33.00   0.280     7.00    17.34
          ================================================
          ID = 3 (8314):   620.10   0.389     7.25     6.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.146 (i)
     TIME TO PEAK    (hrs)=  14.000
     RUNOFF VOLUME    (mm)=   5.040
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.120

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   1.732 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  15.903
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.379

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   1.868 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.059
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   0.907 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  15.663
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8388) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0282):   449.38   1.868     8.25    12.06
        + ID2= 2 (0284):    78.93   0.907     6.50    15.66
          ================================================
          ID = 3 (8388):   528.31   2.560     7.50    12.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation         Manning
                  0.00         233.00         0.0450
                 20.58         228.51         0.0450
                 41.17         227.74         0.0450
                 51.46         227.41         0.0450
                 97.77         225.96         0.0450
                149.23         223.94         0.0450
                200.69         220.84         0.0450
                226.42         220.66         0.0450
                238.85         220.22         0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70         0.0350      Main Channel
                245.85         219.72         0.0350      Main Channel
                246.35         220.06         0.0350      Main Channel
                248.85         220.23         0.0350      Main Channel
                303.60         221.64         0.0350      Main Channel
                380.79         224.98         0.0450
                432.25         229.54         0.0450
                457.98         233.33         0.0450
                483.71         234.27         0.0450
                509.44         233.81         0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.31    220.01    .382E+04         0.8          0.57       82.89
      1.06    220.76    .525E+05        12.1          0.66       72.51
      1.81    221.51    .240E+06        88.6          1.05       45.21
      2.56    222.26    .510E+06       261.7          1.46       32.47
      3.31    223.01    .843E+06       533.8          1.81       26.34
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      4.06   223.76    .124E+07     913.6          2.10      22.64
      4.81   224.51    .171E+07    1399.0          2.34      20.33
      5.56   225.26    .225E+07    2051.0          2.60      18.27
      6.31   226.01    .285E+07    2907.0          2.91      16.35
      7.06   226.76    .352E+07    3902.5          3.16      15.04
      7.82   227.52    .426E+07    5069.9          3.39      14.01
      8.57   228.27    .507E+07    6433.0          3.62      13.13
      9.32   229.02    .593E+07    8069.2          3.89      12.24
     10.07   229.77    .681E+07    9926.7          4.16      11.44
     10.82   230.52    .772E+07   11962.8          4.42      10.75
     11.57   231.27    .864E+07   14167.1          4.68      10.17
     12.32   232.02    .959E+07   16537.1          4.92       9.66
     13.07   232.77    .105E+08   19070.7          5.16       9.22
     13.82   233.52    .115E+08   21790.4          5.39       8.82

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8388)  528.31     2.56    7.50  12.60      0.43      0.59
OUTFLOW: ID= 1 (6286)  528.31     2.18    9.25  12.60      0.40      0.58


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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0286):   260.51   1.732     7.75    15.90
       + ID2= 2 (6286):   528.31   2.176     9.25    12.60
         ==================================================
         ID = 3 (8386):   788.82   3.749     8.50    13.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   0.899 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=   6.167
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.147

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   0.599 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.248
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.488 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.912
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   0.488     8.00     3.91
       + ID2= 2 (0300):   258.93   0.599     7.50     5.25
         ==================================================
         ID = 3 (8395):   589.44   1.081     8.00     4.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   1.075 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  12.562
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   1.470 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.485
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.297

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   1.075     9.75    12.56
       + ID2= 2 (0290):   269.18   1.470     7.50    12.49
         ==================================================
         ID = 3 (8397):   610.01   2.456     8.00    12.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   1.427 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.580
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   2.131 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   8.698
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.207

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   0.809 (i)
```

```
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=   5.913
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.141

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0292):   738.49   2.131     8.25     8.70
      + ID2= 2 (0294):   274.15   0.809     7.25     5.91
        ================================================
        ID = 3 (8398):  1012.64   2.892     8.00     7.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12    0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400      Main Channel
              250.37         231.80        0.0400      Main Channel
              250.87         232.23        0.0400      Main Channel
              251.97         233.10    0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.43   232.23    .510E+03         0.1         0.53      81.07
       0.87   232.67    .213E+04         0.7         0.83      51.49
       1.30   233.10    .501E+04         2.2         1.10      38.75
       1.98   233.78    .242E+05        12.6         1.34      31.93
       2.66   234.46    .738E+05        42.1         1.46      29.21
       3.34   235.14    .177E+06       127.9         1.84      23.13
       4.02   235.82    .314E+06       281.4         2.29      18.61
       4.70   236.50    .481E+06       509.4         2.71      15.73
       5.38   237.18    .672E+06       815.6         3.11      13.73
       6.06   237.86    .886E+06      1200.7         3.46      12.30
       6.74   238.54    .112E+07      1669.4         3.80      11.23
       7.42   239.22    .139E+07      2226.9         4.11      10.38
       8.10   239.90    .168E+07      2808.4         4.28       9.95
       8.78   240.58    .202E+07      3470.4         4.40       9.68
       9.46   241.26    .240E+07      4331.7         4.61       9.24
      10.14   241.94    .283E+07      5335.2         4.83       8.84
      10.82   242.62    .330E+07      6482.6         5.03       8.48
      11.50   243.30    .381E+07      7764.1         5.21       8.18
      12.18   243.98    .439E+07      9101.2         5.31       8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64     2.89    8.00   7.94      1.35      1.11
    OUTFLOW: ID= 1 (6296) 1012.64     2.79    8.75   7.94      1.34      1.11
```

```
------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   1.427     7.75    11.58
      + ID2= 2 (6296):  1012.64   2.793     8.75     7.94
        ================================================
        ID = 3 (8396):  1306.29   4.146     8.50     8.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29   4.146     8.50     8.76
      + ID2= 2 (8397):   610.01   2.456     8.00    12.53
        ================================================
        ID = 3 (8394):  1916.30   6.591     8.25     9.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30   6.591     8.25     9.96
      + ID2= 2 (8395):   589.44   1.081     8.00     4.50
        ================================================
        ID = 3 (8392):  2505.74   7.655     8.25     8.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
              272.47         222.88        0.0400
              277.09         222.76        0.0400
              281.71         222.58        0.0400
              288.54         222.18    0.0400 /0.0300  Main Channel
              288.64         221.00        0.0300      Main Channel
              290.94         221.00        0.0300      Main Channel
              291.04         221.00        0.0300      Main Channel
              291.54         222.75    0.0300 /0.0400  Main Channel
              300.18         222.83        0.0400
              304.80         223.04        0.0400
              309.42         223.25        0.0400
              318.65         223.69        0.0400
              360.22         225.57        0.0400
              397.16         227.60        0.0400
              457.20         228.35        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.29   221.29    .228E+04         0.2         0.32     165.63
       0.59   221.59    .465E+04         0.7         0.45     116.15
       0.88   221.88    .713E+04         1.2         0.54      96.87
       1.18   222.18    .971E+04         1.9         0.61      86.20
       1.57   222.57    .175E+05         3.3         0.59      88.86
       1.97   222.97    .427E+05         6.4         0.47     111.39
       2.36   223.36    .115E+06        16.1         0.44     119.14
       2.76   223.76    .237E+06        37.1         0.49     106.49
       3.15   224.15    .409E+06        72.9         0.56      93.40
       3.55   224.55    .631E+06       127.0         0.63      82.76
       3.94   224.94    .903E+06       202.4         0.70      74.37
       4.34   225.34    .123E+07       301.8         0.77      67.68
       4.73   225.73    .160E+07       433.5         0.85      61.37
       5.13   226.13    .200E+07       602.2         0.95      55.29
       5.52   226.52    .242E+07       804.7         1.05      50.13
       5.92   226.92    .286E+07      1034.2         1.14      46.11
       6.31   227.31    .332E+07      1290.5         1.22      42.88
       6.71   227.71    .380E+07      1560.9         1.29      40.55
       7.10   228.10    .432E+07      1835.6         1.34      39.19

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74     7.66    8.25   8.68      2.02      0.47
    OUTFLOW: ID= 1 (6302) 2505.74     6.18   10.50   8.68      1.94      0.48
```

```
------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   0.899     8.75     6.17
      + ID2= 2 (6302):  2505.74   6.181    10.50     8.68
        ================================================
        ID = 3 (8390):  2979.64   7.014    10.50     8.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   3.749     8.50    13.69
       + ID2= 2 (8390):  2979.64   7.014    10.50     8.28
         ================================================
         ID = 3 (8348):  3768.46  10.463     9.75     9.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.78

    Unit Hyd Qpeak  (cms)=   1.793

    PEAK FLOW       (cms)=   0.450 (i)
    TIME TO PEAK    (hrs)=  10.500
    RUNOFF VOLUME    (mm)=   7.337
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.175

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

    Unit Hyd Qpeak  (cms)=   6.009

    PEAK FLOW       (cms)=   2.320 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  14.568
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.347

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

    Unit Hyd Qpeak  (cms)=   5.453

    PEAK FLOW       (cms)=   2.409 (i)
    TIME TO PEAK    (hrs)=   8.250
    RUNOFF VOLUME    (mm)=  14.678
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.349

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

    Unit Hyd Qpeak  (cms)=   2.302

    PEAK FLOW       (cms)=   0.742 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  12.858
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.306

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   6.182

    PEAK FLOW       (cms)=   1.889 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  11.150
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.265

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   1.889     7.50    11.15
       + ID2= 2 (0276):    90.89   0.742     6.75    12.86
         ================================================
         ID = 3 (8360):   483.38   2.585     7.25    11.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   2.409     8.25    14.68
       + ID2= 2 (8360):   483.38   2.585     7.25    11.47
         ================================================
         ID = 3 (8358):   968.87   4.901     7.75    13.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (2801.0) ------>
             Distance      Elevation        Manning
                 0.00         241.14         0.0500
                13.32         240.80         0.0500
                39.95         240.07         0.0500
                96.54         236.21         0.0500
               113.19         234.15         0.0500
               123.18         232.35         0.0500
               143.15         225.80         0.0500
               149.81         225.62         0.0500
               153.14         225.40         0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26         0.0300      Main Channel
               162.30         224.85         0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05         0.0500
               186.43         229.14         0.0500
               213.06         234.75         0.0500
               236.37         237.09         0.0500
               266.33         237.31         0.0500
               292.96         237.83         0.0500
               329.58         241.50         0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.50   224.76    .263E+04         0.8          0.65      58.31
       1.36   225.62    .278E+05        13.4          1.10      34.54
       2.22   226.48    .855E+05        52.6          1.40      27.09
       3.09   227.35    .157E+06       120.4          1.74      21.78
       3.95   228.21    .242E+06       216.3          2.04      18.64
       4.81   229.07    .340E+06       341.8          2.29      16.56
       5.67   229.93    .450E+06       498.3          2.52      15.06
       6.53   230.79    .574E+06       688.3          2.73      13.90
       7.40   231.66    .711E+06       913.8          2.93      12.97
       8.26   232.52    .861E+06      1173.4          3.11      12.23
       9.12   233.38    .103E+07      1461.3          3.24      11.72
       9.98   234.24    .121E+07      1793.3          3.37      11.26
      10.85   235.11    .142E+07      2141.0          3.45      11.02
      11.71   235.97    .165E+07      2530.4          3.50      10.86
      12.57   236.83    .192E+07      2954.0          3.51      10.81
      13.43   237.69    .226E+07      3160.3          3.18      11.93
      14.29   238.55    .271E+07      3869.4          3.26      11.67
      15.16   239.42    .320E+07      4740.3          3.38      11.24
      16.02   240.28    .373E+07      5688.4          3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8358)  968.87     4.90    7.75  13.08      0.78      0.75
    OUTFLOW: ID= 1 (6280)  968.87     4.56    8.75  13.08      0.76      0.74

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--------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   2.320     7.00    14.57
       + ID2= 2 (6280):   968.87   4.564     8.75    13.08
         ================================================
         ID = 3 (8354):  1268.73   6.519     8.25    13.43
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0272)	Area (ha)= 157.38	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.09				

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 0.753 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 11.152
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0270)	Area (ha)= 243.61	Curve Number (CN)= 81.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 0.87				

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 1.320 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 13.984
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.333

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0268)	Area (ha)= 215.76	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 0.69				

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 1.091 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 11.050
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.263

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0264)	Area (ha)= 353.96	Curve Number (CN)= 69.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.30				

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 0.888 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 8.987
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.214

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0266)	Area (ha)= 508.09	Curve Number (CN)= 64.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.63				

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 0.901 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 7.566
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0264):	353.96	0.888	8.50	8.99
+ ID2= 2 (0266):	508.09	0.901	9.75	7.57
ID = 3 (8380):	862.05	1.777	9.00	8.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning	
0.00	274.03	0.0500	
10.55	272.73	0.0500	
21.10	271.28	0.0500	
50.12	266.83	0.0500	
87.04	260.36	0.0500	
92.32	260.06	0.0500	
94.95	259.93	0.0500	
101.00	256.87	0.0500	
103.00	256.58	0.0500 /0.0350	Main Channel
104.00	256.32	0.0350	Main Channel
106.00	256.05	0.0350	Main Channel
108.00	256.25	0.0350	Main Channel
110.78	256.65	0.0350 /0.0500	Main Channel
113.42	256.81	0.0500	
116.06	257.00	0.0500	
155.62	260.24	0.0500	
187.27	263.35	0.0500	
211.01	267.22	0.0500	
224.20	269.60	0.0500	
261.13	272.68	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8380)	862.05	1.78	9.00	8.15	0.45	0.97
OUTFLOW:	ID= 1 (6268)	862.05	1.73	10.25	8.15	0.44	0.97

ADD HYD (8382)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0268):	215.76	1.091	7.00	11.05
+ ID2= 2 (6268):	862.05	1.731	10.25	8.15
ID = 3 (8382):	1077.81	2.539	9.00	8.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel

```
              69.68        233.95         0.0300      Main Channel
              71.21        234.48    0.0300 /0.0500   Main Channel
              81.38        236.44         0.0500
              95.63        236.66         0.0500
             120.04        237.00         0.0500
             148.53        241.77         0.0500
             158.70        242.34         0.0500
             187.18        244.03         0.0500
             201.42        244.36         0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.45   234.34    .217E+04         0.7          0.99       52.83
        0.98   234.87    .966E+04         4.6          1.49       35.20
        1.50   235.39    .250E+05        13.7          1.73       30.41
        2.03   235.92    .475E+05        29.5          1.95       26.87
        2.56   236.45    .772E+05        52.5          2.14       24.50
        3.09   236.98    .142E+06        82.4          1.83       28.73
        3.61   237.50    .246E+06       158.1          2.03       25.91
        4.14   238.03    .357E+06       262.0          2.31       22.73
        4.67   238.56    .477E+06       392.1          2.59       20.27
        5.20   239.09    .604E+06       547.8          2.86       18.38
        5.72   239.61    .739E+06       729.2          3.11       16.90
        6.25   240.14    .882E+06       936.5          3.34       15.70
        6.78   240.67    .103E+07      1169.7          3.57       14.72
        7.31   241.20    .119E+07      1425.9          3.77       13.94
        7.83   241.72    .136E+07      1710.4          3.96       13.26
        8.36   242.25    .154E+07      1967.9          4.02       13.07
        8.89   242.78    .174E+07      2264.9          4.09       12.83
        9.42   243.31    .196E+07      2589.3          4.15       12.65
        9.94   243.83    .221E+07      2953.5          4.22       12.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     2.54    9.00   8.73      0.70      1.18
     OUTFLOW: ID= 1 (6270) 1077.81     2.49    9.75   8.73      0.69      1.18


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| ADD HYD   (8384) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6270):   243.61   1.320     7.50    13.98
     + ID2= 2 (6270):  1077.81   2.492     9.75     8.73
       ================================================
       ID = 3 (8384):  1321.42   3.620     9.25     9.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   1.720 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.597
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.348

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   1.943 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  14.645
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.349

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   0.722 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.980
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   1.110 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  10.343
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.405 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.355
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   0.650 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   5.543
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation        Manning
                 0.00         276.07         0.0400
                11.68         273.71         0.0400
                23.36         271.35         0.0400
                29.19         270.30         0.0400
                35.03         269.44         0.0400
                55.47         267.90         0.0400
                78.82         266.24         0.0400
                90.50         265.63         0.0400
               102.18         265.40         0.0400
               105.10         264.95    0.0400 /0.0350  Main Channel
               108.02         264.39         0.0350      Main Channel
               110.94         264.72         0.0350      Main Channel
               113.86         265.19    0.0350 /0.0400  Main Channel
               116.78         265.49         0.0400
               143.05         268.24         0.0400
               172.25         270.53         0.0400
               207.28         271.95         0.0400
               233.55         273.72         0.0400
               256.91         274.98         0.0400
               289.02         275.97         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.56   264.95    .723E+04         1.9          0.90       62.51
       1.14   265.53    .307E+05        13.5          1.49       37.92
       1.72   266.11    .951E+05        48.6          1.73       32.62
       2.30   266.69    .191E+06       117.8          2.09       27.03
```

2.88	267.27	.314E+06	225.2	2.43	23.24
3.46	267.85	.464E+06	375.5	2.74	20.59
4.04	268.43	.641E+06	573.2	3.03	18.62
4.62	269.01	.846E+06	821.9	3.29	17.15
5.20	269.59	.108E+07	1135.0	3.56	15.87
5.78	270.17	.134E+07	1525.1	3.86	14.64
6.36	270.75	.162E+07	1971.1	4.12	13.71
6.94	271.33	.194E+07	2474.0	4.33	13.04
7.52	271.91	.228E+07	3065.0	4.55	12.42
8.10	272.49	.266E+07	3773.4	4.80	11.75
8.68	273.07	.306E+07	4566.3	5.05	11.17
9.26	273.65	.348E+07	5443.7	5.30	10.66
9.84	274.23	.393E+07	6389.6	5.51	10.25
10.42	274.81	.440E+07	7426.2	5.72	9.88
11.00	275.39	.490E+07	8490.1	5.86	9.63

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0254)	403.00	0.65	8.25	5.54	0.19	0.90
OUTFLOW:	ID= 1 (0256)	403.00	0.62	10.00	5.54	0.18	0.90

ADD HYD (8370)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0256):	145.79	0.405	8.00	8.36
+	ID2= 2 (6256):	403.00	0.617	10.00	5.54
	ID = 3 (8370):	548.79	0.986	9.50	6.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0250)	Area	(ha)= 192.88	Curve Number	(CN)= 70.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 1.22				

Unit Hyd Qpeak (cms)= 1.930

PEAK FLOW (cms)= 0.529 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 9.304
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.222

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0246)	Area	(ha)= 759.61	Curve Number	(CN)= 55.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 1.81				

Unit Hyd Qpeak (cms)= 5.121

PEAK FLOW (cms)= 0.922 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 5.563
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.132

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0248)	Area	(ha)= 146.04	Curve Number	(CN)= 64.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 0.78				

Unit Hyd Qpeak (cms)= 2.271

PEAK FLOW (cms)= 0.446 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 7.494
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.178

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0246):	759.61	0.922	10.00	5.56
+	ID2= 2 (0248):	146.04	0.446	7.50	7.49
	ID = 3 (8364):	905.65	1.303	8.50	5.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8364)	905.65	1.30	8.50	5.87	0.61	0.71
OUTFLOW:	ID= 1 (6250)	905.65	1.21	10.75	5.87	0.59	0.70

ADD HYD (8366)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0250):	192.88	0.529	8.25	9.30
+	ID2= 2 (6250):	905.65	1.210	10.75	5.87
	ID = 3 (8366):	1098.53	1.691	10.25	6.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8366):	1098.53	1.691	10.25	6.48
+	ID2= 2 (8370):	548.79	0.986	9.50	6.29
	ID = 3 (8368):	1647.32	2.669	10.00	6.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
        ID1= 1 (0252):   319.99   1.110     8.00    10.34
      + ID2= 2 (8368):  1647.32   2.669    10.00     6.41
        ================================================
        ID = 3 (8372):  1967.31   3.671     9.50     7.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
            <------ DATA FOR SECTION (2581.0) ------>
           Distance      Elevation       Manning
              0.00         252.88        0.0500
             15.47         251.89        0.0500
             46.41         248.45        0.0500
             73.48         245.81        0.0500
             88.95         243.75        0.0500
            112.15         242.00        0.0500
            135.35         240.23        0.0500
            162.42         239.76        0.0500
            170.97         239.52    0.0500 /0.0350  Main Channel
            171.58         239.03        0.0350      Main Channel
            174.02         239.03        0.0350      Main Channel
            176.46         239.03        0.0350      Main Channel
            177.07         239.52    0.0350 /0.0500  Main Channel
            185.63         239.67        0.0500
            208.83         239.87        0.0500
            239.77         240.14        0.0500
            274.57         244.93        0.0500
            336.45         249.51        0.0500
            363.52         249.77        0.0500
            382.85         251.78        0.0500

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.49    239.52    .135E+05       2.5          0.92       91.32
     1.14    240.17    .175E+06      25.6          0.73      114.22
     1.78    240.81    .532E+06     123.5          1.17       71.85
     2.43    241.46    .932E+06     285.3          1.54       54.48
     3.07    242.10    .138E+07     506.5          1.85       45.25
     3.72    242.75    .186E+07     786.8          2.12       39.42
     4.36    243.39    .239E+07    1127.3          2.37       35.33
     5.01    244.04    .296E+07    1535.8          2.61       32.12
     5.65    244.68    .356E+07    2014.3          2.84       29.48
     6.30    245.33    .420E+07    2535.9          3.03       27.60
     6.94    245.97    .488E+07    3108.4          3.20       26.16
     7.59    246.62    .561E+07    3740.6          3.35       24.98
     8.23    247.26    .638E+07    4446.7          3.50       23.93
     8.88    247.91    .721E+07    5229.7          3.64       22.98
     9.52    248.55    .809E+07    6094.3          3.78       22.12
    10.17    249.20    .901E+07    7050.4          3.93       21.31
    10.81    249.84    .100E+08    7773.0          3.90       21.46
    11.46    250.49    .111E+08    8998.8          4.07       20.56
    12.10    251.13    .122E+08   10318.2          4.24       19.75

                                 <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8372) 1967.31    3.67    9.50   7.05      0.52      0.90
    OUTFLOW: ID= 1 (6258) 1967.31    3.39   11.25   7.05      0.52      0.91
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| ADD HYD   (8374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0258):   181.99   0.722     8.00    12.98
      + ID2= 2 (6258):  1967.31   3.386    11.25     7.05
        ================================================
        ID = 3 (8374):  2149.30   3.981    11.00     7.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0260):   476.24   1.943     8.25    14.65
      + ID2= 2 (8374):  2149.30   3.981    11.00     7.56
        ================================================
        ID = 3 (8376):  2625.54   5.750    10.25     8.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0262):   341.31   1.720     8.00    14.60
      + ID2= 2 (8376):  2625.54   5.750    10.25     8.84
        ================================================
        ID = 3 (8378):  2966.85   7.221    10.00     9.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85   7.221    10.00     9.50
      + ID2= 2 (8384):  1321.42   3.620     9.25     9.70
        ================================================
        ID = 3 (8362):  4288.27  10.785     9.75     9.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
            <------ DATA FOR SECTION (2721.0) ------>
           Distance      Elevation       Manning
              0.00         231.01        0.0450
             23.01         223.65        0.0450
             34.51         222.46        0.0450
             51.77         222.11        0.0450
             69.02         221.87        0.0450
            161.06         221.92        0.0450
            166.81         221.91        0.0450
            172.56         221.89        0.0450
            180.57         221.40    0.0450 /0.0300  Main Channel
            181.57         220.60        0.0300      Main Channel
            184.07         220.16        0.0300      Main Channel
            195.57         221.85    0.0300 /0.0450  Main Channel
            201.32         221.82        0.0450
            207.07         221.77        0.0450
            212.83         221.72        0.0450
            253.09         222.52        0.0450
            408.40         222.65        0.0450
            460.17         223.20        0.0450
            517.69         224.84        0.0450
            569.46         232.57        0.0450

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.41    220.57    .189E+04       0.5          0.49       60.18
     0.83    220.99    .697E+04       3.2          0.82       35.79
     1.24    221.40    .145E+05       8.8          1.07       27.45
     1.84    222.00    .643E+05      29.3          0.81       36.61
     2.44    222.60    .282E+06     132.9          0.83       35.41
     3.04    223.20    .707E+06     413.7          1.04       28.50
     3.64    223.80    .118E+07     876.8          1.31       22.46
     4.24    224.40    .168E+07    1494.8          1.57       18.75
     4.84    225.00    .221E+07    2264.1          1.82       16.23
     5.44    225.60    .274E+07    3196.3          2.06       14.29
     6.04    226.20    .328E+07    4258.6          2.30       12.84
     6.65    226.81    .383E+07    5444.7          2.52       11.72
     7.25    227.41    .438E+07    6749.7          2.73       10.82
     7.85    228.01    .494E+07    8169.4          2.93       10.08
     8.45    228.61    .551E+07    9700.7          3.12        9.46
     9.05    229.21    .608E+07   11340.8          3.30        8.94
     9.65    229.81    .666E+07   13087.4          3.48        8.48
    10.25    230.41    .724E+07   14938.5          3.65        8.08
    10.85    231.01    .783E+07   16892.4          3.82        7.73

                                 <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27   10.79    9.75   9.56      1.30      1.04
    OUTFLOW: ID= 1 (6272) 4288.27   10.70   10.25   9.56      1.30      1.04
```

```
------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   0.753     7.75    11.15
      + ID2= 2 (6272):  4288.27  10.700    10.25     9.56
        ================================================
        ID = 3 (8356):  4445.65  11.269    10.00     9.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8354):  1268.73   6.519     8.25    13.43
       + ID2= 2 (8356):  4445.65  11.269    10.00     9.62
         ================================================
         ID = 3 (8352):  5714.38  17.204     9.25    10.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65       0.0300       Main Channel
              190.02         218.37       0.0300       Main Channel
              194.52         218.60       0.0300       Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60       0.0500
              299.28         220.91       0.0500
              327.78         222.36       0.0500
              375.28         225.71       0.0500
              403.79         229.37       0.0500
              432.29         230.43       0.0500
              470.29         232.00       0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.48   218.85    .121E+05         1.2          0.36      173.94
       1.17   219.54    .839E+05         9.8          0.44      142.60
       1.86   220.23    .323E+06        41.0          0.47      131.43
       2.56   220.93    .708E+06       109.5          0.58      107.67
       3.25   221.62    .118E+07       224.3          0.71       87.36
       3.94   222.31    .168E+07       376.5          0.84       74.48
       4.63   223.00    .222E+07       567.9          0.96       65.26
       5.32   223.69    .279E+07       794.7          1.07       58.58
       6.02   224.39    .339E+07      1056.2          1.17       53.52
       6.71   225.08    .402E+07      1352.4          1.26       49.52
       7.40   225.77    .468E+07      1677.3          1.34       46.46
       8.09   226.46    .536E+07      2050.0          1.43       43.58
       8.79   227.16    .607E+07      2457.9          1.52       41.14
       9.48   227.85    .680E+07      2901.0          1.60       39.05
      10.17   228.54    .755E+07      3352.7          1.66       37.53
      10.86   229.23    .834E+07      3812.5          1.71       36.48
      11.55   229.92    .919E+07      4241.8          1.73       36.13
      12.25   230.62    .101E+08      4697.0          1.74       35.93
      12.94   231.31    .111E+08      5186.3          1.74       35.83

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38    17.20    9.25  10.47      1.34      0.45
    OUTFLOW: ID= 1 (6304) 5714.38    14.25   12.00  10.47      1.27      0.44


-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   292.37   0.450    10.50     7.34
       + ID2= 2 (6304):  5714.38  14.247    12.00    10.47
         ================================================
         ID = 3 (8350):  6006.75  14.687    12.00    10.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46  10.463     9.75     9.41
       + ID2= 2 (8350):  6006.75  14.687    12.00    10.31
         ================================================
         ID = 3 (8346):  9775.21  24.489    11.00     9.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   0.146    14.00     5.04
       + ID2= 2 (8346):  9775.21  24.489    11.00     9.97
         ================================================
         ID = 3 (8344): 10059.18  24.623    11.00     9.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  *******    370.0451
                        41.0590     56.7403   |  *******    863.4386
                        48.1390     86.3439   |  *******    ********
                        56.6340     *******   |  *******    ********
                        67.9600     *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8344)   ********    24.623     11.00       9.83
    OUTFLOW: ID= 1 (5509)   ********    19.107     14.50       9.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.60
                TIME SHIFT OF PEAK FLOW          (min)=210.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 26.4092

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0332) |   Area     (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.069 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  11.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0330) |   Area     (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   2.745 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.500
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3321.0) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.0380
               25.85         227.20        0.0380
               96.94         226.44        0.0380
              168.03         227.38        0.0380
              219.73         225.62        0.0380
              342.52         221.57        0.0380
              368.37         221.42        0.0380
              374.83         221.23        0.0380
              379.79         220.98    0.0380 /0.0300  Main Channel
              380.29         220.47       0.0300       Main Channel
              381.29         220.47       0.0300       Main Channel
              382.79         220.47       0.0300       Main Channel
              383.29         220.98    0.0300 /0.0380  Main Channel
              394.22         221.22       0.0380
              400.68         221.33       0.0380
              407.14         221.44       0.0380
              491.16         225.70       0.0380
              568.71         227.55       0.0380
              607.49         230.14       0.0380
              639.80         234.08       0.0380
```

<----------------------- TRAVEL TIME TABLE ----------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.51	220.98	.554E+04	0.9	0.56	107.27
1.20	221.67	.885E+05	12.1	0.49	122.32
1.88	222.35	.309E+06	64.7	0.76	79.70
2.57	223.04	.615E+06	165.4	0.97	61.99
3.25	223.72	.101E+07	322.1	1.16	52.06
3.94	224.41	.148E+07	542.9	1.33	45.51
4.62	225.09	.204E+07	835.4	1.48	40.77
5.31	225.78	.269E+07	1202.8	1.62	37.27
5.99	226.46	.344E+07	1618.0	1.70	35.46
6.68	227.15	.447E+07	1932.0	1.56	38.56
7.36	227.83	.580E+07	2763.9	1.72	34.96
8.05	228.52	.718E+07	3861.9	1.95	30.97
8.73	229.20	.859E+07	5115.4	2.16	27.98
9.42	229.89	.100E+08	6519.2	2.35	25.64
10.10	230.57	.115E+08	8092.3	2.55	23.69
10.79	231.26	.130E+08	9821.5	2.73	22.05
11.47	231.94	.145E+08	11690.0	2.92	20.68
12.16	232.63	.160E+08	13694.9	3.09	19.52
12.84	233.31	.176E+08	15833.9	3.26	18.52

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0330)	468.30	2.74	7.50	13.50	0.63	0.55
OUTFLOW:	ID= 1 (6332)	468.30	2.16	9.75	13.50	0.59	0.55

ADD HYD (8322)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0332):	393.44	1.069	10.00	11.22
	+ ID2= 2 (6332):	468.30	2.156	9.75	13.50
	ID = 3 (8322):	861.74	3.223	9.75	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0328)	Area (ha)= 492.92 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 4.411

PEAK FLOW (cms)= 1.670 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 12.082
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.288

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0326)	Area (ha)= 678.91 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.95

Unit Hyd Qpeak (cms)= 5.941

PEAK FLOW (cms)= 2.547 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.570
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.323

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0324)	Area (ha)= 615.64 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.90

Unit Hyd Qpeak (cms)= 5.544

PEAK FLOW (cms)= 2.268 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.047
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.311

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0320)	Area (ha)= 278.74 Curve Number (CN)= 81.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.36

Unit Hyd Qpeak (cms)= 3.499

PEAK FLOW (cms)= 1.448 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 14.083
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.335

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (3182)	Area (ha)= 457.40 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.49

Unit Hyd Qpeak (cms)= 5.259

PEAK FLOW (cms)= 1.960 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 12.530
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.298

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3181)	Area (ha)= 26.00
ID= 1 DT=15.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)	*TOTALS*
Surface Area	(ha)=	21.06	4.94	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	416.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	55.44	11.13	
over (min)		15.00	45.00	
Storage Coeff. (min)	=	9.37 (ii)	35.11 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	45.00	
Unit Hyd. peak (cms)	=	0.09	0.03	
PEAK FLOW (cms)	=	2.79	0.09	2.825 (iii)
TIME TO PEAK (hrs)	=	6.00	6.50	6.00
RUNOFF VOLUME (mm)	=	40.00	12.13	34.70
TOTAL RAINFALL (mm)	=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.29	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5318)		OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1						
DT= 15.0 min		0.0000	0.0000		3.3800	0.7654
		0.0510	0.4423		4.1500	0.8231
		0.8700	0.5378		4.8750	0.8778
		1.9500	0.6105		5.2750	0.8878
		2.5620	0.6796		0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (3181)	26.000	2.825	6.00	34.70
OUTFLOW:	ID= 1 (5318)	26.000	0.751	6.50	34.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.57
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.5295

ADD HYD (8334)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3182):	457.40	1.960	8.25	12.53

```
       + ID2= 2 (5318):    26.00   0.751     6.50    34.62
         ================================================
         ID = 3 (8334):   483.40   2.212     6.75    13.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                0.00         249.00        0.0380
               22.92         245.86        0.0380
               45.83         244.87        0.0380
               91.66         243.11        0.0380
              126.03         239.53        0.0380
              160.41         237.17        0.0380
              166.14         237.06        0.0380
              177.59         237.13        0.0380
              183.32         237.20        0.0380
              189.05         236.70    0.0380 /0.0350  Main Channel
              193.05         235.89        0.0350      Main Channel
              197.05         236.64    0.0350 /0.0380  Main Channel
              200.51         236.74        0.0380
              206.24         237.03        0.0380
              246.34         238.82        0.0380
              263.53         243.87        0.0380
              389.56         247.64        0.0380
              452.58         247.74        0.0380
              498.41         248.60        0.0380
              567.16         249.84        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37  236.26    .270E+04        0.4         0.58     107.96
       0.75  236.64    .108E+05        2.6         0.92      68.01
       1.48  237.37    .877E+05       27.4         1.17      53.35
       2.20  238.09    .277E+06      122.1         1.65      37.83
       2.93  238.82    .540E+06      299.7         2.08      30.01
       3.66  239.55    .857E+06      587.8         2.57      24.29
       4.39  240.28    .120E+07      977.8         3.04      20.52
       5.11  241.00    .158E+07     1458.1         3.46      18.02
       5.84  241.73    .198E+07     2028.6         3.84      16.23
       6.57  242.46    .240E+07     2690.5         4.19      14.86
       7.29  243.18    .285E+07     3431.8         4.50      13.84
       8.02  243.91    .335E+07     4149.1         4.64      13.44
       8.75  244.64    .393E+07     4746.6         4.51      13.80
       9.47  245.36    .463E+07     5618.6         4.53      13.75
      10.20  246.09    .545E+07     6781.8         4.66      13.39
      10.93  246.82    .635E+07     8274.5         4.87      12.79
      11.66  247.55    .733E+07     9988.0         5.10      12.23
      12.38  248.27    .853E+07    11422.0         5.01      12.45
      13.11  249.00    .989E+07    13749.7         5.20      11.98

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     2.21    6.75  13.72      0.68      0.82
     OUTFLOW: ID= 1 (6320)  483.40     1.92    9.50  13.72      0.63      0.77


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-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):   278.74   1.448     8.00    14.08
       + ID2= 2 (6320):   483.40   1.921     9.50    13.72
         ================================================
         ID = 3 (8332):   762.14   3.286     8.75    13.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

    Unit Hyd Qpeak  (cms)=   3.978

    PEAK FLOW       (cms)=   1.241 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  12.387
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.295

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
              195.48         236.54        0.0350
              202.46         236.32        0.0350
              205.48         236.14    0.0350 /0.0310  Main Channel
              205.98         235.61        0.0310      Main Channel
              207.98         235.25        0.0310      Main Channel
              209.98         235.53        0.0310      Main Channel
              210.48         236.00    0.0310 /0.0350  Main Channel
              216.42         236.73        0.0350
              258.31         239.09        0.0350
              328.12         239.84        0.0350
              439.83         241.47        0.0350
              530.58         242.08        0.0350
              586.43         242.93        0.0350
              691.16         248.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37  235.62    .215E+04        0.7         0.77      53.88
       0.75  236.00    .634E+04        3.5         1.36      30.45
       1.46  236.71    .297E+05       19.3         1.62      25.66
       2.16  237.41    .103E+06       75.8         1.84      22.60
       2.87  238.12    .229E+06      202.8         2.21      18.79
       3.57  238.82    .407E+06      423.3         2.59      16.03
       4.28  239.53    .654E+06      727.7         2.77      14.97
       4.99  240.24    .103E+07     1242.0         3.01      13.76
       5.69  240.94    .151E+07     2002.3         3.31      12.54
       6.40  241.65    .210E+07     2987.9         3.55      11.70
       7.10  242.35    .286E+07     4302.8         3.75      11.07
       7.81  243.06    .374E+07     6165.3         4.10      10.11
       8.51  243.76    .468E+07     8642.4         4.60       9.03
       9.22  244.47    .565E+07    11496.3         5.06       8.20
       9.93  245.18    .666E+07    14714.1         5.50       7.54
      10.63  245.88    .770E+07    18290.3         5.91       7.02
      11.34  246.59    .877E+07    22221.9         6.30       6.58
      12.04  247.29    .988E+07    26464.4         6.67       6.22
      12.75  248.00    .110E+08    31061.3         7.01       5.91

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0314)  165.20     1.24    7.00  12.39      0.45      0.85
     OUTFLOW: ID= 1 (6316)  165.20     1.06    8.00  12.39      0.43      0.82


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-------------------
| CALIB            |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.01

    Unit Hyd Qpeak  (cms)=   3.923

    PEAK FLOW       (cms)=   1.569 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  14.611
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.348

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0316):   232.34   1.569     7.25    14.61
       + ID2= 2 (6316):   165.20   1.059     8.00    12.39
         ================================================
         ID = 3 (8338):   397.54   2.608     7.75    13.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

    Unit Hyd Qpeak  (cms)=   4.529
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     PEAK FLOW      (cms)=   1.796 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=  13.533
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW      (cms)=   1.176 (i)
     TIME TO PEAK   (hrs)=   8.500
     RUNOFF VOLUME   (mm)=   7.070
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW      (cms)=   0.603 (i)
     TIME TO PEAK   (hrs)=   7.000
     RUNOFF VOLUME   (mm)=   7.758
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   1.176     8.50     7.07
      + ID2= 2 (0310):   138.28   0.603     7.00     7.76
        ================================================
        ID = 3 (8342):   667.58   1.702     8.00     7.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3121.0) ------>
             Distance      Elevation       Manning
                0.00         265.94        0.0360
               38.07         265.43        0.0360
               59.82         263.98        0.0360
              103.32         254.59        0.0360
              157.70         252.16        0.0360
              217.52         250.45        0.0360
              233.84         247.69        0.0360
              234.71         247.27        0.0360
              239.71         246.38        0.0360
              244.71         246.12    0.0360 /0.0330  Main Channel
              247.71         245.17        0.0330      Main Channel
              249.71         245.19        0.0330      Main Channel
              251.71         245.64    0.0330 /0.0360  Main Channel
              259.71         246.67        0.0360
              282.78         247.12        0.0360
              315.41         251.60        0.0360
              424.17         256.13        0.0360
              478.55         257.04        0.0360
              516.62         259.37        0.0360
              538.37         266.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.47   245.64    .111E+04         3.1         1.78       6.07
       1.54   246.71    .103E+05        53.9         3.39       3.19
       2.61   247.78    .414E+05       281.3         4.40       2.45
       3.68   248.85    .839E+05       749.1         5.79       1.87
       4.74   249.91    .136E+06      1463.2         6.97       1.55
       5.81   250.98    .201E+06      2354.8         7.61       1.42
       6.88   252.05    .295E+06      3533.0         7.76       1.39
       7.95   253.12    .427E+06      5303.9         8.05       1.34
       9.02   254.19    .594E+06      7856.5         8.58       1.26
      10.09   255.26    .792E+06     11449.2         9.37       1.15
      11.15   256.32    .101E+07     15862.4        10.15       1.06
      12.22   257.39    .127E+07     21074.5        10.75       1.01
      13.29   258.46    .155E+07     28184.1        11.78       0.92
      14.36   259.53    .185E+07     36386.2        12.77       0.85
      15.43   260.60    .215E+07     46110.6        13.89       0.78
      16.50   261.67    .246E+07     56822.5        14.95       0.72
      17.56   262.73    .278E+07     68498.1        15.97       0.68
      18.63   263.80    .310E+07     81118.8        16.94       0.64
      19.70   264.87    .344E+07     93603.2        17.66       0.61

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     1.70    8.00   7.21      0.26      1.78
     OUTFLOW: ID= 1 (6312)  667.58     1.70    8.00   7.21      0.26      1.78

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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   1.796     8.00    13.53
      + ID2= 2 (6312):   667.58   1.699     8.00     7.21
        ================================================
        ID = 3 (8340):  1027.02   3.494     8.00     9.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   2.608     7.75    13.69
      + ID2= 2 (8340):  1027.02   3.494     8.00     9.42
        ================================================
        ID = 3 (8336):  1424.56   6.086     8.00    10.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   3.286     8.75    13.85
      + ID2= 2 (8336):  1424.56   6.086     8.00    10.61
        ================================================
        ID = 3 (8330):  2186.70   9.233     8.25    11.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.20   223.86    .145E+04         0.2         0.43     147.27
       0.73   224.39    .159E+05         2.8         0.68      93.11
       1.27   224.93    .561E+05        11.0         0.75      85.19
       1.80   225.46    .217E+06        45.6         0.80      79.20
       2.33   225.99    .566E+06       134.4         0.91      70.20
       2.87   226.53    .122E+07       338.1         1.06      59.97
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      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8330) 2186.70     9.23    8.25  11.74     1.15      0.73
   OUTFLOW: ID= 1 (6324) 2186.70     7.97   10.00  11.74     1.07      0.72


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-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8324):   615.64   2.268     9.00    13.05
      + ID2= 2 (6324):  2186.70   7.966    10.00    11.74
        ================================================
        ID = 3 (8328):  2802.34  10.191     9.75    12.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW      (cms)=   2.099 (i)
    TIME TO PEAK   (hrs)=   8.500
    RUNOFF VOLUME   (mm)=  13.561
    TOTAL RAINFALL  (mm)=  42.000
    RUNOFF COEFFICIENT  =   0.323

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8322):   513.13   2.099     8.50    13.56
      + ID2= 2 (8328):  2802.34  10.191     9.75    12.03
        ================================================
        ID = 3 (8326):  3315.47  12.230     9.75    12.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8326):   678.91   2.547     9.00    13.57
      + ID2= 2 (8326):  3315.47  12.230     9.75    12.27
        ================================================
        ID = 3 (8324):  3994.38  14.756     9.75    12.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3281.0) ------>
            Distance       Elevation       Manning
               0.00          228.00        0.0380
              18.58          224.97        0.0380
              78.98          223.52        0.0380
             125.44          223.28        0.0380
             171.90          221.71        0.0380
             213.72          219.65        0.0380
             218.36          219.40        0.0380
             223.01          219.19        0.0380
             225.95          219.14    0.0380 /0.0320  Main Channel
             226.45          218.14        0.0320      Main Channel
             236.95          218.14        0.0320      Main Channel
             245.85          218.14        0.0320      Main Channel
             245.95          219.14    0.0320 /0.0380  Main Channel
             246.24          219.16        0.0380
             250.88          219.24        0.0380
             255.53          219.39        0.0380
             325.22          221.47        0.0380
             367.03          223.14        0.0380
             404.20          225.17        0.0380
             459.95          228.04        0.0380

        <---------------------- TRAVEL TIME TABLE ---------------------->
         DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.50   218.64    .373E+05        3.2         0.33     192.37
         1.00   219.14    .752E+05       10.1         0.51     124.71
         1.52   219.66    .149E+06       22.2         0.57     112.06
         2.04   220.18    .279E+06       43.4         0.59     107.06
         2.56   220.70    .464E+06       77.0         0.63     100.52
         3.08   221.22    .705E+06      125.7         0.68      93.56
         3.61   221.75    .100E+07      192.7         0.73      86.62
         4.13   222.27    .135E+07      278.1         0.79      80.92
         4.65   222.79    .176E+07      385.9         0.84      75.86
         5.17   223.31    .222E+07      514.9         0.89      71.82
         5.69   223.83    .280E+07      662.7         0.90      70.40
         6.21   224.35    .345E+07      867.7         0.96      66.35
         6.73   224.87    .417E+07     1107.0         1.01      62.81
         7.25   225.39    .494E+07     1400.0         1.08      58.80
         7.78   225.92    .573E+07     1732.2         1.15      55.17
         8.30   226.44    .655E+07     2099.9         1.22      52.02
         8.82   226.96    .740E+07     2502.8         1.29      49.29
         9.34   227.48    .828E+07     2940.9         1.36      46.90
         9.86   228.00    .918E+07     3414.3         1.42      44.79

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8324) 3994.38    14.76    9.75  12.49     1.20      0.53
   OUTFLOW: ID= 1 (6328) 3994.38    12.61   11.50  12.49     1.11      0.52


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8328):   492.92   1.670     9.00    12.08
      + ID2= 2 (6328):  3994.38  12.607    11.50    12.49
        ================================================
        ID = 3 (8320):  4487.30  14.097    11.25    12.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  14.097    11.25    12.44
      + ID2= 2 (8322):   861.74   3.223     9.75    12.46
        ================================================
        ID = 3 (8318):  5349.04  17.133    11.00    12.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  19.107    14.50     9.83
      + ID2= 2 (8318):  5349.04  17.133    11.00    12.45
        ================================================
        ID = 3 (8316): 15408.22  33.914    13.00    10.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   0.389     7.25     6.40
      + ID2= 2 (8316): 15408.22  33.914    13.00    10.74
        ================================================
        ID = 3 (8312): 16028.32  34.228    13.00    10.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```

```
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90   9.798     6.25     15.95
      + ID2= 2 (8312): 16028.32  34.228    13.00     10.57
        ================================================
        ID = 3 (8308): 16627.22  34.888    12.50     10.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    74.0090
                         66.5450    18.5023   |  *******    ********
                         98.5430    37.0045   |  *******    ********

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     34.888     12.50      10.76
    OUTFLOW: ID= 1 (5510)   ********     34.412     13.25      10.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.64
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  9.5730
```

```
-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   1.223    22.50     10.07
      + ID2= 2 (5510): 16627.22  34.412    13.25     10.76
        ================================================
        ID = 3 (8240): 19412.22  35.468    13.50     10.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  14.571    12.25      6.08
      + ID2= 2 (8240): 19412.22  35.468    13.50     10.66
        ================================================
        ID = 3 (8238): 28936.45  49.761    13.00      9.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   1.208    10.25      5.39
      + ID2= 2 (8238): 28936.45  49.761    13.00      9.15
        ================================================
        ID = 3 (8236): 29941.03  50.838    13.00      9.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   3.513     6.00     10.55
      + ID2= 2 (8236): 29941.03  50.838    13.00      9.03
        ================================================
        ID = 3 (8234): 30226.83  51.024    13.00      9.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   1.096     7.25      6.33
      + ID2= 2 (8234): 30226.83  51.024    13.00      9.04
        ================================================
        ID = 3 (8230): 30570.83  51.336    12.75      9.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06   3.673     9.00      5.24
      + ID2= 2 (8230): 30570.83  51.336    12.75      9.01
        ================================================
        ID = 3 (8228): 32522.89  53.703    12.75      8.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   1.461     8.25      4.06
      + ID2= 2 (8228): 32522.89  53.703    12.75      8.79
        ================================================
        ID = 3 (8190): 33538.11  54.595    12.50      8.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
  ***************************
  ** SIMULATION NUMBER:   2 **
  ***************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\5a76734a
| Ptotal= 54.40 mm |    Comments: 5-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.36 |  3.25    2.18 |  6.25    9.79 |  9.25    1.90
                0.50    1.36 |  3.50    2.18 |  6.50    9.79 |  9.50    1.90
                0.75    1.36 |  3.75    2.18 |  6.75    4.35 |  9.75    1.90
                1.00    1.36 |  4.00    2.18 |  7.00    4.35 | 10.00    1.90
                1.25    1.36 |  4.25    3.26 |  7.25    3.26 | 10.25    1.09
                1.50    1.36 |  4.50    3.26 |  7.50    3.26 | 10.50    1.09
                1.75    1.36 |  4.75    4.35 |  7.75    3.26 | 10.75    1.09
                2.00    1.36 |  5.00    4.35 |  8.00    3.26 | 11.00    1.09
                2.25    1.63 |  5.25    6.53 |  8.25    1.90 | 11.25    1.09
                2.50    1.63 |  5.50    6.53 |  8.50    1.90 | 11.50    1.09
                2.75    1.63 |  5.75   26.11 |  8.75    1.90 | 11.75    1.09
                3.00    1.63 |  6.00   71.81 |  9.00    1.90 | 12.00    1.09
```

```
-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   2.534 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.976
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.128

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.468 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   5.032
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.093

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980
```

```
     PEAK FLOW       (cms)=   1.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.056
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   2.564 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.253
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   1.170 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.450
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   1.224 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation        Manning
                0.00         287.00         0.0500
               23.66         283.72         0.0500
               70.98         280.94         0.0500
              112.38         280.23         0.0500
              171.52         276.80         0.0500
              260.24         274.46         0.0500
              266.16         274.26         0.0500
              272.07         274.12         0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82         0.0300      Main Channel
              277.99         273.82         0.0300      Main Channel
              279.49         273.82         0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27         0.0500
              289.81         274.57         0.0500
              325.30         275.75         0.0500
              396.28         278.98         0.0500
              449.51         280.97         0.0500
              496.83         283.90         0.0500
              585.54         287.92         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.30   274.12    .273E+04        0.9          0.99       49.81
       0.98   274.80    .583E+05       20.8          1.05       46.71
       1.66   275.48    .203E+06       95.2          1.38       35.53
       2.33   276.15    .438E+06      256.0          1.73       28.50
       3.01   276.83    .755E+06      524.8          2.05       23.97
       3.69   277.51    .114E+07      935.8          2.43       20.26
       4.37   278.19    .157E+07     1472.0          2.76       17.82
       5.05   278.87    .206E+07     2140.7          3.06       16.06
       5.72   279.54    .261E+07     2938.6          3.33       14.79
       6.40   280.22    .321E+07     3887.6          3.57       13.77
       7.08   280.90    .390E+07     4795.4          3.63       13.56
       7.76   281.58    .468E+07     6196.2          3.91       12.58
       8.43   282.25    .550E+07     7803.9          4.19       11.74
       9.11   282.93    .637E+07     9601.9          4.45       11.05
       9.79   283.61    .728E+07    11594.8          4.70       10.46
      10.47   284.29    .823E+07    13845.3          4.96        9.91
      11.15   284.97    .922E+07    16293.4          5.21        9.43
      11.82   285.64    .103E+08    18952.0          5.45        9.02
      12.50   286.32    .113E+08    21824.3          5.69        8.65

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)     (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     1.22     9.25   7.49       0.31      0.99
     OUTFLOW: ID= 1 (6350)  590.18     1.20    10.25   7.49       0.31      0.99

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (0350):   366.84    1.170     7.75      7.45
        + ID2= 2 (6350):   590.18    1.197    10.25      7.49
          ================================================
          ID = 3 (8220):   957.02    2.179     8.75      7.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (0346):   350.93    2.564     7.25      15.25
        + ID2= 2 (8220):   957.02    2.179     8.75       7.47
          ================================================
          ID = 3 (8222):  1307.95    4.585     8.00       9.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation        Manning
                0.00         257.95         0.0500
                7.83         257.34         0.0500
               15.66         256.19         0.0500
               21.53         254.01         0.0500
               41.11         244.06         0.0500
               76.35         241.38         0.0500
              111.58         239.74         0.0500
              113.54         239.61         0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81         0.0300      Main Channel
              115.50         238.81         0.0300      Main Channel
              116.15         238.81         0.0300      Main Channel
              116.25         239.41         0.0300      Main Channel
              117.46         239.52         0.0500
              119.41         239.72         0.0500
              121.37         240.04         0.0500
              131.16         241.84         0.0500
              156.61         247.03         0.0500
              176.19         251.46         0.0500
              193.80         258.79         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.60   239.41    .224E+04        2.2          1.52       17.12
       1.58   240.39    .216E+05       22.3          1.61       16.16
       2.55   241.36    .804E+05      101.0          1.96       13.27
       3.53   242.34    .173E+06      275.6          2.48       10.46
       4.50   243.31    .293E+06      553.9          2.95        8.80
       5.48   244.29    .438E+06      961.8          3.42        7.60
       6.45   245.26    .599E+06     1534.4          3.99        6.51
       7.43   246.24    .770E+06     2228.4          4.51        5.76
       8.41   247.22    .951E+06     3043.6          4.98        5.21
       9.38   248.19    .114E+07     3982.1          5.43        4.78
      10.36   249.17    .134E+07     5040.1          5.85        4.44
      11.33   250.14    .155E+07     6218.5          6.24        4.16
      12.31   251.12    .177E+07     7518.6          6.61        3.93
      13.29   252.10    .200E+07     8969.0          6.98        3.72
      14.26   253.07    .224E+07    10554.1          7.35        3.53
```

15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	4.59	8.00	9.56	0.72	1.53
OUTFLOW: ID= 1 (6352)	1307.95	4.55	8.25	9.56	0.71	1.53

ADD HYD (8224)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	1.840	7.00	9.06
+ ID2= 2 (6352):	1307.95	4.551	8.25	9.56
ID = 3 (8224):	1689.38	6.228	8.00	9.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	6.23	8.00	9.45	0.97	1.09
OUTFLOW: ID= 1 (6354)	1689.38	5.80	9.00	9.45	0.93	1.09

ADD HYD (8226)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	0.468	8.00	5.03
+ ID2= 2 (6354):	1689.38	5.795	9.00	9.45
ID = 3 (8226):	1952.06	6.251	8.75	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0344)	Area (ha)= 344.00 Curve Number (CN)= 59.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 1.873 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 10.666
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.196

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3402)	Area (ha)= 234.60
ID= 1 DT=15.0 min	Total Imp(%)= 28.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.69	168.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1250.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	9.73
over (min)		15.00	45.00
Storage Coeff. (min)=		16.35 (ii)	43.52 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	4.27 2.34 5.191 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	52.40 9.09 14.72
TOTAL RAINFALL	(mm)=	54.40 54.40 54.40
RUNOFF COEFFICIENT	=	0.96 0.17 0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3401)	Area (ha)= 51.20
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.55	27.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	14.25
over (min)		15.00	45.00
Storage Coeff. (min)=		10.35 (ii)	33.67 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.03

		TOTALS
PEAK FLOW	(cms)=	1.79 0.64 2.052 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	52.40 10.87 19.59
TOTAL RAINFALL	(mm)=	54.40 54.40 54.40
RUNOFF COEFFICIENT	=	0.96 0.20 0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5340)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.3360	1.7877
	0.1730	0.6348	7.2780	2.2185
	1.8360	0.8250	9.1880	2.6486
	2.1540	1.1051	9.5880	2.6586

```
                          3.3950     1.3506   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      2.052      6.00      19.59
     OUTFLOW: ID= 1 (5340)     51.200      0.284      8.00      19.57

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.83
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6479

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   234.60   5.191     6.00    14.72
       + ID2= 2 (5340):    51.20   0.284     8.00    19.57
         ================================================
         ID = 3 (8232):   285.80   5.262     6.00    15.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   2.057 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   9.159
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   1.954 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   9.147
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.460 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   7.475
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   1.542 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  10.251
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.188

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   3.568 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.440
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.092 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  11.459
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.255 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.010
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   1.448 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.065
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.461 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.960
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   2.387 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.788
     TOTAL RAINFALL   (mm)=  54.400
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     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   0.868 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.324
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   0.868     7.00     9.32
      + ID2= 2 (0366):   462.62   2.387     7.50    11.79
        ================================================
        ID = 3 (8302):   617.89   3.218     7.25    11.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13        92.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     889.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         8.34
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.33 (ii)   42.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.45         1.12          1.889 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         8.03          11.58
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.15           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.870 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.638
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD     (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.641 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.867
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   0.870     7.50     4.64
      + ID2= 2 (0360):   138.37   0.641     6.75     6.87
        ================================================
        ID = 3 (8306):   568.24   1.473     7.00     5.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation        Manning
                 0.00         261.46         0.0550
                27.86         254.23         0.0550
                51.07         251.96         0.0550
                74.29         250.77         0.0550
                97.50         249.91         0.0550
               125.36         249.40         0.0550
               150.93         247.40         0.0550
               155.93         247.33    0.0550 /0.0350  Main Channel
               157.93         246.85         0.0350      Main Channel
               159.18         246.65         0.0350      Main Channel
               160.18         246.63         0.0350      Main Channel
               160.93         246.85         0.0350      Main Channel
               161.93         247.18    0.0350 /0.0550  Main Channel
               163.18         248.03         0.0550
               168.18         248.58         0.0550
               183.18         250.18         0.0550
               201.97         252.59         0.0550
               213.57         256.02         0.0550
               225.18         260.31         0.0550
               229.82         261.00         0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   247.18   .556E+04        1.9          1.03      49.95
       1.28   247.91   .336E+05       16.7          1.53      33.61
       2.00   248.63   .913E+05       53.6          1.81      28.40
       2.73   249.36   .185E+06      122.3          2.05      25.18
       3.46   250.09   .344E+06      224.6          2.02      25.52
       4.19   250.82   .574E+06      417.9          2.25      22.91
       4.91   251.54   .855E+06      699.1          2.53      20.38
       5.64   252.27   .118E+07     1075.3          2.82      18.26
       6.37   253.00   .153E+07     1559.9          3.15      16.38
       7.10   253.73   .191E+07     2137.6          3.46      14.89
       7.82   254.45   .231E+07     2815.2          3.77      13.67
       8.55   255.18   .272E+07     3608.5          4.10      12.58
       9.28   255.91   .315E+07     4488.2          4.41      11.69
      10.01   256.64   .358E+07     5458.0          4.71      10.95
      10.73   257.36   .403E+07     6512.4          4.99      10.32
      11.46   258.09   .449E+07     7649.8          5.27       9.78
      12.19   258.82   .496E+07     8869.5          5.53       9.32
      12.92   259.55   .544E+07    10171.2          5.78       8.91
      13.64   260.27   .593E+07    11554.8          6.02       8.55

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     1.47   7.00   5.18      0.44      1.03
     OUTFLOW: ID= 1 (6362)  568.24     1.30   8.25   5.18      0.38      1.03

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0362):   118.78   1.889     6.00    11.58
      + ID2= 2 (6362):   568.24   1.303     8.25     5.18
        ================================================
        ID = 3 (8304):   687.02   2.147     6.50     6.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8302):   617.89   3.218     7.25    11.17
      + ID2= 2 (8304):   687.02   2.147     6.50     6.29
        ================================================
        ID = 3 (8300):  1304.91   5.155     7.00     8.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation        Manning
                0.00         230.00         0.0370
               18.48         223.26         0.0370
               36.96         223.05         0.0370
               64.67         222.94         0.0370
              110.87         222.86         0.0370
              133.96         222.74         0.0370
              147.82         222.65         0.0370
              170.92         222.31         0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86         0.0300     Main Channel
              175.54         221.86         0.0300     Main Channel
              176.19         221.86         0.0300     Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25         0.0370
              184.78         222.28         0.0370
              189.40         222.31         0.0370
              332.60         222.37         0.0370
              450.00         230.00         0.0370

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.40   222.26    .771E+03         0.3        0.52       41.74
       0.81   222.67    .784E+05        30.3        0.51       43.17
       1.21   223.07    .210E+06       123.2        0.77       28.42
       1.62   223.48    .384E+06       301.0        1.03       21.25
       2.03   223.89    .563E+06       550.2        1.28       17.06
       2.44   224.30    .747E+06       860.7        1.51       14.46
       2.84   224.70    .934E+06      1228.1        1.73       12.68
       3.25   225.11    .113E+07      1649.3        1.92       11.37
       3.66   225.52    .132E+07      2122.3        2.11       10.37
       4.07   225.93    .152E+07      2645.5        2.29        9.58
       4.47   226.33    .172E+07      3217.8        2.45        8.92
       4.88   226.74    .193E+07      3838.3        2.61        8.38
       5.29   227.15    .214E+07      4506.3        2.76        7.92
       5.70   227.56    .236E+07      5221.3        2.91        7.52
       6.10   227.96    .258E+07      5983.0        3.05        7.17
       6.51   228.37    .280E+07      6790.9        3.19        6.87
       6.92   228.78    .303E+07      7645.0        3.32        6.60
       7.33   229.19    .326E+07      8545.1        3.45        6.35
       7.73   229.59    .349E+07      9491.0        3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8300) 1304.91     5.16     7.00   8.60       0.47       0.52
    OUTFLOW: ID= 1 (6368) 1304.91     4.77     8.25   8.60       0.46       0.52
```

```
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0368):   159.48   0.461     7.75     6.96
      + ID2= 2 (6368):  1304.91   4.771     8.25     8.60
        ================================================
        ID = 3 (8298):  1464.39   5.224     8.25     8.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85   1.448     6.75    12.06
      + ID2= 2 (8298):  1464.39   5.224     8.25     8.42
        ================================================
        ID = 3 (8296):  1656.24   6.423     8.00     8.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation        Manning
                0.00         225.00         0.0390
               30.80         219.38         0.0390
               61.61         219.30         0.0390
               77.01         219.27         0.0390
              469.76         219.14         0.0390
              477.46         219.13         0.0390
              485.16         219.10         0.0390
              492.86         219.09         0.0390
              495.56         219.09    0.0390 /0.0310  Main Channel
              495.66         218.51         0.0310     Main Channel
              500.56         218.51         0.0310     Main Channel
              505.46         218.51         0.0310     Main Channel
              505.56         219.09    0.0310 /0.0390  Main Channel
              508.26         219.09         0.0390
              515.96         219.10         0.0390
              523.67         219.21         0.0390
              562.17         219.32         0.0390
              654.58         219.43         0.0390
              731.59         219.46         0.0390
              762.39         225.00         0.0390

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.29   218.80    .431E+04         1.7        0.58       43.48
       0.58   219.09    .867E+04         5.1        0.89       28.32
       0.93   219.44    .200E+06        58.2        0.44       57.35
       1.28   219.79    .568E+06       278.6        0.74       33.99
       1.62   220.13    .939E+06       630.2        1.01       24.84
       1.97   220.48    .131E+07      1090.4        1.25       20.05
       2.32   220.83    .169E+07      1647.7        1.47       17.06
       2.67   221.18    .206E+07      2294.6        1.68       14.99
       3.01   221.52    .244E+07      3025.6        1.87       13.46
       3.36   221.87    .282E+07      3836.5        2.05       12.27
       3.71   222.22    .321E+07      4723.7        2.22       11.31
       4.06   222.57    .359E+07      5684.6        2.39       10.53
       4.40   222.91    .398E+07      6716.6        2.55        9.87
       4.75   223.26    .437E+07      7817.7        2.70        9.31
       5.10   223.61    .476E+07      8986.2        2.85        8.83
       5.45   223.96    .515E+07     10220.4        2.99        8.40
       5.79   224.30    .555E+07     11519.1        3.13        8.03
       6.14   224.65    .594E+07     12880.8        3.27        7.69
       6.49   225.00    .634E+07     14304.5        3.40        7.39

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24     6.42     8.00   8.84       0.59       0.87
    OUTFLOW: ID= 1 (6372) 1656.24     6.26     8.50   8.84       0.59       0.87
```

```
| ADD HYD   (8294) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42   0.255     7.50     5.01
      + ID2= 2 (6372):  1656.24   6.262     8.50     8.84
        ================================================
        ID = 3 (8294):  1766.66   6.496     8.50     8.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8292) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   2.092     8.25    11.46
      + ID2= 2 (8294):  1766.66   6.496     8.50     8.60
        ================================================
        ID = 3 (8292):  2312.36   8.581     8.50     9.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290   345.3754
                         25.4850    24.6697   |  84.9510   456.3890
                         31.1490    98.6787   |  *******   838.7689
                         39.6440    *******   |  *******   838.7789
                         48.1390    *******   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (8292)   2312.360      8.581      8.50       9.28
     OUTFLOW: ID= 1 (5505)   2312.360      6.211     11.00       9.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.38
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.0141

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):   463.85   3.568     7.50    17.44
       + ID2= 2 (5505):  2312.36   6.211    11.00     9.28
         ================================================
         ID = 3 (8272):  2776.21   8.592    10.25    10.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.961 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.789
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   1.379 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   8.784
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   1.700 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.400
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   1.051 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.350
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   1.360 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.386
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   1.360     7.25    11.39
       + ID2= 2 (0388):   220.77   1.051     7.50    10.35
         ================================================
         ID = 3 (8286):   462.04   2.411     7.25    10.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.598 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.477
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.119

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.715 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   5.531
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.102

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.712
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.715     6.50     5.53
       + ID2= 2 (0382):   216.59   1.207     6.75     8.71
         ================================================
         ID = 3 (8290):   398.60   1.920     6.75     7.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3841.0) ------>
               Distance      Elevation       Manning
                   0.00         294.40        0.0380
```

10.59	291.93	0.0380	
21.17	289.19	0.0380	
26.46	287.99	0.0380	
31.76	286.79	0.0380	
71.45	279.97	0.0380	
74.10	279.79	0.0380	
76.74	279.71	0.0380	
78.99	279.64	0.0380 /0.0300	Main Channel
79.14	279.30	0.0300	Main Channel
79.39	279.30	0.0300	Main Channel
79.64	279.30	0.0300	Main Channel
79.79	279.64	0.0300 /0.0380	Main Channel
89.98	279.78	0.0380	
119.09	281.86	0.0380	
145.55	282.87	0.0380	
198.48	284.85	0.0380	
211.71	286.31	0.0380	
230.23	287.59	0.0380	
261.99	294.00	0.0380	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	279.64	.715E+03	0.2	0.85	63.42
1.10	280.40	.507E+05	21.9	1.40	38.54
1.85	281.15	.141E+06	91.8	2.10	25.69
2.61	281.91	.269E+06	218.9	2.63	20.46
3.36	282.66	.445E+06	407.1	2.96	18.23
4.12	283.42	.681E+06	698.3	3.31	16.26
4.87	284.17	.977E+06	1111.8	3.68	14.65
5.63	284.93	.133E+07	1674.3	4.06	13.27
6.39	285.69	.173E+07	2457.8	4.59	11.73
7.14	286.44	.215E+07	3378.8	5.07	10.63
7.90	287.20	.261E+07	4418.4	5.47	9.85
8.65	287.95	.310E+07	5676.3	5.92	9.11
9.41	288.71	.361E+07	7150.5	6.40	8.42
10.17	289.47	.414E+07	8783.1	6.86	7.86
10.92	290.22	.469E+07	10575.1	7.30	7.38
11.68	290.98	.525E+07	12520.4	7.72	6.98
12.43	291.73	.582E+07	14619.0	8.12	6.64
13.19	292.49	.642E+07	16863.2	8.50	6.34
13.94	293.24	.703E+07	19259.8	8.86	6.08

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8290)	398.60	1.92	6.75	7.26	0.40	0.88
OUTFLOW: ID= 1 (6384)	398.60	1.50	8.00	7.26	0.39	0.87

ADD HYD (8288)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0384):	199.07	0.598	7.25	6.48
+ ID2= 2 (6384):	398.60	1.505	8.00	7.26
ID = 3 (8288):	597.67	2.089	8.00	7.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8284)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8286):	462.04	2.411	7.25	10.89
+ ID2= 2 (8288):	597.67	2.089	8.00	7.00
ID = 3 (8284):	1059.71	4.450	7.75	8.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8280)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8390):	420.00	1.700	7.50	9.40
+ ID2= 2 (8284):	1059.71	4.450	7.75	8.70
ID = 3 (8280):	1479.71	6.150	7.75	8.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0392)	Area (ha)= 167.22	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.74		

Unit Hyd Qpeak (cms)= 3.837

PEAK FLOW (cms)= 1.133 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 11.712
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.215

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0378)	Area (ha)= 606.72	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.18		

Unit Hyd Qpeak (cms)= 8.771

PEAK FLOW (cms)= 2.295 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.412
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.173

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0378):	606.72	2.295	8.00	9.41
+ ID2= 2 (0392):	167.22	1.133	7.00	11.71
ID = 3 (8282):	773.94	3.350	7.50	9.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8278)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8280):	1479.71	6.150	7.75	8.90
+ ID2= 2 (8282):	773.94	3.350	7.50	9.91
ID = 3 (8278):	2253.65	9.491	7.50	9.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3941.0) ------>

Distance	Elevation	Manning	
0.00	283.00	0.0380	
13.48	282.87	0.0380	
53.92	280.08	0.0380	
74.13	276.62	0.0380	
97.72	265.45	0.0380	
114.57	256.93	0.0380	
131.42	253.04	0.0380	
134.79	252.58	0.0380	
138.53	251.74	0.0380 /0.0300	Main Channel
139.03	251.20	0.0300	Main Channel
141.53	251.20	0.0300	Main Channel
144.03	251.20	0.0300	Main Channel
144.53	251.74	0.0300 /0.0380	Main Channel
148.27	252.69	0.0380	
151.64	252.97	0.0380	
185.34	255.08	0.0380	
219.03	257.54	0.0380	
262.84	259.43	0.0380	
310.02	262.80	0.0380	
333.60	283.00	0.0380	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	251.74	.827E+04	4.5	1.51	30.71
2.19	253.39	.758E+05	73.2	2.69	17.27
3.83	255.03	.282E+06	331.8	3.27	14.17
5.48	256.68	.633E+06	917.3	4.03	11.51
7.12	258.32	.112E+07	1889.5	4.69	9.90
8.77	259.97	.179E+07	3410.2	5.31	8.73
10.41	261.61	.259E+07	5627.6	6.05	7.66
12.06	263.26	.351E+07	8605.1	6.83	6.79
13.70	264.90	.447E+07	12544.9	7.81	5.94
15.35	266.55	.546E+07	17101.4	8.71	5.32

```
  16.99   268.19    .648E+07   22251.7          9.56       4.85
  18.64   269.84    .752E+07   27979.0         10.36       4.48
  20.28   271.48    .858E+07   34269.0         11.11       4.17
  21.93   273.13    .967E+07   41110.8         11.83       3.92
  23.57   274.77    .108E+08   48495.9         12.51       3.71
  25.22   276.42    .119E+08   56418.1         13.17       3.52
  26.86   278.06    .131E+08   64410.6         13.69       3.39
  28.51   279.71    .143E+08   73002.1         14.18       3.27
  30.15   281.35    .156E+08   81379.3         14.50       3.20

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8278) 2253.65     9.49    7.50   9.24      0.66      1.56
OUTFLOW: ID= 1 (6394) 2253.65     9.22    8.25   9.24      0.65      1.56


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-------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   1.379     7.25     8.78
      + ID2= 2 (6394):  2253.65   9.215     8.25     9.24
        ================================================
        ID = 3 (8276):  2579.10  10.506     8.00     9.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.75   228.95    .780E+04      2.2          0.98       58.06
     2.54   230.74    .277E+06    145.1          1.78       31.76
     4.33   232.53    .786E+06    609.1          2.63       21.50
     6.13   234.33    .140E+07   1481.5          3.59       15.77
     7.92   236.12    .207E+07   2677.3          4.39       12.90
     9.71   237.91    .280E+07   4184.8          5.09       11.14
    11.50   239.70    .357E+07   6001.4          5.71        9.93
    13.29   241.49    .441E+07   8129.1          6.27        9.03
    15.09   243.29    .530E+07  10549.4          6.77        8.37
    16.88   245.08    .625E+07  13300.6          7.24        7.83
    18.67   246.87    .726E+07  16396.2          7.68        7.38
    20.46   248.66    .834E+07  19809.8          8.07        7.02
    22.26   250.46    .949E+07  23532.5          8.43        6.72
    24.05   252.25    .107E+08  27641.2          8.77        6.46
    25.84   254.04    .120E+08  32155.2          9.10        6.22
    27.63   255.83    .134E+08  36901.0          9.37        6.05
    29.42   257.62    .149E+08  42147.7          9.64        5.88
    31.22   259.42    .164E+08  48149.1          9.97        5.68
    33.01   261.21    .181E+08  54644.8         10.29        5.51

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8276) 2579.10    10.51    8.00   9.19      0.85      1.00
OUTFLOW: ID= 1 (6396) 2579.10     9.52    9.25   9.19      0.84      1.00


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| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   1.961     7.50    14.79
      + ID2= 2 (6396):  2579.10   9.515     9.25     9.19
        ================================================
        ID = 3 (8274):  2884.31  11.197     9.00     9.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21   8.592    10.25    10.64
      + ID2= 2 (8274):  2884.31  11.197     9.00     9.78
        ================================================
        ID = 3 (8270):  5660.52  19.501     9.50    10.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520     19.501      9.50      10.20
    OUTFLOW: ID= 1 (5506)   5660.520     16.142     11.75      10.20

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.78
               TIME SHIFT OF PEAK FLOW          (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 12.7854

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.319 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.237
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.243

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.810 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.191
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.206 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.417
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
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-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.675 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.305
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0398)  |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   1.617 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.360
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8268) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   1.617     7.00     9.36
      + ID2= 2 (0400):    93.97   0.675     6.50     8.30
        ================================================
        ID = 3 (8268):   422.16   2.224     6.75     9.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.41   225.66    .391E+04         1.7         1.36      38.31
       0.81   226.06    .804E+04         5.0         1.93      27.02
       1.22   226.47    .124E+05         9.1         2.30      22.61
       1.84   227.09    .308E+05        23.3         2.36      22.03
       2.46   227.71    .904E+05        62.0         2.14      24.31
       3.09   228.34    .223E+06       188.3         2.63      19.75
       3.71   228.96    .379E+06       410.2         3.38      15.39
       4.33   229.58    .550E+06       711.5         4.04      12.89
       4.95   230.20    .737E+06      1091.3         4.62      11.25
       5.58   230.83    .939E+06      1550.6         5.15      10.10
       6.20   231.45    .116E+07      2072.4         5.59       9.31
       6.82   232.07    .140E+07      2659.2         5.93       8.77
       7.44   232.69    .167E+07      3345.8         6.27       8.30
       8.07   233.32    .195E+07      4159.0         6.64       7.83
       8.69   233.94    .226E+07      5100.8         7.03       7.39
       9.31   234.56    .259E+07      6081.3         7.32       7.11
       9.93   235.18    .295E+07      7183.1         7.60       6.84
      10.56   235.81    .334E+07      8145.2         7.62       6.83
      11.18   236.43    .379E+07      9116.0         7.51       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                                      (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     2.22     6.75    9.12      0.47      1.43
     OUTFLOW: ID= 1 (6402)  422.16     2.00     7.75    9.12      0.44      1.39

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| ADD HYD   (8266) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00   1.206     7.50    11.42
      + ID2= 2 (6402):   422.16   1.996     7.75     9.12
        ================================================
        ID = 3 (8266):   666.16   3.200     7.75     9.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   0.810     7.50     7.19
      + ID2= 2 (8266):   666.16   3.200     7.75     9.96
        ================================================
        ID = 3 (8264):   912.62   4.005     7.75     9.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   1.319     6.75    13.24
      + ID2= 2 (8264):   912.62   4.005     7.75     9.22
        ================================================
        ID = 3 (8262):  1055.27   5.146     7.25     9.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  16.142    11.75    10.20
      + ID2= 2 (8262):  1055.27   5.146     7.25     9.76
        ================================================
        ID = 3 (8260):  6715.79  18.516    11.25    10.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   1.542     6.75    10.25
      + ID2= 2 (8260):  6715.79  18.516    11.25    10.13
        ================================================
        ID = 3 (8258):  6947.41  18.994    11.00    10.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   1.460     8.25     7.48
      + ID2= 2 (8258):  6947.41  18.994    11.00    10.14
        ================================================
        ID = 3 (8256):  7519.42  20.184    11.00     9.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140    67.8416
                         39.6440    12.3348   |  *******   160.3529
                         48.1390    18.5023   |  *******   160.3629
                         67.9600    37.0045   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
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                              (ha)     (cms)     (hrs)      (mm)
INFLOW : ID= 2 (8256)   7519.421     20.184     11.00      9.93
OUTFLOW: ID= 1 (5507)   7519.421     19.753     12.00      9.93

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.87
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  6.1500

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--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   0.822 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.762
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   1.014 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.572
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.231

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   2.108 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.603
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   1.169 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.052
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.73         27.97
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     539.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         18.99
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       9.87 (ii)   30.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.26          0.90          1.628 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         15.90          22.10
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.29           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4720      1.9177
                          0.3820     0.3152   |   3.8720      1.9277
                          1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700      1.628      6.00      22.10
     OUTFLOW: ID= 1 (5414)     43.700      0.795      6.75      22.10

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.83
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3604

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.30        114.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     980.82         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         14.82
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.13 (ii)   37.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.15          2.62          3.220 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      52.40         14.26          18.07
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.26           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4142):   144.30   3.220     6.50    18.07
        + ID2= 2 (5414):    43.70   0.795     6.75    22.10
          ================================================
          ID = 3 (8254):   188.00   3.727     6.50    19.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0412):   238.70   1.169     7.00     9.05
        + ID2= 2 (8254):   188.00   3.727     6.50    19.01
          ================================================
          ID = 3 (8252):   426.70   4.816     6.50    13.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.27   246.02    .295E+04         0.6          0.75       88.26
       1.53   247.28    .168E+06        69.7          1.65       40.13
       2.79   248.54    .490E+06       299.5          2.42       27.28
       4.06   249.81    .962E+06       740.1          3.05       21.67
       5.32   251.07    .158E+07      1440.0          3.61       18.33
       6.58   252.33    .235E+07      2443.8          4.12       16.06
       7.84   253.59    .327E+07      3811.2          4.63       14.30
       9.10   254.85    .432E+07      5565.1          5.11       12.94
      10.37   256.12    .550E+07      7721.3          5.57       11.88
      11.63   257.38    .682E+07     10309.9          6.00       11.02
      12.89   258.64    .827E+07     13360.6          6.42       10.31
      14.15   259.90    .985E+07     16884.5          6.81        9.72
      15.42   261.17    .116E+08     20818.4          7.14        9.26
      16.68   262.43    .134E+08     25510.4          7.53        8.79
      17.94   263.69    .154E+08     30958.0          7.97        8.30
      19.20   264.95    .175E+08     36988.3          8.38        7.89
      20.46   266.21    .197E+08     43617.1          8.78        7.53
      21.73   267.48    .220E+08     50868.1          9.17        7.22
      22.99   268.74    .244E+08     58854.0          9.56        6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70     4.82    6.50  13.44      0.35      0.78
    OUTFLOW: ID= 1 (6416)  426.70     2.78    7.50  13.44      0.31      0.76

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   2.108     8.00     12.60
      + ID2= 2 (6416):   426.70   2.775     7.50     13.44
        ================================================
        ID = 3 (8250):   866.00   4.861     7.75     13.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   1.014     7.50     12.57
      + ID2= 2 (8250):   866.00   4.861     7.75     13.01
        ================================================
        ID = 3 (8248):  1048.79   5.871     7.75     12.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   0.822     7.00      8.76
      + ID2= 2 (8248):  1048.79   5.871     7.75     12.94
        ================================================
        ID = 3 (8246):  1224.61   6.658     7.50     12.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  19.753    12.00      9.93
      + ID2= 2 (8246):  1224.61   6.658     7.50     12.34
        ================================================
        ID = 3 (8244):  8744.03  23.417    11.25     10.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   1.954     9.25      9.15
      + ID2= 2 (8244):  8744.03  23.417    11.25     10.27
        ================================================
        ID = 3 (8242):  9524.23  25.245    11.00     10.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  *******    197.3574
                          76.4550    30.8371   |  *******    394.7148
                          *******    61.6742   |  *******    394.7248
                          *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8242)   9524.231    25.245     11.00      10.18
    OUTFLOW: ID= 1 (5508)   9524.231    24.490     12.25      10.18

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.01
                TIME SHIFT OF PEAK FLOW       (min)= 75.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  9.8788

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   1.997 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  16.446
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58       331.32
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=     1872.43        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       48.96        20.86
               over (min)         30.00        45.00
     Storage Coeff.  (min)=       24.27 (ii)   44.30 (ii)
     Unit Hyd. Tpeak (min)=       30.00        45.00
     Unit Hyd. peak  (cms)=        0.04         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        8.78         9.65        15.834 (iii)
     TIME TO PEAK    (hrs)=        6.25         6.50          6.25
     RUNOFF VOLUME    (mm)=       52.40        17.08         23.09
     TOTAL RAINFALL   (mm)=       54.40        54.40         54.40
     RUNOFF COEFFICIENT   =        0.96         0.31          0.42

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
          CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3381)  |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        43.61
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.52 (ii)   26.43 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.70         1.99          3.937 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     52.40        18.95          26.64
     TOTAL RAINFALL   (mm)=     54.40        54.40          54.40
     RUNOFF COEFFICIENT  =      0.96         0.35           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     3.937      6.00      26.64
     OUTFLOW: ID= 1 (5338)     73.000     1.561      6.75      26.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.64
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7662

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| ADD HYD   (8310) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  15.834     6.25    23.09
      + ID2= 2 (5338):    73.00   1.561     6.75    26.64
        ================================================
        ID = 3 (8310):   598.90  17.031     6.25    23.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3342)  |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.467 (i)
     TIME TO PEAK    (hrs)=  15.500
     RUNOFF VOLUME    (mm)=   9.797
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3341)  |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
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```
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        15.09
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      9.08 (ii)   31.87 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.77         0.41          1.938 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     52.40        11.90          24.45
     TOTAL RAINFALL   (mm)=     54.40        54.40          54.40
     RUNOFF COEFFICIENT  =      0.96         0.22           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6540      0.4604
                         0.0390     0.1699   |   0.8330      0.5249
                         0.1860     0.2610   |   1.0130      0.5896
                         0.3750     0.3534   |   1.4130      0.5996
                         0.4340     0.3813   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     1.938      6.00      24.45
     OUTFLOW: ID= 1 (5334)     33.000     0.481      6.75      24.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.84
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3985

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| ADD HYD   (8314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.467    15.50     9.80
      + ID2= 2 (5334):    33.00   0.481     6.75    24.42
        ================================================
        ID = 3 (8314):   620.10   0.655     7.00    10.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0306)  |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.250 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=   8.592
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.158

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0286)  |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   2.734 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.753
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.455

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB           |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   3.035 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.368
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.356

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.445 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  24.380
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.448

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0282):    449.38    3.035     8.00     19.37
      + ID2= 2 (0284):     78.93    1.445     6.50     24.38
        ================================================
        ID = 3 (8388):    528.31    4.143     7.25     20.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation      Manning
                  0.00         233.00        0.0450
                 20.58         228.51        0.0450
                 41.17         227.74        0.0450
                 51.46         227.41        0.0450
                 97.77         225.96        0.0450
                149.23         223.94        0.0450
                200.69         220.84        0.0450
                226.42         220.66        0.0450
                238.85         220.22        0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70        0.0350      Main Channel
                245.85         219.72        0.0350      Main Channel
                246.35         220.06        0.0350      Main Channel
                248.85         220.23        0.0350      Main Channel
                303.60         221.64        0.0350      Main Channel
                380.79         224.98        0.0450
                432.25         229.54        0.0450
                457.98         233.33        0.0450
                483.71         234.27        0.0450
                509.44         233.81        0.0450

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31    220.01    .382E+04        0.8         0.57       82.89
      1.06    220.76    .525E+05       12.1         0.66       72.51
      1.81    221.51    .240E+06       88.6         1.05       45.21
      2.56    222.26    .510E+06      261.7         1.46       32.47
      3.31    223.01    .843E+06      533.8         1.81       26.34
      4.06    223.76    .124E+07      913.6         2.10       22.64
      4.81    224.51    .171E+07     1399.0         2.34       20.33
      5.56    225.26    .225E+07     2051.0         2.60       18.27
      6.31    226.01    .285E+07     2907.0         2.91       16.35
      7.06    226.76    .352E+07     3902.5         3.16       15.04
      7.82    227.52    .426E+07     5069.9         3.39       14.01
      8.57    228.27    .507E+07     6433.0         3.62       13.13
      9.32    229.02    .593E+07     8069.2         3.89       12.24
     10.07    229.77    .681E+07     9926.7         4.16       11.44
     10.82    230.52    .772E+07    11962.8         4.42       10.75
     11.57    231.27    .864E+07    14167.1         4.68       10.17
     12.32    232.02    .959E+07    16537.1         4.92        9.66
     13.07    232.77    .105E+08    19070.7         5.16        9.22
     13.82    233.52    .115E+08    21790.4         5.39        8.82

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     4.14    7.25  20.12      0.53      0.60
     OUTFLOW: ID= 1 (6286)  528.31     3.51    9.25  20.12      0.49      0.59

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0286):    260.51    2.734     7.50     24.75
      + ID2= 2 (6286):    528.31    3.506     9.25     20.12
        ================================================
        ID = 3 (8386):    788.82    5.992     8.50     21.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0302) |   Area    (ha)= 473.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   1.530 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  10.409
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   1.017 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.830
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.846 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.733
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0298):    330.51    0.846     8.00      6.73
      + ID2= 2 (0300):    258.93    1.017     7.50      8.83
        ================================================
        ID = 3 (8395):    589.44    1.852     7.75      7.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629
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```
     PEAK FLOW      (cms)=   1.727 (i)
     TIME TO PEAK   (hrs)=   9.500
     RUNOFF VOLUME   (mm)=  20.098
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW      (cms)=   2.388 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  19.976
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0288):   340.83   1.727    9.50    20.10
      + ID2= 2 (0290):   269.18   2.388    7.50    19.98
        ================================================
        ID = 3 (8397):   610.01   3.977    8.00    20.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW      (cms)=   2.330 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  18.668
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW      (cms)=   3.557 (i)
     TIME TO PEAK   (hrs)=   8.250
     RUNOFF VOLUME   (mm)=  14.367
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.264

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW      (cms)=   1.387 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=   9.999
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0292):   738.49   3.557    8.25    14.37
      + ID2= 2 (0294):   274.15   1.387    7.25    10.00
        ================================================
        ID = 3 (8398):  1012.64   4.858    8.00    13.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation        Manning
                  0.00         243.98         0.0400
                 42.59         243.18         0.0400
                 85.17         241.81         0.0400
                120.66         240.50         0.0400
                156.15         239.56         0.0400
                198.74         236.15         0.0400
                237.78         234.01         0.0400
                241.33         233.82         0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32         0.0400      Main Channel
                250.37         231.80         0.0400      Main Channel
                250.87         232.23         0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22         0.0400
                259.07         233.87         0.0400
                262.62         234.12         0.0400
                266.17         234.23         0.0400
                283.91         234.73         0.0400
                337.15         241.75         0.0400
                351.34         244.00         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   232.23     .510E+03        0.1          0.53       81.07
       0.87   232.67     .213E+04        0.7          0.83       51.49
       1.30   233.10     .501E+04        2.2          1.10       38.75
       1.98   233.78     .242E+05       12.6          1.34       31.93
       2.66   234.46     .738E+05       42.1          1.46       29.21
       3.34   235.14     .177E+06      127.9          1.84       23.13
       4.02   235.82     .314E+06      281.4          2.29       18.61
       4.70   236.50     .481E+06      509.4          2.71       15.73
       5.38   237.18     .672E+06      815.6          3.11       13.73
       6.06   237.86     .886E+06     1200.7          3.46       12.30
       6.74   238.54     .112E+07     1669.4          3.80       11.23
       7.42   239.22     .139E+07     2226.9          4.11       10.38
       8.10   239.90     .168E+07     2808.4          4.28        9.95
       8.78   240.58     .202E+07     3470.4          4.40        9.68
       9.46   241.26     .240E+07     4331.7          4.61        9.24
      10.14   241.94     .283E+07     5335.2          4.83        8.84
      10.82   242.62     .330E+07     6482.6          5.03        8.48
      11.50   243.30     .381E+07     7764.1          5.21        8.18
      12.18   243.98     .439E+07     9101.2          5.31        8.04

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64     4.86    8.00  13.18       1.48       1.15
    OUTFLOW: ID= 1 (6296) 1012.64     4.69    8.75  13.18       1.46       1.15

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| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   2.330    7.50    18.67
      + ID2= 2 (6296):  1012.64   4.688    8.75    13.18
        ================================================
        ID = 3 (8396):  1306.29   6.905    8.25    14.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29   6.905    8.25    14.42
      + ID2= 2 (8397):   610.01   3.977    8.00    20.04
        ================================================
        ID = 3 (8394):  1916.30  10.857    8.25    16.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  10.857     8.25    16.21
       + ID2= 2 (8395):   589.44   1.852     7.75     7.65
         ================================================
         ID = 3 (8392):  2505.74  12.674     8.25    14.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.29    221.29    .228E+04        0.2         0.32     165.63
      0.59    221.59    .465E+04        0.7         0.45     116.15
      0.88    221.88    .713E+04        1.2         0.54      96.87
      1.18    222.18    .971E+04        1.9         0.61      86.20
      1.57    222.57    .175E+05        3.3         0.59      88.86
      1.97    222.97    .427E+05        6.4         0.47     111.39
      2.36    223.36    .115E+06       16.1         0.44     119.14
      2.76    223.76    .237E+06       37.1         0.49     106.49
      3.15    224.15    .409E+06       72.9         0.56      93.40
      3.55    224.55    .631E+06      127.0         0.63      82.76
      3.94    224.94    .903E+06      202.4         0.70      74.37
      4.34    225.34    .123E+07      301.8         0.77      67.68
      4.73    225.73    .160E+07      433.5         0.85      61.37
      5.13    226.13    .200E+07      602.2         0.95      55.29
      5.52    226.52    .242E+07      804.7         1.05      50.13
      5.92    226.92    .286E+07     1034.2         1.14      46.11
      6.31    227.31    .332E+07     1290.5         1.22      42.88
      6.71    227.71    .380E+07     1560.9         1.29      40.55
      7.10    228.10    .432E+07     1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    12.67    8.25  14.20      2.23      0.45
    OUTFLOW: ID= 1 (6302) 2505.74    10.20   10.50  14.20      2.12      0.46


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| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   1.530     8.50    10.41
       + ID2= 2 (6302):  2505.74  10.198    10.50    14.20
         ================================================
         ID = 3 (8390):  2979.64  11.602    10.25    13.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   5.992     8.50    21.65
       + ID2= 2 (8390):  2979.64  11.602    10.25    13.59
         ================================================
         ID = 3 (8348):  3768.46  17.080     9.75    15.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.753 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  12.262
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   3.720 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.907
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.421

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   3.831 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.080
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.377

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   3.104 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.038
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   3.104     7.50    18.04
       + ID2= 2 (0276):    90.89   1.207     6.75    20.49
         ================================================
         ID = 3 (8360):   483.38   4.235     7.25    18.50
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8358)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0278):		485.49	3.831	8.00	23.08
+ ID2= 2 (8360):		483.38	4.235	7.25	18.50
ID = 3 (8358):		968.87	7.908	7.75	20.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6280)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2801.0) ------>

Distance	Elevation	Manning	
0.00	241.14	0.0500	
13.32	240.80	0.0500	
39.95	240.07	0.0500	
96.54	236.21	0.0500	
113.19	234.15	0.0500	
123.18	232.35	0.0500	
143.15	225.80	0.0500	
149.81	225.62	0.0500	
153.14	225.40	0.0500	
157.30	224.76	0.0500 /0.0300	Main Channel
159.80	224.26	0.0300	Main Channel
162.30	224.85	0.0300	Main Channel
162.55	224.97	0.0300 /0.0500	Main Channel
167.80	225.05	0.0500	
186.43	229.14	0.0500	
213.06	234.75	0.0500	
236.37	237.09	0.0500	
266.33	237.31	0.0500	
292.96	237.83	0.0500	
329.58	241.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	224.76	.263E+04	0.8	0.65	58.31
1.36	225.62	.278E+05	13.4	1.10	34.54
2.22	226.48	.855E+05	52.6	1.40	27.09
3.09	227.35	.157E+06	120.4	1.74	21.78
3.95	228.21	.242E+06	216.3	2.04	18.64
4.81	229.07	.340E+06	341.8	2.29	16.56
5.67	229.93	.450E+06	498.3	2.52	15.06
6.53	230.79	.574E+06	688.3	2.73	13.90
7.40	231.66	.711E+06	913.8	2.93	12.97
8.26	232.52	.861E+06	1173.4	3.11	12.23
9.12	233.38	.103E+07	1461.3	3.24	11.72
9.98	234.24	.121E+07	1793.3	3.37	11.26
10.85	235.11	.142E+07	2141.0	3.45	11.02
11.71	235.97	.165E+07	2530.4	3.50	10.86
12.57	236.83	.192E+07	2954.0	3.51	10.81
13.43	237.69	.226E+07	3160.3	3.18	11.93
14.29	238.55	.271E+07	3869.4	3.26	11.67
15.16	239.42	.320E+07	4740.3	3.38	11.24
16.02	240.28	.373E+07	5688.4	3.48	10.92

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8358)	968.87	7.91	7.75	20.79	0.99	0.85
OUTFLOW: ID= 1 (6280)	968.87	7.48	8.50	20.79	0.95	0.83

ADD HYD (8354)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0280):		299.86	3.720	7.00	22.91
+ ID2= 2 (6280):		968.87	7.477	8.50	20.79
ID = 3 (8354):		1268.73	10.681	8.00	21.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0272)	Area (ha)= 157.38 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.09

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 1.236 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 18.040
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.332

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0270)	Area (ha)= 243.61 Curve Number (CN)= 81.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 2.117 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 22.091
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.406

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0268)	Area (ha)= 215.76 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.69

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 1.800 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 17.875
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0264)	Area (ha)= 353.96 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.30

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 1.477 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 14.806
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.272

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0266)	Area (ha)= 508.09 Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.63

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 1.507 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 12.617
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.232

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0264):		353.96	1.477	8.25	14.81
+ ID2= 2 (0266):		508.09	1.507	9.50	12.62
ID = 3 (8380):		862.05	2.967	8.75	13.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning		
0.00	274.03	0.0500		
10.55	272.73	0.0500		
21.10	271.28	0.0500		
50.12	266.83	0.0500		
87.04	260.36	0.0500		
92.32	260.06	0.0500		
94.95	259.93	0.0500		
101.00	256.87	0.0500		
103.00	256.58	0.0500 /0.0350	Main Channel	
104.00	256.32	0.0350	Main Channel	
106.00	256.05	0.0350	Main Channel	
108.00	256.25	0.0350	Main Channel	
110.78	256.65	0.0350 /0.0500	Main Channel	
113.42	256.81	0.0500		
116.06	257.00	0.0500		
155.62	260.24	0.0500		
187.27	263.35	0.0500		
211.01	267.22	0.0500		
224.20	269.60	0.0500		
261.13	272.68	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8380)	862.05	2.97	8.75	13.52	0.56	0.98
OUTFLOW:	ID= 1 (6268)	862.05	2.89	10.25	13.52	0.56	0.98

ADD HYD (8382)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0268):	215.76	1.800	7.00	17.88
	+ ID2= 2 (6268):	862.05	2.886	10.25	13.52
	ID = 3 (8382):	1077.81	4.220	8.75	14.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning		
0.00	245.98	0.0500		
8.14	245.66	0.0500		
16.28	245.16	0.0500		
20.35	244.84	0.0500		
38.66	242.98	0.0500		
48.83	240.65	0.0500		
63.07	235.91	0.0500		
65.11	235.18	0.0500		
68.43	234.34	0.0500 /0.0300	Main Channel	
68.68	233.95	0.0300	Main Channel	
69.18	233.89	0.0300	Main Channel	
69.68	233.95	0.0300	Main Channel	
71.21	234.48	0.0300 /0.0500	Main Channel	
81.38	236.44	0.0500		
95.63	236.66	0.0500		
120.04	237.00	0.0500		
148.53	241.77	0.0500		
158.70	242.34	0.0500		
187.18	244.03	0.0500		
201.42	244.36	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8382)	1077.81	4.22	8.75	14.39	0.93	1.43
OUTFLOW:	ID= 1 (6270)	1077.81	4.19	9.25	14.39	0.92	1.42

ADD HYD (8384)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0270):	243.61	2.117	7.50	22.09
	+ ID2= 2 (6270):	1077.81	4.186	9.25	14.39
	ID = 3 (8384):	1321.42	6.059	8.75	15.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0262)	Area (ha)= 341.31 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 2.732 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 22.953
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0260)	Area (ha)= 476.24 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 4.360

PEAK FLOW (cms)= 3.089 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 23.028
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0258)	Area (ha)= 181.99 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 1.165 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 20.683
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

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| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   1.827 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.843
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.310

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.678 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.836
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.254

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.113 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.405
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2561.0) ------>
            Distance      Elevation       Manning
               0.00         276.07        0.0400
              11.68         273.71        0.0400
              23.36         271.35        0.0400
              29.19         270.30        0.0400
              35.03         269.44        0.0400
              55.47         267.90        0.0400
              78.82         266.24        0.0400
              90.50         265.63        0.0400
             102.18         265.40        0.0400
             105.10         264.95    0.0400 /0.0350  Main Channel
             108.02         264.39        0.0350      Main Channel
             110.94         264.72        0.0350      Main Channel
             113.86         265.19    0.0350 /0.0400  Main Channel
             116.78         265.49        0.0400
             143.05         268.24        0.0400
             172.25         270.53        0.0400
             207.28         271.95        0.0400
             233.55         273.72        0.0400
             256.91         274.98        0.0400
             289.02         275.97        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.56   264.95    .723E+04         1.9          0.90       62.51
       1.14   265.53    .307E+05        13.5          1.49       37.92
       1.72   266.11    .951E+05        48.6          1.73       32.62
       2.30   266.69    .191E+06       117.8          2.09       27.03
       2.88   267.27    .314E+06       225.2          2.43       23.24
       3.46   267.85    .464E+06       375.5          2.74       20.59
       4.04   268.43    .641E+06       573.2          3.03       18.62
       4.62   269.01    .846E+06       821.9          3.29       17.15
       5.20   269.59    .108E+07      1135.0          3.56       15.87
       5.78   270.17    .134E+07      1525.1          3.86       14.64
       6.36   270.75    .162E+07      1971.1          4.12       13.71
       6.94   271.33    .194E+07      2474.0          4.33       13.04
       7.52   271.91    .228E+07      3065.0          4.55       12.42
       8.10   272.49    .266E+07      3773.4          4.80       11.75
       8.68   273.07    .306E+07      4566.3          5.05       11.17
       9.26   273.65    .348E+07      5443.7          5.30       10.66
       9.84   274.23    .393E+07      6389.6          5.51       10.25
      10.42   274.81    .440E+07      7426.2          5.72        9.88
      11.00   275.39    .490E+07      8490.1          5.86        9.63

                                <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0254)  403.00     1.11    8.25   9.41      0.32      0.90
    OUTFLOW: ID= 1 (6256)  403.00     1.05   10.00   9.41      0.31      0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   0.678     8.00    13.84
       + ID2= 2 (6256):   403.00   1.052    10.00     9.41
         ================================================
         ID = 3 (8370):   548.79   1.667     9.25    10.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   0.878 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.287
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   1.566 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=   9.438
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   0.754 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.498
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.230

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   1.566    10.00     9.44
       + ID2= 2 (0248):   146.04   0.754     7.25    12.50
         ================================================
         ID = 3 (8364):   905.65   2.217     8.25     9.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
```

0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	2.22	8.25	9.93	0.72	0.73
OUTFLOW: ID= 1 (6250)	905.65	2.06	10.50	9.93	0.70	0.73

ADD HYD (8366)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):		192.88	0.878	8.00	15.29
+ ID2= 2 (6250):		905.65	2.056	10.50	9.93
ID = 3 (8366):		1098.53	2.855	10.00	10.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):		1098.53	2.855	10.00	10.87
+ ID2= 2 (8370):		548.79	1.667	9.25	10.58
ID = 3 (8368):		1647.32	4.503	10.00	10.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):		319.99	1.827	8.00	16.84
+ ID2= 2 (8368):		1647.32	4.503	10.00	10.78
ID = 3 (8372):		1967.31	6.156	9.25	11.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	6.16	9.25	11.76	0.59	0.88
OUTFLOW: ID= 1 (6258)	1967.31	5.64	11.25	11.76	0.58	0.89

ADD HYD (8374)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):		181.99	1.165	8.00	20.68
+ ID2= 2 (6258):		1967.31	5.637	11.25	11.76
ID = 3 (8374):		2149.30	6.579	11.00	12.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):		476.24	3.089	8.25	23.03
+ ID2= 2 (8374):		2149.30	6.579	11.00	12.52
ID = 3 (8376):		2625.54	9.354	10.25	14.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):		341.31	2.732	8.00	22.95
+ ID2= 2 (8376):		2625.54	9.354	10.25	14.42
ID = 3 (8378):		2966.85	11.655	10.00	15.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8362) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85  11.655    10.00    15.41
      + ID2= 2 (8384):  1321.42   6.059     8.75    15.81
        ================================================
        ID = 3 (8362):  4288.27  17.537     9.50    15.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <----- DATA FOR SECTION (2721.0) ------>
             Distance      Elevation       Manning
                0.00         231.01        0.0450
               23.01         223.65        0.0450
               34.51         222.46        0.0450
               51.77         222.11        0.0450
               69.02         221.87        0.0450
              161.06         221.92        0.0450
              166.81         221.91        0.0450
              172.56         221.89        0.0450
              180.57         221.40    0.0450 /0.0300  Main Channel
              181.57         220.60        0.0300      Main Channel
              184.07         220.16        0.0300      Main Channel
              195.57         221.85    0.0300 /0.0450  Main Channel
              201.32         221.82        0.0450
              207.07         221.77        0.0450
              212.83         221.72        0.0450
              253.09         222.52        0.0450
              408.40         222.65        0.0450
              460.17         223.20        0.0450
              517.69         224.84        0.0450
              569.46         232.57        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.41   220.57    .189E+04        0.5        0.49      60.18
       0.83   220.99    .697E+04        3.2        0.82      35.79
       1.24   221.40    .145E+05        8.8        1.07      27.45
       1.84   222.00    .643E+05       29.3        0.81      36.61
       2.44   222.60    .282E+06      132.9        0.83      35.41
       3.04   223.20    .707E+06      413.7        1.04      28.50
       3.64   223.80    .118E+07      876.8        1.31      22.46
       4.24   224.40    .168E+07     1494.8        1.57      18.75
       4.84   225.00    .221E+07     2264.1        1.82      16.23
       5.44   225.60    .274E+07     3196.3        2.06      14.29
       6.04   226.20    .328E+07     4258.6        2.30      12.84
       6.65   226.81    .383E+07     5444.7        2.52      11.72
       7.25   227.41    .438E+07     6749.7        2.73      10.82
       7.85   228.01    .494E+07     8169.4        2.93      10.08
       8.45   228.61    .551E+07     9700.7        3.12       9.46
       9.05   229.21    .608E+07    11340.8        3.30       8.94
       9.65   229.81    .666E+07    13087.4        3.48       8.48
      10.25   230.41    .724E+07    14938.5        3.65       8.08
      10.85   231.01    .783E+07    16892.4        3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27    17.54    9.50  15.53      1.50      0.94
    OUTFLOW: ID= 1 (6272) 4288.27    17.32   10.25  15.53      1.49      0.94
```

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-------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   1.236     7.50    18.04
      + ID2= 2 (6272):  4288.27  17.324    10.25    15.53
        ================================================
        ID = 3 (8356):  4445.65  18.249    10.00    15.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  10.681     8.00    21.29
      + ID2= 2 (8356):  4445.65  18.249    10.00    15.62
        ================================================
        ID = 3 (8352):  5714.38  27.725     9.00    16.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.00    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.48   218.85    .121E+05        1.2        0.36     173.94
       1.17   219.54    .839E+05        9.8        0.44     142.60
       1.86   220.23    .323E+06       41.0        0.47     131.43
       2.56   220.93    .708E+06      109.5        0.58     107.67
       3.25   221.62    .118E+07      224.3        0.71      87.36
       3.94   222.31    .168E+07      376.5        0.84      74.48
       4.63   223.00    .222E+07      567.9        0.96      65.26
       5.32   223.69    .279E+07      794.7        1.07      58.58
       6.02   224.39    .339E+07     1056.2        1.17      53.52
       6.71   225.08    .402E+07     1352.4        1.26      49.52
       7.40   225.77    .468E+07     1677.3        1.34      46.46
       8.09   226.46    .536E+07     2050.0        1.43      43.58
       8.79   227.16    .607E+07     2457.9        1.52      41.14
       9.48   227.85    .680E+07     2901.0        1.60      39.05
      10.17   228.54    .755E+07     3352.7        1.66      37.53
      10.86   229.23    .834E+07     3812.5        1.71      36.48
      11.55   229.92    .919E+07     4241.8        1.73      36.13
      12.25   230.62    .101E+08     4697.0        1.74      35.93
      12.94   231.31    .111E+08     5186.3        1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38    27.72    9.00  16.88      1.57      0.46
    OUTFLOW: ID= 1 (6304) 5714.38    22.85   11.75  16.88      1.46      0.45
```

```
-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   0.753    10.50    12.26
      + ID2= 2 (6304):  5714.38  22.850    11.75    16.88
        ================================================
        ID = 3 (8350):  6006.75  23.587    11.75    16.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3760.46  17.080     9.75    15.28
      + ID2= 2 (8350):  6006.75  23.587    11.75    16.65
        ================================================
        ID = 3 (8346):  9775.21  39.706    10.75    16.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
-------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.250    13.75     8.59
      + ID2= 2 (8346):  9775.21  39.706    10.75    16.12
        ================================================
        ID = 3 (8344): 10059.18  39.930    10.75    15.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  *******    370.0451
                         41.0590   56.7403   |  *******    863.4386
                         48.1390   86.3439   |  *******    ********
                         56.6340   *******   |  *******    ********
                         67.9600   *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********     39.930     10.75      15.91
     OUTFLOW: ID= 1 (5509)   ********     30.768     14.50      15.91

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.05
                    TIME SHIFT OF PEAK FLOW         (min)=225.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 42.5230

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.734 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  18.150
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.334

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   4.424 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.421
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.394

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3321.0) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.0380
                 25.85        227.20        0.0380
                 96.94        226.44        0.0380
                168.03        227.38        0.0380
                219.73        225.62        0.0380
                342.52        221.57        0.0380
                368.37        221.42        0.0380
                374.83        221.23        0.0380
                379.79        220.98    0.0380 /0.0300  Main Channel
                380.29        220.47        0.0300      Main Channel
                381.29        220.47        0.0300      Main Channel
                382.79        220.47        0.0300      Main Channel
                383.29        220.98    0.0300 /0.0380  Main Channel
                394.22        221.22        0.0380
                400.68        221.33        0.0380
                407.14        221.44        0.0380
                491.16        225.70        0.0380
                568.71        227.55        0.0380
                607.49        230.14        0.0380
                639.80        234.08        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.51   220.98    .554E+04         0.9        0.56     107.27
        1.20   221.67    .885E+05        12.1        0.49     122.32
        1.88   222.35    .309E+06        64.7        0.76      79.70
        2.57   223.04    .615E+06       165.4        0.97      61.99
        3.25   223.72    .101E+07       322.1        1.16      52.06
        3.94   224.41    .148E+07       542.9        1.33      45.51
        4.62   225.09    .204E+07       835.4        1.48      40.77
        5.31   225.78    .269E+07      1202.8        1.62      37.27
        5.99   226.46    .344E+07      1618.0        1.70      35.46
        6.68   227.15    .447E+07      1932.0        1.56      38.56
        7.36   227.83    .580E+07      2763.9        1.72      34.96
        8.05   228.52    .718E+07      3861.9        1.95      30.97
        8.73   229.20    .859E+07      5115.4        2.16      27.98
        9.42   229.89    .100E+08      6519.2        2.35      25.64
       10.10   230.57    .115E+08      8092.3        2.55      23.69
       10.79   231.26    .130E+08      9821.5        2.73      22.05
       11.47   231.94    .145E+08     11690.0        2.92      20.68
       12.16   232.63    .160E+08     13694.9        3.09      19.52
       12.84   233.31    .176E+08     15833.9        3.26      18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30    4.42    7.50  21.42     0.73      0.54
     OUTFLOW: ID= 1 (6332)  468.30    3.43    9.75  21.42     0.67      0.54

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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0332):   393.44   1.734    10.00    18.15
        + ID2= 2 (6332):   468.30   3.427     9.75    21.42
          ================================================
          ID = 3 (8322):   861.74   5.160     9.75    19.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   2.703 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  19.405
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.357

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   4.073 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  21.534
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   3.645 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  20.790
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   2.314 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  22.248
```

```
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.409

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3182)  |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   3.172 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.047
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3181)  |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06         4.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     416.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        18.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.45 (ii)   29.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.71         0.17          3.819 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40        19.48          46.14
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.36           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800      0.7654
                         0.0510     0.4423   |   4.1500      0.8231
                         0.8700     0.5378   |   4.8750      0.8778
                         1.9590     0.6105   |   5.2750      0.8878
                         2.5620     0.6796   |   0.0000      0.0000

                            AREA      QPEAK      TPEAK       R.V.
                            (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000      3.819      6.00      46.14
     OUTFLOW: ID= 1 (5318)     26.000      1.977      6.25      46.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.76
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6441

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-------------------
| ADD HYD   (8334)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (3182):   457.40   3.172    8.00    20.05
     + ID2= 2 (5318):    26.00   1.977    6.25    46.06
       ================================================
       ID = 3 (8334):   483.40   3.965    6.25    21.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3201.0) ------>
```

```
          Distance      Elevation       Manning
             0.00         249.00        0.0380
            22.92         245.86        0.0380
            45.83         244.87        0.0380
            91.66         243.11        0.0380
           126.03         239.53        0.0380
           160.41         237.17        0.0380
           166.14         237.06        0.0380
           177.59         237.13        0.0380
           183.32         237.20        0.0380
           189.05         236.70    0.0380 /0.0350  Main Channel
           193.05         235.89        0.0350      Main Channel
           197.05         236.64    0.0350 /0.0380  Main Channel
           200.51         236.74        0.0380
           206.24         237.03        0.0380
           246.34         238.82        0.0380
           263.53         243.87        0.0380
           389.56         247.64        0.0380
           452.58         247.74        0.0380
           498.41         248.60        0.0380
           567.16         249.84        0.0380

        <---------- TRAVEL TIME TABLE ---------->
         DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.37   236.26    .270E+04        0.4         0.58     107.96
         0.75   236.64    .108E+05        2.6         0.92      68.01
         1.48   237.37    .877E+05       27.4         1.17      53.35
         2.20   238.09    .277E+06      122.1         1.65      37.83
         2.93   238.82    .540E+06      299.7         2.08      30.01
         3.66   239.55    .857E+06      587.8         2.57      24.29
         4.39   240.28    .120E+07      977.8         3.04      20.52
         5.11   241.00    .158E+07     1458.1         3.46      18.02
         5.84   241.73    .198E+07     2028.6         3.84      16.23
         6.57   242.46    .240E+07     2690.5         4.19      14.86
         7.29   243.18    .285E+07     3431.8         4.50      13.84
         8.02   243.91    .335E+07     4149.1         4.64      13.44
         8.75   244.64    .393E+07     4746.6         4.51      13.80
         9.47   245.36    .463E+07     5618.6         4.53      13.75
        10.20   246.09    .545E+07     6781.8         4.66      13.39
        10.93   246.82    .635E+07     8274.5         4.87      12.79
        11.66   247.55    .733E+07     9988.0         5.10      12.23
        12.38   248.27    .853E+07    11422.0         5.01      12.45
        13.11   249.00    .989E+07    13749.7         5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     3.97    6.25  21.45      0.79      0.93
     OUTFLOW: ID= 1 (6320)  483.40     3.17    9.00  21.45      0.77      0.92

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-------------------
| ADD HYD   (8332)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6320):   278.74   2.314    8.00    22.25
     + ID2= 2 (6320):   483.40   3.174    9.00    21.45
       ================================================
       ID = 3 (8332):   762.14   5.391    8.50    21.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0314)  |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   2.028 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  19.819
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.364

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
```

195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->				<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0314)	165.20	2.03	6.75	19.82	0.56	0.98
OUTFLOW:	ID= 1 (6316)	165.20	1.77	7.75	19.82	0.52	0.93

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 82.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 2.513 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 22.974
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0316):	232.34	2.513	7.25	22.97
+ ID2= 2 (6316):	165.20	1.774	7.75	19.82
ID = 3 (8338):	397.54	4.262	7.50	21.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 80.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 2.884 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 21.475
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 1.987 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 11.840
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.218

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0310) | ID= 1 DT=15.0 min

Area (ha)= 138.28	Curve Number (CN)= 65.0		
Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
U.H. Tp(hrs)= 0.76			

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 1.019 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 12.908
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.237

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	1.987	8.50	11.84
+ ID2= 2 (0310):	138.28	1.019	7.00	12.91
ID = 3 (8342):	667.58	2.871	8.00	12.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

```
                                <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8342)  667.58     2.87    8.00  12.06      0.44      1.78
     OUTFLOW: ID= 1 (6312)  667.58     2.87    8.00  12.06      0.44      1.78


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-------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   2.884     8.00    21.47
       + ID2= 2 (6312):   667.58   2.869     8.00    12.06
         ================================================
         ID = 3 (8340):  1027.02   5.753     8.00    15.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.54   4.262     7.50    21.66
       + ID2= 2 (8340):  1027.02   5.753     8.00    15.36
         ================================================
         ID = 3 (8336):  1424.56   9.969     7.75    17.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.14   5.391     8.50    21.74
       + ID2= 2 (8336):  1424.56   9.969     7.75    17.12
         ================================================
         ID = 3 (8330):  2186.70  15.231     8.00    18.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)     (min)
      0.20   223.86    .145E+04       0.2         0.43     147.27
      0.73   224.39    .159E+05       2.8         0.68      93.11
      1.27   224.93    .561E+05      11.0         0.75      85.19
      1.80   225.46    .217E+06      45.6         0.80      79.20
      2.33   225.99    .566E+06     134.4         0.91      70.20
      2.87   226.53    .122E+07     338.1         1.06      59.97
      3.40   227.06    .206E+07     744.3         1.38      46.16
      3.94   227.60    .298E+07    1295.9         1.66      38.38
      4.47   228.13    .399E+07    1979.9         1.90      33.59
      5.00   228.66    .509E+07    2807.5         2.11      30.21
      5.54   229.20    .627E+07    3815.1         2.32      27.41
      6.07   229.73    .753E+07    4984.1         2.53      25.17
      6.60   230.26    .884E+07    6346.3         2.74      23.20
      7.14   230.80    .102E+08    7861.2         2.95      21.61
      7.67   231.33    .116E+08    9526.4         3.14      20.29
      8.21   231.87    .131E+08   11342.2         3.32      19.18
      8.74   232.40    .146E+08   13309.6         3.49      18.22
      9.27   232.93    .161E+08   15414.0         3.66      17.41
      9.81   233.47    .177E+08   17671.0         3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8330) 2186.70    15.23    8.00  18.73      1.33      0.75
     OUTFLOW: ID= 1 (6324) 2186.70    13.09    9.75  18.73      1.30      0.75


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0324):   615.64   3.645     8.75    20.79
       + ID2= 2 (6324):  2186.70  13.089     9.75    18.73
         ================================================
         ID = 3 (8328):  2802.34  16.666     9.75    19.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=   3.366 (i)
    TIME TO PEAK    (hrs)=   8.500
    RUNOFF VOLUME    (mm)=  21.519
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.396

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   3.366     8.50    21.52
       + ID2= 2 (8328):  2802.34  16.666     9.75    19.18
         ================================================
         ID = 3 (8326):  3315.47  19.923     9.50    19.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   4.073     9.00    21.53
       + ID2= 2 (8326):  3315.47  19.923     9.50    19.54
         ================================================
         ID = 3 (8324):  3994.38  23.966     9.50    19.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

```
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.50   218.64    .373E+05        3.2          0.33     192.37
     1.00   219.14    .752E+05       10.1          0.51     124.71
     1.52   219.66    .149E+06       22.2          0.57     112.06
     2.04   220.18    .279E+06       43.4          0.59     107.06
     2.56   220.70    .464E+06       77.0          0.63     100.52
     3.08   221.22    .705E+06      125.7          0.68      93.56
     3.61   221.75    .100E+07      192.7          0.73      86.62
     4.13   222.27    .135E+07      278.1          0.79      80.92
     4.65   222.79    .176E+07      385.9          0.84      75.86
     5.17   223.31    .222E+07      514.9          0.89      71.82
     5.69   223.83    .280E+07      662.7          0.90      70.40
     6.21   224.35    .345E+07      867.7          0.96      66.35
     6.73   224.87    .417E+07     1107.0          1.01      62.81
     7.25   225.39    .494E+07     1400.0          1.08      58.80
     7.78   225.92    .573E+07     1732.2          1.15      55.17
     8.30   226.44    .655E+07     2099.9          1.22      52.02
     8.82   226.96    .740E+07     2502.8          1.29      49.29
     9.34   227.48    .828E+07     2940.9          1.36      46.90
     9.86   228.00    .918E+07     3414.3          1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8324) 3994.38    23.97    9.50  19.88      1.57      0.57
OUTFLOW: ID= 1 (6328) 3994.38    20.57   11.25  19.88      1.45      0.56

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   2.703     8.75    19.40
       + ID2= 2 (6328):  3994.38  20.574    11.25    19.88
         ================================================
         ID = 3 (8320):  4487.30  22.991    11.00    19.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  22.991    11.00    19.83
       + ID2= 2 (8322):   861.74   5.160     9.75    19.93
         ================================================
         ID = 3 (8318):  5349.04  27.883    11.00    19.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  30.768    14.50    15.91
       + ID2= 2 (8318):  5349.04  27.883    11.00    19.84
         ================================================
         ID = 3 (8316): 15408.22  54.401    12.50    17.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   0.655     7.00    10.58
       + ID2= 2 (8316): 15408.22  54.401    12.50    17.28
         ================================================
         ID = 3 (8312): 16028.32  54.930    12.50    17.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  17.031     6.25    23.52
       + ID2= 2 (8312): 16028.32  54.930    12.50    17.02
         ================================================
         ID = 3 (8308): 16627.22  55.984    12.25    17.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------         (cms)     (ha.m.)   |   (cms)     (ha.m.)
                              0.0000     0.0000   |  *******     74.0090
                             66.5450    18.5023   |  *******    ********
                             98.5430    37.0045   |  *******    ********

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     55.984     12.25      17.25
    OUTFLOW: ID= 1 (5510)   ********     55.092     13.25      17.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.41
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.3262

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--------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   1.997    22.25    16.45
       + ID2= 2 (5510): 16627.22  55.092    13.25    17.25
         ================================================
         ID = 3 (8240): 19412.22  56.803    13.25    17.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  24.490    12.25    10.18
       + ID2= 2 (8240): 19412.22  56.803    13.25    17.14
         ================================================
         ID = 3 (8238): 28936.45  80.945    12.75    14.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   2.057    10.25     9.16
       + ID2= 2 (8238): 28936.45  80.945    12.75    14.85
         ================================================
         ID = 3 (8236): 29941.03  82.805    12.75    14.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80   5.262     6.00    15.59
       + ID2= 2 (8236): 29941.03  82.805    12.75    14.66
         ================================================
         ID = 3 (8234): 30226.83  83.076    12.75    14.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   1.873     7.00    10.67
       + ID2= 2 (8234): 30226.83  83.076    12.75    14.67
         ================================================
         ID = 3 (8230): 30570.83  83.630    12.75    14.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06   6.251     8.75     8.85
       + ID2= 2 (8230): 30570.83  83.630    12.75    14.62
         ================================================
         ID = 3 (8228): 32522.89  87.695    12.50    14.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  42.683    12.25    17.78
      + ID2= 2 (8240): 19412.22  88.298    13.50    28.47
        ================================================
        ID = 3 (8238): 28936.45 130.148    12.75    24.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   3.660    10.00    16.26
      + ID2= 2 (8238): 28936.45 130.148    12.75    24.95
        ================================================
        ID = 3 (8236): 29941.03 133.430    12.75    24.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   8.040     6.00    24.37
      + ID2= 2 (8236): 29941.03 133.430    12.75    24.66
        ================================================
        ID = 3 (8234): 30226.83 133.766    12.75    24.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   3.342     7.00    18.72
      + ID2= 2 (8234): 30226.83 133.766    12.75    24.65
        ================================================
        ID = 3 (8230): 30570.83 134.707    12.75    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06  11.133     8.75    15.62
      + ID2= 2 (8230): 30570.83 134.707    12.75    24.59
        ================================================
        ID = 3 (8228): 32522.89 141.797    12.50    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   4.610     8.00    12.58
      + ID2= 2 (8228): 32522.89 141.797    12.50    24.05
        ================================================
        ID = 3 (8190): 33538.11 144.663    12.25    23.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  13 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\f574c8d3
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.57 |  3.25    2.51 |'  6.25   11.29 |  9.25    2.19
               0.50    1.57 |  3.50    2.51 |'  6.50   11.29 |  9.50    2.19
               0.75    1.57 |  3.75    2.51 |'  6.75    5.02 |  9.75    2.19
               1.00    1.57 |  4.00    2.51 |'  7.00    5.02 | 10.00    2.19
               1.25    1.57 |  4.25    3.76 |'  7.25    3.76 | 10.25    1.25
               1.50    1.57 |  4.50    3.76 |'  7.50    3.76 | 10.50    1.25
               1.75    1.57 |  4.75    5.02 |'  7.75    3.76 | 10.75    1.25
               2.00    1.57 |  5.00    5.02 |'  8.00    3.76 | 11.00    1.25
               2.25    1.88 |  5.25    7.52 |'  8.25    2.19 | 11.25    1.25
               2.50    1.88 |  5.50    7.52 |'  8.50    2.19 | 11.50    1.25
               2.75    1.88 |  5.75   30.10 |'  8.75    2.19 | 11.75    1.25
               3.00    1.88 |  6.00   82.76 |'  9.00    2.19 | 12.00    1.25

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   3.392 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   9.295
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.148

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.631 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.749
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.108

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980

    PEAK FLOW       (cms)=   2.453 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.980
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.191

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   6.254

    PEAK FLOW       (cms)=   3.349 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.771
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.315

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   5.831

    PEAK FLOW       (cms)=   1.564 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=   9.910
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.158

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   1.632 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=   9.963
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                0.00         287.00        0.0500
               23.66         283.72        0.0500
               70.98         280.94        0.0500
              112.38         280.23        0.0500
              171.52         276.80        0.0500
              260.24         274.46        0.0500
              266.16         274.26        0.0500
              272.07         274.12        0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82        0.0300      Main Channel
              277.99         273.82        0.0300      Main Channel
              279.49         273.82        0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27        0.0500
              289.81         274.57        0.0500
              325.30         275.75        0.0500
              396.28         278.98        0.0500
              449.51         280.97        0.0500
              496.83         283.90        0.0500
              585.54         287.92        0.0500

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   274.12    .273E+04        0.9         0.99      49.81
       0.98   274.80    .583E+05       20.8         1.05      46.71
       1.66   275.48    .203E+06       95.2         1.38      35.53
       2.33   276.15    .438E+06      256.0         1.73      28.50
       3.01   276.83    .755E+06      524.8         2.05      23.97
       3.69   277.51    .114E+07      935.8         2.43      20.26
       4.37   278.19    .157E+07     1472.0         2.76      17.82
       5.05   278.87    .206E+07     2140.7         3.06      16.06
       5.72   279.54    .261E+07     2938.6         3.33      14.79
       6.40   280.22    .321E+07     3887.6         3.57      13.77
       7.08   280.90    .390E+07     4795.4         3.63      13.56
       7.76   281.58    .468E+07     6196.2         3.91      12.58
       8.43   282.25    .550E+07     7803.9         4.19      11.74
       9.11   282.93    .637E+07     9601.9         4.45      11.05
       9.79   283.61    .728E+07    11594.8         4.70      10.46
      10.47   284.29    .823E+07    13845.3         4.96       9.91
      11.15   284.97    .922E+07    16293.4         5.21       9.43
      11.82   285.64    .103E+08    18952.0         5.45       9.02
      12.50   286.32    .113E+08    21824.3         5.69       8.65

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (0348)  590.18     1.63    9.00   9.96      0.32      0.99
    OUTFLOW: ID= 1 (6350)  590.18     1.59   10.25   9.96      0.32      0.99

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-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0350):   366.84   1.564     7.50      9.91
      + ID2= 2 (6350):   590.18   1.595    10.25      9.96
        ================================================
        ID = 3 (8220):   957.02   2.909     8.75      9.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0346):   350.93   3.349     7.25     19.77
      + ID2= 2 (8220):   957.02   2.909     8.75      9.94
        ================================================
        ID = 3 (8222):  1307.95   6.043     8.00     12.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.60   239.41    .224E+04        2.2         1.52      17.12
       1.58   240.39    .216E+05       22.3         1.61      16.16
       2.55   241.36    .804E+05      101.0         1.96      13.27
       3.53   242.34    .173E+06      275.6         2.48      10.46
       4.50   243.31    .293E+06      553.9         2.95       8.80
       5.48   244.29    .438E+06      961.8         3.42       7.60
       6.45   245.26    .599E+06     1534.4         3.99       6.51
       7.43   246.24    .770E+06     2228.4         4.51       5.76
       8.41   247.22    .951E+06     3043.6         4.98       5.21
       9.38   248.19    .114E+07     3982.1         5.43       4.78
      10.36   249.17    .134E+07     5040.1         5.85       4.44
      11.33   250.14    .155E+07     6218.5         6.24       4.16
      12.31   251.12    .177E+07     7518.6         6.61       3.93
      13.29   252.10    .200E+07     8969.0         6.98       3.72
      14.26   253.07    .224E+07    10554.1         7.35       3.53
      15.24   254.05    .248E+07    12257.1         7.71       3.37
      16.21   255.02    .272E+07    14045.1         8.03       3.23
      17.19   256.00    .298E+07    15954.8         8.34       3.11
      18.16   256.97    .325E+07    17780.4         8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8222) 1307.95     6.04    8.00  12.58      0.79      1.53
    OUTFLOW: ID= 1 (6352) 1307.95     6.00    8.25  12.58      0.78      1.53

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-------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0352):   381.43   2.453     7.00     11.98
      + ID2= 2 (6352):  1307.95   5.998     8.25     12.58
        ================================================
        ID = 3 (8224):  1689.38   8.227     8.00     12.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3541.0) ------>
             Distance      Elevation       Manning
                0.00         253.92        0.0500
                7.95         251.83        0.0500
               15.89         249.97        0.0500
               19.87         249.05        0.0500
               47.68         242.00        0.0500
               67.55         237.10        0.0500
               83.44         231.11        0.0500
               85.43         230.75        0.0500
               85.66         230.61    0.0500 /0.0300  Main Channel
               85.76         230.01        0.0300      Main Channel
               87.41         230.01        0.0300      Main Channel
               88.06         230.01        0.0300      Main Channel
               88.16         230.61    0.0300 /0.0500  Main Channel
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              89.40        230.72        0.0500
              91.39        230.88        0.0500
              93.37        231.03        0.0500
             133.11        233.96        0.0500
             150.99        235.39        0.0500
             172.84        239.03        0.0500
             196.68        250.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.60   230.61    .451E+04         1.5          1.06      49.40
        1.62   231.63    .394E+05        14.6          1.16      45.13
        2.64   232.65    .128E+06        58.8          1.44      36.30
        3.66   233.67    .269E+06       149.7          1.74      30.00
        4.68   234.69    .463E+06       301.5          2.04      25.58
        5.70   235.71    .705E+06       530.5          2.36      22.14
        6.72   236.73    .980E+06       848.4          2.71      19.25
        7.74   237.75    .128E+07      1237.9          3.02      17.29
        8.76   238.77    .162E+07      1706.7          3.30      15.83
        9.78   239.79    .199E+07      2291.9          3.61      14.45
       10.81   240.82    .237E+07      2973.7          3.92      13.30
       11.83   241.84    .278E+07      3742.2          4.21      12.38
       12.85   242.86    .321E+07      4599.1          4.49      11.62
       13.87   243.88    .365E+07      5544.6          4.75      10.98
       14.89   244.90    .412E+07      6579.7          5.00      10.44
       15.91   245.92    .461E+07      7705.9          5.23       9.97
       16.93   246.94    .512E+07      8924.6          5.46       9.55
       17.95   247.96    .564E+07     10237.5          5.68       9.19
       18.97   248.98    .619E+07     11646.2          5.89       8.86

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8224) 1689.38     8.23    8.00  12.44      1.12      1.11
     OUTFLOW: ID= 1 (6354) 1689.38     7.67    8.75  12.44      1.08      1.10


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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68   0.631     8.00     6.75
      + ID2= 2 (6354):  1689.38   7.666     8.75    12.44
        ================================================
        ID = 3 (8226):  1952.06   8.283     8.75    11.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  14.035
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        12.93
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     15.44 (ii)   39.69 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.04         3.27          6.356 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     60.70        11.98         18.31
     TOTAL RAINFALL   (mm)=     62.70        62.70         62.70
     RUNOFF COEFFICIENT   =      0.97         0.19          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        18.77
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      9.78 (ii)   30.67 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.10         0.89          2.465 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     60.70        14.21         23.97
     TOTAL RAINFALL   (mm)=     62.70        62.70         62.70
     RUNOFF COEFFICIENT   =      0.97         0.23          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360     1.7877
                         0.1730     0.6348   |   7.2780     2.2185
                         1.8360     0.8250   |   9.1880     2.6486
                         2.1540     1.1051   |   9.5880     2.6586
                         3.3950     1.3506   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      2.465      6.00      23.97
     OUTFLOW: ID= 1 (5340)     51.200      0.624      7.00      23.95

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.34
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.6899

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3402):   234.60   6.356     6.00    18.31
      + ID2= 2 (5340):    51.20   0.624     7.00    23.95
        ================================================
        ID = 3 (8232):   285.80   6.442     6.00    19.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   2.724 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  12.117
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
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```
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   2.591 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.102
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.949 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.944
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   2.048 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.505
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   4.625 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.449
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.358

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.759 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  15.043
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.719
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   1.913 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.799
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.617 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   9.274
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.148

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   3.151 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.457
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   1.155 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.322
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   1.155     6.75    12.32
      + ID2= 2 (0366):   462.62   3.151     7.50    15.46
        ================================================
        ID = 3 (8302):   617.89   4.258     7.25    14.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.13        92.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    889.87        40.00
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     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        11.12
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.59 (ii)   38.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.71         1.58          2.335 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        10.62         14.63
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.17          0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0358) |   Area     (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   6.228
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0360) |   Area     (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.860 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.151
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   1.174     7.50     6.23
      + ID2= 2 (0360):   138.37   0.860     6.75     9.15
        ================================================
        ID = 3 (8306):   568.24   1.984     7.00     6.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3621.0) ------>
             Distance      Elevation       Manning
                0.00         261.46        0.0550
               27.86         254.23        0.0550
               51.07         251.96        0.0550
               74.29         250.77        0.0550
               97.50         249.91        0.0550
              125.36         249.40        0.0550
              150.93         247.40        0.0550
              155.93         247.33    0.0550 /0.0350  Main Channel
              157.93         246.85        0.0350      Main Channel
              159.18         246.65        0.0350      Main Channel
              160.18         246.63        0.0350      Main Channel
              160.93         246.85        0.0350      Main Channel
              161.93         247.18    0.0350 /0.0550  Main Channel
              163.18         248.03        0.0550
              168.18         248.58        0.0550
              183.18         250.18        0.0550
              201.97         252.59        0.0550
              213.57         256.02        0.0550
              225.18         260.31        0.0550
              229.82         261.00        0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   247.18   .556E+04       1.9          1.03      49.95
       1.28   247.91   .336E+05      16.7          1.53      33.61
       2.00   248.63   .913E+05      53.6          1.81      28.40
       2.73   249.36   .185E+06     122.3          2.05      25.18
       3.46   250.09   .344E+06     224.6          2.02      25.52
       4.19   250.82   .574E+06     417.9          2.25      22.91
       4.91   251.54   .855E+06     699.1          2.53      20.38
       5.64   252.27   .118E+07    1075.3          2.82      18.26
       6.37   253.00   .153E+07    1559.9          3.15      16.38
       7.10   253.73   .191E+07    2137.6          3.46      14.89
       7.82   254.45   .231E+07    2815.2          3.77      13.67
       8.55   255.18   .272E+07    3608.5          4.10      12.58
       9.28   255.91   .315E+07    4488.2          4.41      11.69
      10.01   256.64   .358E+07    5458.0          4.71      10.95
      10.73   257.36   .403E+07    6512.4          4.99      10.32
      11.46   258.09   .449E+07    7649.8          5.27       9.78
      12.19   258.82   .496E+07    8869.5          5.53       9.32
      12.92   259.55   .544E+07   10171.2          5.78       8.91
      13.64   260.27   .593E+07   11554.8          6.02       8.55

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8306)  568.24     1.98    7.00   6.94      0.56      1.03
     OUTFLOW: ID= 1 (6362)  568.24     1.75    8.25   6.94      0.52      1.03

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--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0362):   118.78   2.335     6.00    14.63
      + ID2= 2 (6362):   568.24   1.750     8.25     6.94
        ================================================
        ID = 3 (8304):   687.02   2.882     6.50     8.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8302):   617.89   4.258     7.25    14.67
      + ID2= 2 (8304):   687.02   2.882     6.50     8.27
        ================================================
        ID = 3 (8300):  1304.91   6.844     7.00    11.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation       Manning
                0.00         230.00        0.0370
               18.48         223.26        0.0370
               36.96         223.05        0.0370
               64.67         222.94        0.0370
              110.87         222.86        0.0370
              133.96         222.74        0.0370
              147.82         222.65        0.0370
              170.92         222.31        0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86        0.0300      Main Channel
              175.54         221.86        0.0300      Main Channel
              176.19         221.86        0.0300      Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25        0.0370
              184.78         222.28        0.0370
              189.40         222.31        0.0370
              332.60         222.37        0.0370
              450.00         230.00        0.0370

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   222.26   .771E+03       0.3          0.52      41.74
       0.81   222.67   .784E+05      30.3          0.51      43.17
       1.21   223.07   .210E+06     123.2          0.77      28.42
       1.62   223.48   .384E+06     301.0          1.03      21.25
       2.03   223.89   .563E+06     550.2          1.28      17.06
       2.44   224.30   .747E+06     860.7          1.51      14.46
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      2.84   224.70    .934E+06    1228.1          1.73      12.68
      3.25   225.11    .113E+07    1649.3          1.92      11.37
      3.66   225.52    .132E+07    2122.3          2.11      10.37
      4.07   225.93    .152E+07    2645.5          2.29       9.58
      4.47   226.33    .172E+07    3217.8          2.45       8.92
      4.88   226.74    .193E+07    3838.3          2.61       8.38
      5.29   227.15    .214E+07    4506.3          2.76       7.92
      5.70   227.56    .236E+07    5221.3          2.91       7.52
      6.10   227.96    .258E+07    5983.0          3.05       7.17
      6.51   228.37    .280E+07    6790.9          3.19       6.87
      6.92   228.78    .303E+07    7645.0          3.32       6.60
      7.33   229.19    .326E+07    8545.1          3.45       6.35
      7.73   229.59    .349E+07    9491.0          3.57       6.13

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91     6.84    7.00  11.30      0.49      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     6.29    8.25  11.30      0.48      0.52


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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6368):   159.48   0.617     7.75     9.27
      + ID2= 2 (6368):  1304.91   6.294     8.25    11.30
        ================================================
        ID = 3 (8298):  1464.39   6.900     8.00    11.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8296) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8370):   191.85   1.913     6.75    15.80
      + ID2= 2 (8298):  1464.39   6.900     8.00    11.08
        ================================================
        ID = 3 (8296):  1656.24   8.479     7.75    11.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
              Distance      Elevation       Manning
                 0.00         225.00        0.0390
                30.80         219.38        0.0390
                61.61         219.30        0.0390
                77.01         219.27        0.0390
               469.76         219.14        0.0390
               477.46         219.13        0.0390
               485.16         219.10        0.0390
               492.86         219.09        0.0390
               495.56         219.09    0.0390 /0.0310  Main Channel
               495.66         218.51        0.0310      Main Channel
               500.56         218.51        0.0310      Main Channel
               505.46         218.51        0.0310      Main Channel
               505.56         219.09    0.0310 /0.0390  Main Channel
               508.26         219.09        0.0390
               515.96         219.10        0.0390
               523.67         219.21        0.0390
               562.17         219.32        0.0390
               654.58         219.43        0.0390
               731.59         219.46        0.0390
               762.39         225.00        0.0390

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   218.80    .431E+04        1.7         0.58      43.48
       0.58   219.09    .867E+04        5.1         0.89      28.32
       0.93   219.44    .200E+06       58.2         0.44      57.35
       1.28   219.79    .568E+06      278.6         0.74      33.99
       1.62   220.13    .939E+06      630.2         1.01      24.84
       1.97   220.48    .131E+07     1090.4         1.25      20.05
       2.32   220.83    .169E+07     1647.7         1.47      17.06
       2.67   221.18    .206E+07     2294.6         1.68      14.99
       3.01   221.52    .244E+07     3025.6         1.87      13.46
       3.36   221.87    .282E+07     3836.5         2.05      12.27
       3.71   222.22    .321E+07     4723.7         2.22      11.31
       4.06   222.57    .359E+07     5684.6         2.39      10.53
       4.40   222.91    .398E+07     6716.6         2.55       9.87
       4.75   223.26    .437E+07     7817.7         2.70       9.31
       5.10   223.61    .476E+07     8986.2         2.85       8.83
       5.45   223.96    .515E+07    10220.4         2.99       8.40
       5.79   224.30    .555E+07    11519.1         3.13       8.03
       6.14   224.65    .594E+07    12880.8         3.27       7.69
       6.49   225.00    .634E+07    14304.5         3.40       7.39

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24     8.48    7.75  11.63      0.60      0.83
     OUTFLOW: ID= 1 (6372) 1656.24     8.21    8.50  11.63      0.60      0.84


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6372):   110.42   0.343     7.25     6.72
      + ID2= 2 (6372):  1656.24   8.215     8.50    11.63
        ================================================
        ID = 3 (8294):  1766.66   8.529     8.50    11.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8374):   545.70   2.759     8.25    15.04
      + ID2= 2 (8294):  1766.66   8.529     8.50    11.32
        ================================================
        ID = 3 (8292):  2312.36  11.277     8.50    12.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     11.277      8.50      12.20
     OUTFLOW: ID= 1 (5505)   2312.360      8.244     11.25      12.20

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.11
                TIME SHIFT OF PEAK FLOW          (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.9877

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8376):   463.85   4.625     7.50    22.45
      + ID2= 2 (5505):  2312.36   8.244    11.25    12.20
        ================================================
        ID = 3 (8272):  2776.21  11.221    10.25    13.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0396) |   Area     (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   2.564 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.201
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0394) |   Area     (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013
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     PEAK FLOW      (cms)=   1.838 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  11.632
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW      (cms)=   2.260 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  12.424
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW      (cms)=   1.394 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  13.635
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW      (cms)=   1.798 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  14.947
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.238

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   1.798     7.25    14.95
      + ID2= 2 (0388):   220.77   1.394     7.25    13.64
        ================================================
        ID = 3 (8286):   462.04   3.192     7.25    14.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW      (cms)=   0.803 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=   8.644
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW      (cms)=   0.964 (i)
     TIME TO PEAK   (hrs)=   6.500
     RUNOFF VOLUME   (mm)=   7.404
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW      (cms)=   1.611 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  11.537
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   0.964     6.50     7.40
      + ID2= 2 (0382):   216.59   1.611     6.75    11.54
        ================================================
        ID = 3 (8290):   398.60   2.571     6.75     9.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation        Manning
                 0.00         294.40         0.0380
                10.59         291.93         0.0380
                21.17         289.19         0.0380
                26.46         287.99         0.0380
                31.76         286.79         0.0380
                71.45         279.97         0.0380
                74.10         279.79         0.0380
                76.74         279.71         0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30         0.0300      Main Channel
                79.39         279.30         0.0300      Main Channel
                79.64         279.30         0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78         0.0380
               119.09         281.86         0.0380
               145.55         282.87         0.0380
               198.48         284.85         0.0380
               211.71         286.31         0.0380
               230.23         287.59         0.0380
               261.99         294.00         0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
      0.34    279.64    .715E+03        0.2          0.85       63.42
      1.10    280.40    .507E+05       21.9          1.40       38.54
      1.85    281.15    .141E+06       91.8          2.10       25.69
      2.61    281.91    .269E+06      218.9          2.63       20.46
      3.36    282.66    .445E+06      407.1          2.96       18.23
      4.12    283.42    .681E+06      698.3          3.31       16.26
      4.87    284.17    .977E+06     1111.8          3.68       14.65
      5.63    284.93    .133E+07     1674.3          4.06       13.27
      6.39    285.69    .173E+07     2457.8          4.59       11.73
      7.14    286.44    .215E+07     3378.8          5.07       10.63
      7.90    287.20    .261E+07     4418.4          5.47        9.85
      8.65    287.95    .310E+07     5676.3          5.92        9.11
      9.41    288.71    .361E+07     7150.5          6.40        8.42
     10.17    289.47    .414E+07     8783.1          6.86        7.86
     10.92    290.22    .469E+07    10575.1          7.30        7.38
     11.68    290.98    .525E+07    12520.4          7.72        6.98
     12.43    291.73    .582E+07    14619.0          8.12        6.64
     13.19    292.49    .642E+07    16863.2          8.50        6.34
     13.94    293.24    .703E+07    19259.8          8.86        6.08

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```

```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     2.57    6.75   9.65     0.42      0.89
     OUTFLOW: ID= 1 (6384)  398.60     2.01    8.00   9.65     0.40      0.88


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| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.803     7.25     8.64
       + ID2= 2 (6384):   398.60   2.015     8.00     9.65
         ================================================
         ID = 3 (8288):   597.67   2.797     8.00     9.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   3.192     7.25    14.32
       + ID2= 2 (8288):   597.67   2.797     8.00     9.31
         ================================================
         ID = 3 (8284):  1059.71   5.920     7.75    11.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   2.260     7.50    12.42
       + ID2= 2 (8284):  1059.71   5.920     7.75    11.50
         ================================================
         ID = 3 (8280):  1479.71   8.177     7.50    11.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

    Unit Hyd Qpeak  (cms)=   3.837

    PEAK FLOW       (cms)=   1.497 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  15.356
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.245

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

    Unit Hyd Qpeak  (cms)=   8.771

    PEAK FLOW       (cms)=   3.046 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  12.439
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.198

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   3.046     8.00    12.44
       + ID2= 2 (0392):   167.22   1.497     7.00    15.36
         ================================================
         ID = 3 (8282):   773.94   4.443     7.25    13.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71   8.177     7.50    11.76
       + ID2= 2 (8282):   773.94   4.443     7.25    13.07
         ================================================
         ID = 3 (8278):  2253.65  12.619     7.50    12.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <----- DATA FOR SECTION (3941.0) ------>
               Distance      Elevation        Manning
                  0.00         283.00         0.0380
                 13.48         282.87         0.0380
                 53.92         280.08         0.0380
                 74.13         276.62         0.0380
                 97.72         265.45         0.0380
                114.57         256.93         0.0380
                131.42         253.04         0.0380
                134.79         252.58         0.0380
                138.53         251.74    0.0380 /0.0300  Main Channel
                139.03         251.20         0.0300      Main Channel
                141.53         251.20         0.0300      Main Channel
                144.03         251.20         0.0300      Main Channel
                144.53         251.74    0.0300 /0.0380  Main Channel
                148.27         252.69         0.0380
                151.64         252.97         0.0380
                185.34         255.08         0.0380
                219.03         257.54         0.0380
                262.84         259.43         0.0380
                310.02         262.80         0.0380
                333.60         283.00         0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54    251.74   .827E+04        4.5         1.51       30.71
       2.19    253.39   .758E+05       73.2         2.69       17.27
       3.83    255.03   .282E+06      331.8         3.27       14.17
       5.48    256.68   .633E+06      917.3         4.03       11.51
       7.12    258.32   .112E+07     1889.5         4.69        9.90
       8.77    259.97   .179E+07     3410.2         5.31        8.73
      10.41    261.61   .259E+07     5627.6         6.05        7.66
      12.06    263.26   .351E+07     8605.1         6.83        6.79
      13.70    264.90   .447E+07    12544.9         7.81        5.94
      15.35    266.55   .546E+07    17101.4         8.71        5.32
      16.99    268.19   .648E+07    22251.7         9.56        4.85
      18.64    269.84   .752E+07    27979.0        10.36        4.48
      20.28    271.48   .858E+07    34269.0        11.11        4.17
      21.93    273.13   .967E+07    41110.8        11.83        3.92
      23.57    274.77   .108E+08    48495.9        12.51        3.71
      25.22    276.42   .119E+08    56418.1        13.17        3.52
      26.86    278.06   .131E+08    64410.6        13.69        3.39
      28.51    279.71   .143E+08    73002.1        14.18        3.27
      30.15    281.35   .156E+08    81379.3        14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65    12.62    7.50  12.21      0.73      1.59
     OUTFLOW: ID= 1 (6394) 2253.65    12.25    8.25  12.21      0.73      1.59


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-------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   1.838     7.25    11.63
       + ID2= 2 (6394):  2253.65  12.251     8.25    12.21
         ================================================
         ID = 3 (8276):  2579.10  13.996     8.00    12.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3961.0) ------>
               Distance      Elevation        Manning
                  0.00         263.00         0.0410
                 11.75         257.14         0.0410
                 23.50         253.97         0.0410
                 41.13         247.83         0.0410
                 76.38         232.09         0.0410
                135.13         229.07         0.0410
                149.82         228.97         0.0410
                152.75         228.96    0.0410 /0.0300  Main Channel
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                154.19        228.73        0.0300      Main Channel
                154.69        228.20        0.0300      Main Channel
                155.69        228.20        0.0300      Main Channel
                156.69        228.20        0.0300      Main Channel
                157.19        228.73        0.0300      Main Channel
                158.63        228.95    0.0300 /0.0410  Main Channel
                161.57        228.96        0.0410
                164.51        229.71        0.0410
                196.82        241.70        0.0410
                223.26        249.21        0.0410
                246.76        255.13        0.0410
                290.82        263.51        0.0410

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.75    228.95   .780E+04        2.2         0.98      58.06
        2.54    230.74   .277E+06      145.1         1.78      31.76
        4.33    232.53   .786E+06      609.1         2.63      21.50
        6.13    234.33   .140E+07     1481.5         3.59      15.77
        7.92    236.12   .207E+07     2677.3         4.39      12.90
        9.71    237.91   .280E+07     4184.8         5.09      11.14
       11.50    239.70   .357E+07     6001.4         5.71       9.93
       13.29    241.49   .441E+07     8129.1         6.27       9.03
       15.09    243.29   .530E+07    10549.4         6.77       8.37
       16.88    245.08   .625E+07    13300.6         7.24       7.83
       18.67    246.87   .726E+07    16396.2         7.68       7.38
       20.46    248.66   .834E+07    19809.8         8.07       7.02
       22.26    250.46   .949E+07    23532.5         8.43       6.72
       24.05    252.25   .107E+08    27641.2         8.77       6.46
       25.84    254.04   .120E+08    32155.2         9.10       6.22
       27.63    255.83   .134E+08    36901.0         9.37       6.05
       29.42    257.62   .149E+08    42147.7         9.64       5.88
       31.22    259.42   .164E+08    48149.1         9.97       5.68
       33.01    261.21   .181E+08    54644.8        10.29       5.51

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    14.00    8.00  12.14      0.90      1.01
    OUTFLOW: ID= 1 (6396) 2579.10    12.65    9.25  12.14      0.88      1.01


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   2.564     7.50    19.20
      + ID2= 2 (6396):  2579.10  12.651     9.25    12.14
        ================================================
        ID = 3 (8274):  2884.31  14.864     9.00    12.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  11.221    10.25    13.91
      + ID2= 2 (8274):  2884.31  14.864     9.00    12.88
        ================================================
        ID = 3 (8270):  5660.52  25.641     9.25    13.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  60.8810    135.6832
                       31.1490    24.6697    |  96.2770    900.4431
                       36.8120    37.0045    |  96.6770    900.4531
                       45.3070    86.3439    |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520    25.641     9.25      13.39
    OUTFLOW: ID= 1 (5506)   5660.520    21.225    11.75      13.39

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.78
               TIME SHIFT OF PEAK FLOW         (min)=150.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 16.8111

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-------------------
| CALIB           |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.735 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.263
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.084 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.573
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.593 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.988
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.902 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  11.008
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.154 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.370
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   2.154     7.00    12.37
      + ID2= 2 (0400):    93.97   0.902     6.50    11.01
        ================================================
        ID = 3 (8268):   422.16   2.966     6.75    12.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6402) |
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| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <----- DATA FOR SECTION (4021.0) ----->
               Distance     Elevation      Manning
                  0.00        238.50       0.0360
                 11.50        238.00       0.0360
                 23.00        237.93       0.0360
                 34.49        236.39       0.0360
                 63.24        233.98       0.0360
                 97.73        228.15       0.0360
                123.60        227.08       0.0360
                126.48        226.61       0.0360
                127.60        226.47    0.0360 /0.0330  Main Channel
                127.85        225.25       0.0330       Main Channel
                129.35        225.25       0.0330       Main Channel
                130.85        225.25       0.0330       Main Channel
                131.10        226.47    0.0330 /0.0360  Main Channel
                132.22        226.59       0.0360
                143.72        227.42       0.0360
                169.59        227.88       0.0360
                192.59        231.19       0.0360
                218.46        233.02       0.0360
                241.45        235.50       0.0360
                284.57        236.43       0.0360

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
        0.41   225.66    .391E+04         1.7          1.36       38.31
        0.81   226.06    .804E+04         5.0          1.93       27.02
        1.22   226.47    .124E+05         9.1          2.30       22.61
        1.84   227.09    .308E+05        23.3          2.36       22.03
        2.46   227.71    .904E+05        62.0          2.14       24.31
        3.09   228.34    .223E+06       188.3          2.63       19.75
        3.71   228.96    .379E+06       410.2          3.38       15.39
        4.33   229.58    .550E+06       711.5          4.04       12.89
        4.95   230.20    .737E+06      1091.3          4.62       11.25
        5.58   230.83    .939E+06      1550.6          5.15       10.10
        6.20   231.45    .116E+07      2072.4          5.59        9.31
        6.82   232.07    .140E+07      2659.2          5.93        8.77
        7.44   232.69    .167E+07      3345.8          6.27        8.30
        8.07   233.32    .195E+07      4159.0          6.64        7.83
        8.69   233.94    .226E+07      5100.8          7.03        7.39
        9.31   234.56    .259E+07      6081.3          7.32        7.11
        9.93   235.18    .295E+07      7183.1          7.60        6.84
       10.56   235.81    .334E+07      8145.2          7.62        6.83
       11.18   236.43    .379E+07      9116.0          7.51        6.92

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8268)  422.16     2.97    6.75  12.07      0.56      1.53
    OUTFLOW: ID= 1 (6402)  422.16     2.70    7.50  12.07      0.53      1.49


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| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   1.593     7.50    14.99
       + ID2= 2 (6402):   422.16   2.701     7.50    12.07
         ================================================
         ID = 3 (8266):   666.16   4.294     7.50    13.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.084     7.50     9.57
       + ID2= 2 (8266):   666.16   4.294     7.50    13.14
         ================================================
         ID = 3 (8264):   912.62   5.378     7.50    12.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   1.735     6.75    17.26
       + ID2= 2 (8264):   912.62   5.378     7.50    12.17
         ================================================
         ID = 3 (8262):  1055.27   6.905     7.25    12.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52  21.225    11.75    13.39
       + ID2= 2 (8262):  1055.27   6.905     7.25    12.86
         ================================================
         ID = 3 (8260):  6715.79  24.324    11.25    13.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   2.048     6.75    13.51
       + ID2= 2 (8260):  6715.79  24.324    11.25    13.31
         ================================================
         ID = 3 (8258):  6947.41  24.951    11.00    13.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   1.949     8.25     9.94
       + ID2= 2 (8258):  6947.41  24.951    11.00    13.31
         ================================================
         ID = 3 (8256):  7519.42  26.526    11.00    13.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     26.526     11.00      13.06
    OUTFLOW: ID= 1 (5507)   7519.421     25.968     11.75      13.06

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.89
               TIME SHIFT OF PEAK FLOW          (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  8.0848

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-------------------
| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   1.097 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.603
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.185

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   1.335 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  16.442
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.262

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   2.770 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.482
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   1.557 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.975
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.73         27.97
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    539.75         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     82.76         24.71
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.33 (ii)    28.04 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.47          1.34        2.298 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     60.70         20.49         27.32
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.33          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720     1.9177
                         0.3820     0.3152   |   3.8720     1.9277
                         1.8280     0.4690   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700      2.298      6.00      27.32
     OUTFLOW: ID= 1 (5414)     43.700      1.248      6.50      27.32

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.31
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4093

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-------------------
| CALIB             |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     82.76         19.43
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     13.35 (ii)    33.95 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.53          3.58        4.256 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=     60.70         18.51         22.73
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.30          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4142):   144.30   4.256     6.50    22.73
        + ID2= 2 (5414):    43.70   1.248     6.50    27.32
          ================================================
          ID = 3 (8254):   188.00   5.504     6.50    23.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0412):   238.70   1.557     7.00    11.98
        + ID2= 2 (8254):   188.00   5.504     6.50    23.79
          ================================================
          ID = 3 (8252):   426.70   6.962     6.50    17.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (4161.0) ------>
                Distance      Elevation       Manning
                   0.00         270.07        0.0340
                  20.67         267.91        0.0340
                  62.01         264.33        0.0340
                 113.69         259.75        0.0340
                 165.37         253.30        0.0340
                 227.38         246.29        0.0340
                 232.55         246.03        0.0340
                 237.72         246.16        0.0340
                 241.39         246.02    0.0340 /0.0300  Main Channel
                 241.64         245.75        0.0300      Main Channel
                 242.89         245.75        0.0300      Main Channel
                 244.14         245.75        0.0300      Main Channel
                 244.39         246.02    0.0300 /0.0340  Main Channel
                 248.06         246.20        0.0340
                 253.22         246.28        0.0340
                 258.39         246.63        0.0340
                 346.25         252.57        0.0340
                 413.43         257.77        0.0340
                 465.11         261.78        0.0340
                 511.62         270.00        0.0340

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.27    246.02    .295E+04         0.6          0.75       80.26
       1.53    247.28    .168E+06        69.7          1.65       40.13
       2.79    248.54    .490E+06       299.5          2.42       27.28
       4.06    249.81    .962E+06       740.1          3.05       21.67
       5.32    251.07    .158E+07      1440.0          3.61       18.33
       6.58    252.33    .235E+07      2443.8          4.12       16.06
       7.84    253.59    .327E+07      3811.2          4.63       14.30
       9.10    254.85    .432E+07      5565.1          5.11       12.94
      10.37    256.12    .550E+07      7721.3          5.57       11.88
      11.63    257.38    .682E+07     10309.9          6.00       11.02
      12.89    258.64    .827E+07     13360.6          6.42       10.31
      14.15    259.90    .985E+07     16884.5          6.81        9.72
      15.42    261.17    .116E+08     20818.4          7.14        9.26
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      16.68   262.43    .134E+08   25510.4          7.53       8.78
      17.94   263.69    .154E+08   30958.0          7.97       8.30
      19.20   264.95    .175E+08   36988.3          8.38       7.89
      20.46   266.21    .197E+08   43617.1          8.78       7.53
      21.73   267.48    .220E+08   50868.1          9.17       7.22
      22.99   268.74    .244E+08   58854.0          9.56       6.92

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.70     6.96    6.50  17.18      0.39      0.79
     OUTFLOW: ID= 1 (6416)  426.70     3.67    7.50  17.18      0.33      0.77


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| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   2.770     8.00    16.48
      + ID2= 2 (6416):   426.70   3.675     7.50    17.18
        ================================================
        ID = 3 (8250):   866.00   6.400     7.50    16.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   1.335     7.50    16.44
      + ID2= 2 (8250):   866.00   6.400     7.50    16.83
        ================================================
        ID = 3 (8248):  1048.79   7.735     7.50    16.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   1.097     7.00    11.60
      + ID2= 2 (8248):  1048.79   7.735     7.50    16.76
        ================================================
        ID = 3 (8246):  1224.61   8.801     7.50    16.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  25.968    11.75    13.06
      + ID2= 2 (8246):  1224.61   8.801     7.50    16.02
        ================================================
        ID = 3 (8244):  8744.03  30.680    11.00    13.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   2.591     9.25    12.10
      + ID2= 2 (8244):  8744.03  30.680    11.00    13.47
        ================================================
        ID = 3 (8242):  9524.23  33.097    11.00    13.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    197.3574
                         76.4550    30.8371   |  *******    394.7148
                         *******    61.6742   |  *******    394.7248
                         *******    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)  9524.231   33.097    11.00      13.36
     OUTFLOW: ID= 1 (5508)  9524.231   32.116    12.25      13.36

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.04
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 12.9573

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   2.580 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  21.246
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.339

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58       331.32
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=     1872.43        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       56.43        44.05
               over (min)         30.00        45.00
     Storage Coeff.  (min)=       22.93 (ii)   37.78 (ii)
     Unit Hyd. Tpeak (min)=       30.00        45.00
     Unit Hyd. peak  (cms)=        0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       10.37        13.64        20.457 (iii)
     TIME TO PEAK    (hrs)=        6.25         6.50         6.25
     RUNOFF VOLUME    (mm)=       60.70        21.93        28.52
     TOTAL RAINFALL   (mm)=       62.70        62.70        62.70
     RUNOFF COEFFICIENT   =        0.97         0.35         0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       35.77        37.23
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=      697.61        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       82.76        55.73
               over (min)         15.00        30.00
     Storage Coeff.  (min)=       10.88 (ii)   24.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00        30.00
     Unit Hyd. peak  (cms)=        0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=        3.17         2.65         4.845 (iii)
     TIME TO PEAK    (hrs)=        6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=       60.70        24.15        32.56
     TOTAL RAINFALL   (mm)=       62.70        62.70        62.70
     RUNOFF COEFFICIENT   =        0.97         0.39         0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3350      1.2400
```

```
                        0.3230     0.3074   |   4.3560      1.3520
                        0.9360     0.5374   |   5.3290      1.4590
                        1.7590     0.8302   |   5.7290      1.4690
                        2.4110     1.0550   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     4.845      6.00      32.56
     OUTFLOW: ID= 1 (5338)     73.000     1.996      6.75      32.55

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.19
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9240

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  20.457     6.25    28.52
      + ID2= 2 (5338):    73.00   1.996     6.75    32.55
        ================================================
        ID = 3 (8310):   598.90  22.328     6.50    29.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.616 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  12.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83          16.17
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length             (m)=     469.04          40.00
     Mannings n            =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          19.84
           over (min)            15.00          30.00
     Storage Coeff.  (min)=       8.58 (ii)     29.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.09           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.07           0.61       2.446 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70          15.50      29.51
     TOTAL RAINFALL   (mm)=      62.70          62.70      62.70
     RUNOFF COEFFICIENT   =       0.97           0.25       0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  52.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  0.6540      0.4604
                        0.0390     0.1699    |  0.8330      0.5249
                        0.1860     0.2610    |  1.0130      0.5896
                        0.3750     0.3534    |  1.4130      0.5996
                        0.4340     0.3813    |  0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     2.446      6.00      29.51
     OUTFLOW: ID= 1 (5334)     33.000     0.677      6.75      29.48

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.69

                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4746

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.616    15.25    12.94
      + ID2= 2 (5334):    33.00   0.677     6.75    29.48
        ================================================
        ID = 3 (8314):   620.10   0.893     6.75    13.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.331 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  11.388
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.182

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   3.462 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  31.127
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.496

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   3.907 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.782
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.836 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  30.659
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.489

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   3.907     8.00    24.78
      + ID2= 2 (0284):    78.93   1.836     6.50    30.66
        ================================================
        ID = 3 (8388):   528.31   5.316     7.25    25.66
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6286)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2861.0) ------>

Distance	Elevation	Manning	
0.00	233.00	0.0450	
20.58	228.51	0.0450	
41.17	227.74	0.0450	
51.46	227.41	0.0450	
97.77	225.96	0.0450	
149.23	223.94	0.0450	
200.69	220.84	0.0450	
226.42	220.66	0.0450	
238.85	220.22	0.0450	
241.35	220.01	0.0450 /0.0350	Main Channel
241.85	219.70	0.0350	Main Channel
245.85	219.72	0.0350	Main Channel
246.35	220.06	0.0350	Main Channel
248.85	220.23	0.0350	Main Channel
303.60	221.64	0.0350	Main Channel
380.79	224.98	0.0450	
432.25	229.54	0.0450	
457.98	233.33	0.0450	
483.71	234.27	0.0450	
509.44	233.81	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	220.01	.382E+04	0.8	0.57	82.89
1.06	220.76	.525E+05	12.1	0.66	72.51
1.81	221.51	.240E+06	88.6	1.05	45.21
2.56	222.26	.510E+06	261.7	1.46	32.47
3.31	223.01	.843E+06	533.8	1.81	26.34
4.06	223.76	.124E+07	913.6	2.10	22.64
4.81	224.51	.171E+07	1399.0	2.34	20.33
5.56	225.26	.225E+07	2051.0	2.60	18.27
6.31	226.01	.285E+07	2907.0	2.91	16.35
7.06	226.76	.352E+07	3902.5	3.16	15.04
7.82	227.52	.426E+07	5069.9	3.39	14.01
8.57	228.27	.507E+07	6433.0	3.62	13.13
9.32	229.02	.593E+07	8069.2	3.89	12.24
10.07	229.77	.681E+07	9926.7	4.16	11.44
10.82	230.52	.772E+07	11962.8	4.42	10.75
11.57	231.27	.864E+07	14167.1	4.68	10.17
12.32	232.02	.959E+07	16537.1	4.92	9.66
13.07	232.77	.105E+08	19070.7	5.16	9.22
13.82	233.52	.115E+08	21790.4	5.39	8.82

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8388)	528.31	5.32	7.25	25.66	0.61	0.60
OUTFLOW:	ID= 1 (6286)	528.31	4.49	9.00	25.66	0.56	0.60

ADD HYD (8386)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0286):	260.51	3.462	7.50	31.13
+ ID2= 2 (6286):	528.31	4.493	9.00	25.66
ID = 3 (8386):	788.82	7.643	8.50	27.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0302) ID= 1 DT=15.0 min

Area (ha)= 473.90 Curve Number (CN)= 58.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.66

Unit Hyd Qpeak (cms)= 4.874

PEAK FLOW (cms)= 2.024 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 13.712
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.219

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0300) ID= 1 DT=15.0 min

Area (ha)= 258.93 Curve Number (CN)= 52.0
Ia (mm)= 4.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.03

Unit Hyd Qpeak (cms)= 4.292

PEAK FLOW (cms)= 1.347 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 11.639
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0298) ID= 1 DT=15.0 min

Area (ha)= 330.51 Curve Number (CN)= 45.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.26

Unit Hyd Qpeak (cms)= 4.461

PEAK FLOW (cms)= 1.133 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 8.978
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.143

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8395)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0298):	330.51	1.133	8.00	8.98
+ ID2= 2 (0300):	258.93	1.347	7.50	11.64
ID = 3 (8395):	589.44	2.465	7.75	10.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0288) ID= 1 DT=15.0 min

Area (ha)= 340.83 Curve Number (CN)= 78.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.21

Unit Hyd Qpeak (cms)= 2.629

PEAK FLOW (cms)= 2.210 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 25.660
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0290) ID= 1 DT=15.0 min

Area (ha)= 269.18 Curve Number (CN)= 78.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.07

Unit Hyd Qpeak (cms)= 4.279

PEAK FLOW (cms)= 3.070 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 25.504
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8397)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0288):	340.83	2.210	9.50	25.66
+ ID2= 2 (0290):	269.18	3.070	7.50	25.50
ID = 3 (8397):	610.01	5.105	8.00	25.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0296) ID= 1 DT=15.0 min

Area (ha)= 293.65 Curve Number (CN)= 76.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.13

```
     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.009 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0292) |   Area     (ha)= 738.49   Curve Number    (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   4.648 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  18.682
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0294) |   Area     (ha)= 274.15   Curve Number    (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   1.843 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  13.187
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0292):   738.49   4.648     8.25    18.68
     + ID2= 2 (0294):   274.15   1.843     7.00    13.19
       ================================================
       ID = 3 (8398):  1012.64   6.373     8.00    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12    0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400      Main Channel
              250.37         231.80        0.0400      Main Channel
              250.87         232.23        0.0400      Main Channel
              251.97         233.10    0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   232.23    .510E+03       0.1         0.53      81.07
      0.87   232.67    .213E+04       0.7         0.83      51.49
      1.30   233.10    .501E+04       2.2         1.10      38.75
      1.98   233.78    .242E+05      12.6         1.34      31.93
      2.66   234.46    .738E+05      42.1         1.46      29.21
      3.34   235.14    .177E+06     127.9         1.84      23.13
      4.02   235.82    .314E+06     281.4         2.29      18.61
      4.70   236.50    .481E+06     509.4         2.71      15.73
      5.38   237.18    .672E+06     815.6         3.11      13.73
      6.06   237.86    .886E+06    1200.7         3.46      12.30
      6.74   238.54    .112E+07    1669.4         3.80      11.23
      7.42   239.22    .139E+07    2226.9         4.11      10.38
      8.10   239.90    .168E+07    2808.4         4.28       9.95
      8.78   240.58    .202E+07    3470.4         4.40       9.68
      9.46   241.26    .240E+07    4331.7         4.61       9.24
     10.14   241.94    .283E+07    5335.2         4.83       8.84
     10.82   242.62    .330E+07    6482.6         5.03       8.48
     11.50   243.30    .381E+07    7764.1         5.21       8.18
     12.18   243.98    .439E+07    9101.2         5.31       8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                                     AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     6.37    8.00  17.19      1.57      1.18
     OUTFLOW: ID= 1 (6296) 1012.64     6.16    8.50  17.19      1.56      1.18

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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0296):   293.65   3.009     7.50    23.94
     + ID2= 2 (6296):  1012.64   6.164     8.50    17.19
       ================================================
       ID = 3 (8396):  1306.29   9.032     8.25    18.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8396):  1306.29   9.032     8.25    18.71
     + ID2= 2 (8397):   610.01   5.105     8.00    25.59
       ================================================
       ID = 3 (8394):  1916.30  14.100     8.25    20.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8394):  1916.30  14.100     8.25    20.90
     + ID2= 2 (8395):   589.44   2.465     7.75    10.15
       ================================================
       ID = 3 (8392):  2505.74  16.538     8.00    18.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
              272.47         222.88        0.0400
              277.09         222.76        0.0400
              281.71         222.58        0.0400
              288.54         222.18    0.0400 /0.0300  Main Channel
              288.64         221.00        0.0300      Main Channel
              290.94         221.00        0.0300      Main Channel
              291.04         221.00        0.0300      Main Channel
              291.54         222.75    0.0300 /0.0400  Main Channel
              300.18         222.83        0.0400
              304.80         223.04        0.0400
              309.42         223.25        0.0400
              318.65         223.69        0.0400
              360.22         225.57        0.0400
              397.16         227.60        0.0400
              457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   221.29    .228E+04       0.2         0.32     165.63
      0.59   221.59    .465E+04       0.7         0.45     116.15
      0.88   221.88    .713E+04       1.2         0.54      96.87
      1.18   222.18    .971E+04       1.9         0.61      86.20
```

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      1.57   222.57    .175E+05       3.3          0.59      88.86
      1.97   222.97    .427E+05       6.4          0.47     111.39
      2.36   223.36    .115E+06      16.1          0.44     119.14
      2.76   223.76    .237E+06      37.1          0.49     106.49
      3.15   224.15    .409E+06      72.9          0.56      93.40
      3.55   224.55    .631E+06     127.0          0.63      82.76
      3.94   224.94    .903E+06     202.4          0.70      74.37
      4.34   225.34    .123E+07     301.8          0.77      67.68
      4.73   225.73    .160E+07     433.5          0.85      61.37
      5.13   226.13    .200E+07     602.2          0.95      55.29
      5.52   226.52    .242E+07     804.7          1.05      50.13
      5.92   226.92    .286E+07    1034.2          1.14      46.11
      6.31   227.31    .332E+07    1290.5          1.22      42.88
      6.71   227.71    .380E+07    1560.9          1.29      40.55
      7.10   228.10    .432E+07    1835.6          1.34      39.19

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    16.54    8.00  18.37      2.37      0.44
     OUTFLOW: ID= 1 (6302) 2505.74    13.15   10.50  18.37      2.24      0.45


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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   2.024     8.50    13.71
       + ID2= 2 (6302):  2505.74  13.148    10.50    18.37
         ================================================
         ID = 3 (8390):  2979.64  15.009    10.25    17.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   7.643     8.50    27.47
       + ID2= 2 (8390):  2979.64  15.009    10.25    17.63
         ================================================
         ID = 3 (8348):  3768.46  21.986     9.75    19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.987 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  16.057
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   4.745 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.462

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   4.873 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.184
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.465

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.552 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.101
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.416

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   4.016 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.174
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.370

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   4.016     7.50    23.17
       + ID2= 2 (0276):    90.89   1.552     6.75    26.10
         ================================================
         ID = 3 (8360):   483.38   5.470     7.25    23.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   4.873     8.00    29.18
       + ID2= 2 (8360):   483.38   5.470     7.25    23.72
         ================================================
         ID = 3 (8358):   968.87  10.143     7.50    26.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (2801.0) ------>
                 Distance      Elevation        Manning
                    0.00         241.14         0.0500
                   13.32         240.80         0.0500
                   39.95         240.07         0.0500
                   96.54         236.21         0.0500
                  113.19         234.15         0.0500
                  123.18         232.35         0.0500
                  143.15         225.80         0.0500
                  149.81         225.62         0.0500
                  153.14         225.40         0.0500
                  157.30         224.76    0.0500 /0.0300  Main Channel
                  159.80         224.26         0.0300      Main Channel
                  162.30         224.85         0.0300      Main Channel
                  162.55         224.97    0.0300 /0.0500  Main Channel
                  167.80         225.05         0.0500
                  186.43         229.14         0.0500
                  213.06         234.75         0.0500
                  236.37         237.09         0.0500
                  266.33         237.31         0.0500
                  292.96         237.83         0.0500
                  329.58         241.50         0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.50	224.76	.263E+04	0.8	0.65	58.31
1.36	225.62	.278E+05	13.4	1.10	34.54
2.22	226.48	.855E+05	52.6	1.40	27.09
3.09	227.35	.157E+06	120.4	1.74	21.78
3.95	228.21	.242E+06	216.3	2.04	18.64
4.81	229.07	.340E+06	341.8	2.29	16.56
5.67	229.93	.450E+06	498.3	2.52	15.06
6.53	230.79	.574E+06	688.3	2.73	13.90
7.40	231.66	.711E+06	913.8	2.93	12.97
8.26	232.52	.861E+06	1173.4	3.11	12.23
9.12	233.38	.103E+07	1461.3	3.24	11.72
9.98	234.24	.121E+07	1793.3	3.37	11.26
10.85	235.11	.142E+07	2141.0	3.45	11.02
11.71	235.97	.165E+07	2530.4	3.50	10.86
12.57	236.83	.192E+07	2954.0	3.51	10.81
13.43	237.69	.226E+07	3160.3	3.18	11.93
14.29	238.55	.271E+07	3869.4	3.26	11.67
15.16	239.42	.320E+07	4740.3	3.38	11.24
16.02	240.28	.373E+07	5688.4	3.48	10.92

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8358)	968.87	10.14	7.50	26.46	1.14	0.93
OUTFLOW: ID= 1 (6280)	968.87	9.72	8.25	26.46	1.11	0.92

ADD HYD (8354)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0280):	299.86	4.745	7.00	28.96
	+ ID2= 2 (6280):	968.87	9.721	8.25	26.46
	ID = 3 (8354):	1268.73	13.898	8.00	27.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0272)	Area (ha)= 157.38	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.09		

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 1.599 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 23.176
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.370

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0270)	Area (ha)= 243.61	Curve Number (CN)= 81.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 0.87		

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 2.706 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 28.005
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.447

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0268)	Area (ha)= 215.76	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 0.69		

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 2.333 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 22.965
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0264)	Area (ha)= 353.96	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.30		

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 1.927 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 19.223
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.307

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0266)	Area (ha)= 508.09	Curve Number (CN)= 64.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.63		

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 1.975 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 16.500
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.263

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0264):	353.96	1.927	8.25	19.22
	+ ID2= 2 (0266):	508.09	1.975	9.25	16.50
	ID = 3 (8380):	862.05	3.882	8.50	17.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning	
0.00	274.03	0.0500	
10.55	272.73	0.0500	
21.10	271.28	0.0500	
50.12	266.83	0.0500	
87.04	260.36	0.0500	
92.32	260.06	0.0500	
94.95	259.93	0.0500	
101.00	256.87	0.0500	
103.00	256.58	0.0500 /0.0350	Main Channel
104.00	256.32	0.0350	Main Channel
106.00	256.05	0.0350	Main Channel
108.00	256.25	0.0350	Main Channel
110.78	256.65	0.0350 /0.0500	Main Channel
113.42	256.81	0.0500	
116.06	257.00	0.0500	
155.62	260.24	0.0500	
187.27	263.35	0.0500	
211.01	267.22	0.0500	
224.20	269.60	0.0500	
261.13	272.68	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

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                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     3.88    8.50  17.62      0.59      1.00
     OUTFLOW: ID= 1 (6268)  862.05     3.78   10.00  17.62      0.59      1.00


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| ADD HYD   (8382) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   2.333    7.00     22.96
      + ID2= 2 (6268):   862.05   3.775   10.00     17.62
        ================================================
        ID = 3 (8382):  1077.81   5.511    8.75     18.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2701.0) ------>
             Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.45   234.34   .217E+04         0.7         0.99      52.83
       0.98   234.87   .966E+04         4.6         1.49      35.20
       1.50   235.39   .250E+05        13.7         1.73      30.41
       2.03   235.92   .475E+05        29.5         1.95      26.87
       2.56   236.45   .772E+05        52.5         2.14      24.50
       3.09   236.98   .142E+06        82.4         1.83      28.73
       3.61   237.50   .246E+06       158.1         2.03      25.91
       4.14   238.03   .357E+06       262.0         2.31      22.73
       4.67   238.56   .477E+06       392.1         2.59      20.27
       5.20   239.09   .604E+06       547.8         2.86      18.38
       5.72   239.61   .739E+06       720.2         3.11      16.90
       6.25   240.14   .882E+06       936.5         3.34      15.70
       6.78   240.67   .103E+07      1169.7         3.57      14.72
       7.31   241.20   .119E+07      1425.9         3.77      13.94
       7.83   241.72   .136E+07      1710.4         3.96      13.26
       8.36   242.25   .154E+07      1967.9         4.02      13.07
       8.89   242.78   .174E+07      2264.9         4.09      12.83
       9.42   243.31   .196E+07      2589.3         4.15      12.65
       9.94   243.83   .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     5.51    8.75  18.69      1.03      1.51
     OUTFLOW: ID= 1 (6270) 1077.81     5.44    9.50  18.69      1.03      1.51


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| ADD HYD   (8384) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   2.706    7.25     28.01
      + ID2= 2 (6270):  1077.81   5.436    9.50     18.69
        ================================================
        ID = 3 (8384):  1321.42   7.795    8.75     20.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   3.472 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  29.023
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.463

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   3.926 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.117
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   1.492 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  26.347
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   2.368 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  21.720
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.887 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.019
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.477 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.430
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6256)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2561.0) ------>

Distance	Elevation	Manning	
0.00	276.07	0.0400	
11.68	273.71	0.0400	
23.36	271.35	0.0400	
29.19	270.30	0.0400	
35.03	269.44	0.0400	
55.47	267.90	0.0400	
78.82	266.24	0.0400	
90.50	265.63	0.0400	
102.18	265.40	0.0400	
105.10	264.95	0.0400 /0.0350	Main Channel
108.02	264.39	0.0350	Main Channel
110.94	264.72	0.0350	Main Channel
113.86	265.19	0.0350 /0.0400	Main Channel
116.78	265.49	0.0400	
143.05	268.24	0.0400	
172.25	270.53	0.0400	
207.28	271.95	0.0400	
233.55	273.72	0.0400	
256.91	274.98	0.0400	
289.02	275.97	0.0400	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	264.95	.723E+04	1.9	0.90	62.51
1.14	265.53	.307E+05	13.5	1.49	37.92
1.72	266.11	.951E+05	48.6	1.73	32.62
2.30	266.69	.191E+06	117.8	2.09	27.03
2.88	267.27	.314E+06	225.2	2.43	23.24
3.46	267.85	.464E+06	375.5	2.74	20.59
4.04	268.43	.641E+06	573.2	3.03	18.62
4.62	269.01	.846E+06	821.9	3.29	17.15
5.20	269.59	.108E+07	1135.0	3.56	15.87
5.78	270.17	.134E+07	1525.1	3.86	14.64
6.36	270.75	.162E+07	1971.1	4.12	13.71
6.94	271.33	.194E+07	2474.0	4.33	13.04
7.52	271.91	.228E+07	3065.0	4.55	12.42
8.10	272.49	.266E+07	3773.4	4.80	11.75
8.68	273.07	.306E+07	4566.3	5.05	11.17
9.26	273.65	.348E+07	5443.7	5.30	10.66
9.84	274.23	.393E+07	6389.6	5.51	10.25
10.42	274.81	.440E+07	7426.2	5.72	9.88
11.00	275.39	.490E+07	8490.1	5.86	9.63

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0254)	403.00	1.48	8.25	12.43	0.43	0.90
OUTFLOW:	ID= 1 (6256)	403.00	1.39	10.00	12.43	0.40	0.90

ADD HYD (8370)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	145.79	0.887	8.00	18.02
+ ID2= 2 (6256):	403.00	1.392	10.00	12.43
ID = 3 (8370):	548.79	2.197	9.25	13.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0250)	Area (ha)= 192.88 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.22

Unit Hyd Qpeak (cms)= 1.930

PEAK FLOW (cms)= 1.144 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 19.816
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.316

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0246)	Area (ha)= 759.61 Curve Number (CN)= 55.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.81

Unit Hyd Qpeak (cms)= 5.121

PEAK FLOW (cms)= 2.071 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 12.474
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.199

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0248)	Area (ha)= 146.04 Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.78

Unit Hyd Qpeak (cms)= 2.271

PEAK FLOW (cms)= 0.994 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 16.345
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0246):	759.61	2.071	10.00	12.47
+ ID2= 2 (0248):	146.04	0.994	7.25	16.34
ID = 3 (8364):	905.65	2.933	8.25	13.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.9	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	2.93	8.25	13.10	0.81	0.75
OUTFLOW: ID= 1 (6250)	905.65	2.72	10.50	13.10	0.79	0.75

ADD HYD (8366)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):	192.88	1.144	8.00	19.82
+ ID2= 2 (6250):	905.65	2.724	10.50	13.10
ID = 3 (8366):	1098.53	3.765	10.00	14.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):	1098.53	3.765	10.00	14.28
+ ID2= 2 (8370):	548.79	2.197	9.25	13.91
ID = 3 (8368):	1647.32	5.937	9.75	14.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	319.09	2.368	8.00	21.72
+ ID2= 2 (8368):	1647.32	5.937	9.75	14.16
ID = 3 (8372):	1967.31	8.081	9.25	15.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	8.08	9.25	15.39	0.65	0.86
OUTFLOW: ID= 1 (6258)	1967.31	7.36	11.25	15.39	0.63	0.87

ADD HYD (8374)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):	181.90	1.492	8.00	26.35
+ ID2= 2 (6258):	1967.31	7.363	11.25	15.39
ID = 3 (8374):	2149.30	8.558	11.00	16.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):	476.24	3.926	8.00	29.12
+ ID2= 2 (8374):	2149.30	8.558	11.00	16.31
ID = 3 (8376):	2625.54	12.057	10.25	18.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):	341.31	3.472	7.75	29.02
+ ID2= 2 (8376):	2625.54	12.057	10.25	18.64
ID = 3 (8378):	2966.85	14.956	10.00	19.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8378):	2966.85	14.956	10.00	19.83
+ ID2= 2 (8384):	1321.42	7.795	8.75	20.41
ID = 3 (8362):	4288.27	22.550	9.50	20.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61

2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8362)	4288.27	22.55	9.50	20.01	1.64	0.88
OUTFLOW: ID= 1 (6272)	4288.27	22.22	10.25	20.01	1.63	0.88

ADD HYD (8356)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0272):	157.38	1.599	7.50	23.18
+ ID2= 2 (6272):	4288.27	22.221	10.25	20.01
ID = 3 (8356):	4445.65	23.386	10.00	20.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8354):	1268.73	13.898	8.00	27.05
+ ID2= 2 (8356):	4445.65	23.386	10.00	20.12
ID = 3 (8352):	5714.38	35.368	9.00	21.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304) — IN= 2 ---> OUT= 1 — Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (3041.0) -------->

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.90	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	229.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43
2.56	220.93	.708E+06	109.5	0.58	107.67
3.25	221.62	.118E+07	224.3	0.71	87.36
3.94	222.31	.168E+07	376.5	0.84	74.48
4.63	223.00	.222E+07	567.9	0.96	65.26
5.32	223.69	.279E+07	794.7	1.07	58.58
6.02	224.39	.339E+07	1056.2	1.17	53.52
6.71	225.08	.402E+07	1352.4	1.26	49.52
7.40	225.77	.468E+07	1677.3	1.34	46.46
8.09	226.46	.536E+07	2050.0	1.43	43.58
8.79	227.16	.607E+07	2457.9	1.52	41.14
9.48	227.85	.680E+07	2901.0	1.60	39.05
10.17	228.54	.755E+07	3352.7	1.66	37.53
10.86	229.23	.834E+07	3812.5	1.71	36.48
11.55	229.92	.919E+07	4241.8	1.73	36.13
12.25	230.62	.101E+08	4697.0	1.74	35.93
12.94	231.31	.111E+08	5186.3	1.74	35.83

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8352)	5714.38	35.37	9.00	21.66	1.74	0.47
OUTFLOW: ID= 1 (6304)	5714.38	29.22	11.50	21.66	1.60	0.46

ADD HYD (8350)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0304):	292.37	0.987	10.50	16.06
+ ID2= 2 (6304):	5714.38	29.219	11.50	21.66
ID = 3 (8350):	6006.75	30.190	11.50	21.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8346)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8348):	3768.46	21.986	9.75	19.69
+ ID2= 2 (8350):	6006.75	30.190	11.50	21.39
ID = 3 (8346):	9775.21	50.996	10.75	20.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8344)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	283.97	0.331	13.75	11.39
+ ID2= 2 (8346):	9775.21	50.996	10.75	20.73
ID = 3 (8344):	10059.18	51.294	10.75	20.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5509) — IN= 2 ---> OUT= 1 — DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	370.0451
41.0590	56.7403	*******	863.4386
48.1390	86.3439	*******	********
56.6340	*******	*******	********
67.9600	*******	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8344)	********	51.294	10.75	20.47
OUTFLOW: ID= 1 (5509)	********	39.479	14.50	20.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 76.97
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 54.5767

CALIB — NASHYD (0332) — ID= 1 DT=15.0 min

Area (ha)= 393.44 Curve Number (CN)= 75.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.32

Unit Hyd Qpeak (cms)= 2.894

PEAK FLOW (cms)= 2.232 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 23.317
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.372

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB — NASHYD (0330) — ID= 1 DT=15.0 min

Area (ha)= 468.30 Curve Number (CN)= 80.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.09

```
     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   5.661 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.223
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3321.0) ------>
               Distance      Elevation        Manning
                   0.00         234.00         0.0380
                  25.85         227.20         0.0380
                  96.94         226.44         0.0380
                 168.03         227.38         0.0380
                 219.73         225.62         0.0380
                 342.52         221.57         0.0380
                 368.37         221.42         0.0380
                 374.83         221.23         0.0380
                 379.79         220.98    0.0380 /0.0300  Main Channel
                 380.29         220.47       0.0300       Main Channel
                 381.29         220.47       0.0300       Main Channel
                 382.79         220.47       0.0300       Main Channel
                 383.29         220.98    0.0300 /0.0380  Main Channel
                 394.22         221.22         0.0380
                 400.68         221.33         0.0380
                 407.14         221.44         0.0380
                 491.16         225.70         0.0380
                 568.71         227.55         0.0380
                 607.49         230.14         0.0380
                 639.80         234.08         0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.51    220.98    .554E+04         0.9          0.56      107.27
       1.20    221.67    .885E+05        12.1          0.49      122.32
       1.88    222.35    .309E+06        64.7          0.76       79.70
       2.57    223.04    .615E+06       165.4          0.97       61.99
       3.25    223.72    .101E+07       322.1          1.16       52.06
       3.94    224.41    .148E+07       542.9          1.33       45.51
       4.62    225.09    .204E+07       835.4          1.48       40.77
       5.31    225.78    .269E+07      1202.8          1.62       37.27
       5.99    226.46    .344E+07      1618.0          1.70       35.46
       6.68    227.15    .447E+07      1932.0          1.56       38.56
       7.36    227.83    .580E+07      2763.9          1.72       34.96
       8.05    228.52    .718E+07      3861.9          1.95       30.97
       8.73    229.20    .859E+07      5115.4          2.16       27.98
       9.42    229.89    .100E+08      6519.2          2.35       25.64
      10.10    230.57    .115E+08      8092.3          2.55       23.69
      10.79    231.26    .130E+08      9821.5          2.73       22.05
      11.47    231.94    .145E+08     11690.0          2.92       20.68
      12.16    232.63    .160E+08     13694.9          3.09       19.52
      12.84    233.31    .176E+08     15833.9          3.26       18.52

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     5.66    7.50  27.22      0.80      0.53
     OUTFLOW: ID= 1 (6332)  468.30     4.35    9.75  27.22      0.72      0.54


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   2.232     9.75    23.32
      + ID2= 2 (6332):   468.30   4.351     9.75    27.22
        ================================================
        ID = 3 (8322):   861.74   6.582     9.75    25.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   3.474 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  24.828
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   5.199 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  27.366
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.436

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   4.663 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  26.483
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   2.949 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.204
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   4.075 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  25.594
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06          4.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     416.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         23.72
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.98 (ii)    27.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.34          0.23          4.484 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         24.93         53.90
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
```

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     RUNOFF COEFFICIENT   =       0.97         0.40           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |   3.3800     0.7654
                          0.0510    0.4423   |   4.1500     0.8231
                          0.8700    0.5378   |   4.8750     0.8778
                          1.9590    0.6105   |   5.2750     0.8878
                          2.5620    0.6796   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000     4.484      6.00      53.90
     OUTFLOW: ID= 1 (5318)     26.000     2.420      6.25      53.82

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.97
                    TIME SHIFT OF PEAK FLOW       (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7068

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40   4.075     8.00    25.59
       + ID2= 2 (5318):    26.00   2.420     6.25    53.82
         ==========================================
         ID = 3 (8334):   483.40   5.021     6.25    27.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                0.00         249.00        0.0380
               22.92         245.86        0.0380
               45.83         244.87        0.0380
               91.66         243.11        0.0380
              126.03         239.53        0.0380
              160.41         237.17        0.0380
              166.14         237.06        0.0380
              177.59         237.13        0.0380
              183.32         237.20        0.0380
              189.05         236.70    0.0380 /0.0350  Main Channel
              193.05         235.89        0.0350      Main Channel
              197.05         236.64    0.0350 /0.0380  Main Channel
              200.51         236.74        0.0380
              206.24         237.03        0.0380
              246.34         238.82        0.0380
              263.53         243.87        0.0380
              389.56         247.64        0.0380
              452.58         247.74        0.0380
              498.41         248.60        0.0380
              567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
      0.37   236.26    .270E+04         0.4        0.58     107.96
      0.75   236.64    .108E+05         2.6        0.92      68.01
      1.48   237.37    .877E+05        27.4        1.17      53.35
      2.20   238.09    .277E+06       122.1        1.65      37.83
      2.93   238.82    .540E+06       299.7        2.08      30.01
      3.66   239.55    .857E+06       587.8        2.57      24.29
      4.39   240.28    .120E+07       977.8        3.04      20.52
      5.11   241.00    .158E+07      1458.1        3.46      18.02
      5.84   241.73    .198E+07      2028.6        3.84      16.23
      6.57   242.46    .240E+07      2690.5        4.19      14.86
      7.29   243.18    .285E+07      3431.8        4.50      13.84
      8.02   243.91    .335E+07      4149.1        4.64      13.44
      8.75   244.64    .393E+07      4746.6        4.51      13.80
      9.47   245.36    .463E+07      5618.6        4.53      13.75
     10.20   246.09    .545E+07      6781.8        4.66      13.39
     10.93   246.82    .635E+07      8274.5        4.87      12.79
     11.66   247.55    .733E+07      9988.0        5.10      12.23
     12.38   248.27    .853E+07     11422.0        5.01      12.45
     13.11   249.00    .989E+07     13749.7        5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                                (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     5.02     6.25   27.11      0.82      0.94
     OUTFLOW: ID= 1 (6320)  483.40     4.04     9.00   27.11      0.79      0.93

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0320):   278.74   2.949     8.00    28.20
       + ID2= 2 (6320):   483.40   4.039     9.00    27.11
         ==========================================
         ID = 3 (8332):   762.14   6.855     8.50    27.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0314) |   Area     (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

    Unit Hyd Qpeak  (cms)=   3.978

    PEAK FLOW       (cms)=   2.616 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  25.303
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.404

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
              195.48         236.54        0.0350
              202.46         236.32        0.0350
              205.48         236.14    0.0350 /0.0310  Main Channel
              205.98         235.61        0.0310      Main Channel
              207.98         235.25        0.0310      Main Channel
              209.98         235.53        0.0310      Main Channel
              210.48         236.00    0.0310 /0.0350  Main Channel
              216.42         236.73        0.0350
              258.31         239.09        0.0350
              328.12         239.84        0.0350
              439.83         241.47        0.0350
              530.58         242.08        0.0350
              586.43         242.93        0.0350
              691.16         248.00        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
      0.37   235.62    .215E+04         0.7        0.77      53.88
      0.75   236.00    .634E+04         3.5        1.36      30.45
      1.46   236.71    .297E+05        19.3        1.62      25.66
      2.16   237.41    .103E+06        75.8        1.84      22.60
      2.87   238.12    .229E+06       202.8        2.21      18.79
      3.57   238.82    .407E+06       423.3        2.59      16.03
      4.28   239.53    .654E+06       727.7        2.77      14.97
      4.99   240.24    .103E+07      1242.0        3.01      13.76
      5.69   240.94    .151E+07      2002.3        3.31      12.54
      6.40   241.65    .210E+07      2987.9        3.55      11.70
      7.10   242.35    .286E+07      4302.8        3.75      11.07
      7.81   243.06    .374E+07      6165.3        4.10      10.11
      8.51   243.76    .468E+07      8642.4        4.60       9.03
      9.22   244.47    .565E+07     11496.3        5.06       8.20
      9.93   245.18    .666E+07     14714.1        5.50       7.54
     10.63   245.88    .770E+07     18290.3        5.91       7.02
     11.34   246.59    .877E+07     22221.9        6.30       6.58
     12.04   247.29    .988E+07     26464.4        6.67       6.22
     12.75   248.00    .110E+08     31061.3        7.01       5.91

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                                (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0314)  165.20     2.62     6.75   25.30      0.64      1.10
     OUTFLOW: ID= 1 (6316)  165.20     2.35     7.50   25.30      0.60      1.04
```

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--------------------
| CALIB            |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.923

     PEAK FLOW       (cms)=   3.203 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  29.050
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.463

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0316):   232.34   3.203     7.25    29.05
      + ID2= 2 (6316):   165.20   2.347     7.50    25.30
        ================================================
        ID = 3 (8338):   397.54   5.531     7.50    27.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   3.684 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  27.291
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   2.615 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  15.525
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   1.342 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.858
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   2.615     8.50    15.53
      + ID2= 2 (0310):   138.28   1.342     7.00    16.86
        ================================================
        ID = 3 (8342):   667.58   3.777     8.00    15.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3121.0) ------>
               Distance      Elevation       Manning
                  0.00         265.94        0.0360
                 38.07         265.43        0.0360
                 59.82         263.98        0.0360
                103.32         254.59        0.0360
                157.70         252.16        0.0360
                217.52         250.45        0.0360
                233.84         247.69        0.0360
                234.71         247.27        0.0360
                239.71         246.38        0.0360
                244.71         246.12    0.0360 /0.0330  Main Channel
                247.71         245.17        0.0330      Main Channel
                249.71         245.19        0.0330      Main Channel
                251.71         245.64    0.0330 /0.0360  Main Channel
                259.71         246.67        0.0360
                282.78         247.12        0.0360
                315.41         251.60        0.0360
                424.17         256.13        0.0360
                478.55         257.04        0.0360
                516.62         259.37        0.0360
                538.37         266.00        0.0360

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.47  245.64   .111E+04        3.1          1.78       6.07
       1.54  246.71   .103E+05       53.9          3.39       3.19
       2.61  247.78   .414E+05      281.3          4.40       2.45
       3.68  248.85   .839E+05      749.1          5.79       1.87
       4.74  249.91   .136E+06     1463.2          6.97       1.55
       5.81  250.98   .201E+06     2354.8          7.61       1.42
       6.88  252.05   .295E+06     3533.0          7.76       1.39
       7.95  253.12   .427E+06     5303.9          8.05       1.34
       9.02  254.19   .594E+06     7856.5          8.58       1.26
      10.09  255.26   .792E+06    11449.2          9.37       1.15
      11.15  256.32   .101E+07    15862.4         10.15       1.06
      12.22  257.39   .127E+07    21074.5         10.75       1.01
      13.29  258.46   .155E+07    28184.1         11.78       0.92
      14.36  259.53   .185E+07    36386.2         12.77       0.85
      15.43  260.60   .215E+07    46110.6         13.89       0.78
      16.50  261.67   .246E+07    56822.5         14.95       0.72
      17.56  262.73   .278E+07    68498.1         15.97       0.68
      18.63  263.80   .310E+07    81118.8         16.94       0.64
      19.70  264.87   .344E+07    93603.2         17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8342)  667.58     3.78    8.00  15.80      0.49      1.79
    OUTFLOW: ID= 1 (6312)  667.58     3.78    8.00  15.80      0.49      1.79
```

```
--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   3.684     8.00    27.29
      + ID2= 2 (6312):   667.58   3.776     8.00    15.80
        ================================================
        ID = 3 (8340):  1027.02   7.460     8.00    19.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   5.531     7.50    27.49
      + ID2= 2 (8340):  1027.02   7.460     8.00    19.82
        ================================================
        ID = 3 (8336):  1424.56  12.900     7.75    21.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   6.855     8.50    27.51
      + ID2= 2 (8336):  1424.56  12.900     7.75    21.96
        ================================================
        ID = 3 (8330):  2186.70  19.539     8.00    23.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.86   .145E+04        0.2         0.43     147.27
       0.73   224.39   .159E+05        2.8         0.68      93.11
       1.27   224.93   .561E+05       11.0         0.75      85.19
       1.80   225.46   .217E+06       45.6         0.80      79.20
       2.33   225.99   .566E+06      134.4         0.91      70.20
       2.87   226.53   .122E+07      338.1         1.06      59.97
       3.40   227.06   .206E+07      744.3         1.38      46.16
       3.94   227.60   .298E+07     1295.9         1.66      38.38
       4.47   228.13   .399E+07     1979.9         1.90      33.59
       5.00   228.66   .509E+07     2807.5         2.11      30.21
       5.54   229.20   .627E+07     3815.1         2.32      27.41
       6.07   229.73   .753E+07     4984.1         2.53      25.17
       6.60   230.26   .884E+07     6346.3         2.74      23.20
       7.14   230.80   .102E+08     7861.2         2.95      21.61
       7.67   231.33   .116E+08     9526.4         3.14      20.29
       8.21   231.87   .131E+08    11342.2         3.32      19.18
       8.74   232.40   .146E+08    13309.6         3.49      18.22
       9.27   232.93   .161E+08    15414.0         3.66      17.41
       9.81   233.47   .177E+08    17671.0         3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.70    19.54    8.00  23.90      1.40      0.76
    OUTFLOW: ID= 1 (6324) 2186.70    16.78    9.75  23.90      1.35      0.76


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6324):   615.64   4.663     8.75     26.48
      + ID2= 2 (6324):  2186.70  16.778     9.75     23.90
        ================================================
        ID = 3 (8328):  2802.34  21.348     9.50     24.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW      (cms)=   4.298 (i)
    TIME TO PEAK   (hrs)=   8.500
    RUNOFF VOLUME   (mm)=  27.347
    TOTAL RAINFALL  (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.436

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   4.298     8.50     27.35
      + ID2= 2 (8328):  2802.34  21.348     9.50     24.46
        ================================================
        ID = 3 (8326):  3315.47  25.514     9.50     24.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   5.199     8.75     27.37
      + ID2= 2 (8326):  3315.47  25.514     9.50     24.91
        ================================================
        ID = 3 (8324):  3994.38  30.661     9.50     25.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   218.64   .373E+05        3.2         0.33     192.37
       1.00   219.14   .752E+05       10.1         0.51     124.71
       1.52   219.66   .149E+06       22.2         0.57     112.06
       2.04   220.18   .279E+06       43.4         0.59     107.06
       2.56   220.70   .464E+06       77.0         0.63     100.52
       3.08   221.22   .705E+06      125.7         0.68      93.56
       3.61   221.75   .100E+07      192.7         0.73      86.62
       4.13   222.27   .135E+07      278.1         0.79      80.92
       4.65   222.79   .176E+07      385.9         0.84      75.86
       5.17   223.31   .222E+07      514.9         0.89      71.82
       5.69   223.83   .280E+07      662.7         0.90      70.40
       6.21   224.35   .345E+07      867.7         0.96      66.35
       6.73   224.87   .417E+07     1107.0         1.01      62.81
       7.25   225.39   .494E+07     1400.0         1.08      58.80
       7.78   225.92   .573E+07     1732.2         1.15      55.17
       8.30   226.44   .655E+07     2099.9         1.22      52.02
       8.82   226.96   .740E+07     2502.8         1.29      49.29
       9.34   227.48   .828E+07     2940.9         1.36      46.90
       9.86   228.00   .918E+07     3414.3         1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.38    30.66    9.50  25.33      1.73      0.58
    OUTFLOW: ID= 1 (6328) 3994.38    26.24   11.25  25.33      1.62      0.57


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--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0328):   492.92   3.474     8.75     24.83
      + ID2= 2 (6328):  3994.38  26.237    11.25     25.33
        ================================================
        ID = 3 (8320):  4487.30  29.349    11.00     25.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8318) |
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```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  29.340    11.00    25.27
      + ID2= 2 (8322):   861.74   6.582     9.75    25.44
        ================================================
        ID = 3 (8318):  5349.04  35.607    10.75    25.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  39.479    14.50    20.47
      + ID2= 2 (8318):  5349.04  35.607    10.75    25.30
        ================================================
        ID = 3 (8316): 15408.22  70.146    12.75    22.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   0.893     6.75    13.82
      + ID2= 2 (8316): 15408.22  70.146    12.75    22.15
        ================================================
        ID = 3 (8312): 16028.32  70.826    12.75    21.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90  22.328     6.50    29.01
      + ID2= 2 (8312): 16028.32  70.826    12.75    21.82
        ================================================
        ID = 3 (8308): 16627.22  71.998    12.25    22.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |    (cms)     (ha.m.)
                        0.0000     0.0000    |  *******     74.0090
                        66.5450    18.5023   |  *******    ********
                        98.5430    37.0045   |  *******    ********

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     71.998     12.25      22.08
    OUTFLOW: ID= 1 (5510)   ********     69.834     13.50      22.08

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.99
               TIME SHIFT OF PEAK FLOW         (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 20.4048

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   2.580    22.25    21.25
      + ID2= 2 (5510): 16627.22  69.834    13.50    22.08
        ================================================
        ID = 3 (8240): 19412.22  72.075    13.50    21.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  32.116    12.25    13.36
      + ID2= 2 (8240): 19412.22  72.075    13.50    21.97
        ================================================
        ID = 3 (8238): 28936.45 103.371    13.00    19.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   2.724    10.25    12.12
      + ID2= 2 (8238): 28936.45 103.371    13.00    19.13
        ================================================
        ID = 3 (8236): 29941.03 105.769    13.00    18.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   6.442     6.00    19.32
      + ID2= 2 (8236): 29941.03 105.769    13.00    18.90
        ================================================
        ID = 3 (8234): 30226.83 106.051    12.75    18.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   2.485     7.00    14.04
      + ID2= 2 (8234): 30226.83 106.051    12.75    18.90
        ================================================
        ID = 3 (8230): 30570.83 106.769    12.75    18.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06   8.283     8.75    11.68
      + ID2= 2 (8230): 30570.83 106.769    12.75    18.85
        ================================================
        ID = 3 (8228): 32522.89 112.061    12.50    18.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   3.392     8.00     9.30
      + ID2= 2 (8228): 32522.89 112.061    12.50    18.42
        ================================================
        ID = 3 (8190): 33538.11 114.186    12.25    18.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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| | 3e280798-92ee-4282-809c-79f5caed0add\73a1f747
| Ptotal= 73.10 mm | Comments: 25-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	1.83	3.25	2.92	6.25	13.16	9.25	2.56
0.50	1.83	3.50	2.92	6.50	13.16	9.50	2.56
0.75	1.83	3.75	2.92	6.75	5.85	9.75	2.56
1.00	1.83	4.00	2.92	7.00	5.85	10.00	2.56
1.25	1.83	4.25	4.39	7.25	4.39	10.25	1.46
1.50	1.83	4.50	4.39	7.50	4.39	10.50	1.46
1.75	1.83	4.75	5.85	7.75	4.39	10.75	1.46
2.00	1.83	5.00	5.85	8.00	4.39	11.00	1.46
2.25	2.19	5.25	8.77	8.25	2.56	11.25	1.46
2.50	2.19	5.50	8.77	8.50	2.56	11.50	1.46
2.75	2.19	5.75	35.09	8.75	2.56	11.75	1.46
3.00	2.19	6.00	96.49	9.00	2.56	12.00	1.46

CALIB	
NASHYD (0356)	Area (ha)=1015.22 Curve Number (CN)= 46.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 12.651

PEAK FLOW (cms)= 4.610 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 12.581
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.172

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0354)	Area (ha)= 262.68 Curve Number (CN)= 37.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 3.252

PEAK FLOW (cms)= 0.864 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.206
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.126

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0352)	Area (ha)= 381.43 Curve Number (CN)= 54.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 7.980

PEAK FLOW (cms)= 3.316 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 16.078
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.220

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0346)	Area (ha)= 350.93 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.96

Unit Hyd Qpeak (cms)= 6.254

PEAK FLOW (cms)= 4.425 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 25.923
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0350)	Area (ha)= 366.84 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.07

Unit Hyd Qpeak (cms)= 5.831

PEAK FLOW (cms)= 2.124 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 13.386
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.183

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0348)	Area (ha)= 590.18 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 5.267

PEAK FLOW (cms)= 2.211 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.458
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.184

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6350)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3501.0) ------>

Distance	Elevation	Manning	
0.00	287.00	0.0500	
23.66	283.72	0.0500	
70.98	280.94	0.0500	
112.38	280.23	0.0500	
171.52	276.80	0.0500	
260.24	274.46	0.0500	
266.16	274.26	0.0500	
272.07	274.12	0.0500	
276.49	274.12	0.0500 /0.0300	Main Channel
276.99	273.82	0.0300	Main Channel
277.99	273.82	0.0300	Main Channel
279.49	273.82	0.0300	Main Channel
280.49	274.27	0.0300 /0.0500	Main Channel
283.90	274.27	0.0500	
289.81	274.57	0.0500	
325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	2.21	9.00	13.46	0.34	0.99
OUTFLOW: ID= 1 (6350)	590.18	2.16	10.25	13.46	0.34	0.99

ADD HYD (8220)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0350):	366.84	2.124	7.50	13.39	
+ ID2= 2 (6350):	590.18	2.158	10.25	13.46	
ID = 3 (8220):	957.02	3.943	8.75	13.43	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0346):		350.03	4.425	7.25	25.92
+ ID2= 2 (8220):		957.02	3.943	8.75	13.43
ID = 3 (8222):		1307.95	8.070	8.00	16.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning	
0.00	257.95	0.0500	
7.83	257.34	0.0500	
15.66	256.19	0.0500	
21.53	254.01	0.0500	
41.11	244.06	0.0500	
76.35	241.38	0.0500	
111.58	239.74	0.0500	
113.54	239.61	0.0500	
113.75	239.41	0.0500 /0.0300	Main Channel
113.85	238.81	0.0300	Main Channel
115.50	238.81	0.0300	Main Channel
116.15	238.81	0.0300	Main Channel
116.25	239.41	0.0300	Main Channel
117.46	239.52	0.0500	
119.41	239.72	0.0500	
121.37	240.04	0.0500	
131.16	241.84	0.0500	
156.61	247.03	0.0500	
176.19	251.46	0.0500	
193.80	258.79	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	8.07	8.00	16.78	0.89	1.54
OUTFLOW: ID= 1 (6352)	1307.95	8.01	8.25	16.78	0.88	1.54

ADD HYD (8224)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0352):		381.43	3.316	7.00	16.08
+ ID2= 2 (6352):		1307.95	8.013	8.25	16.78
ID = 3 (8224):		1689.38	11.017	7.75	16.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning
0.00	253.92	0.0500
7.95	251.83	0.0500
15.89	249.97	0.0500
19.87	249.05	0.0500
47.68	242.00	0.0500
67.55	237.10	0.0500
83.44	231.11	0.0500
85.43	230.75	0.0500
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	11.02	7.75	16.62	1.34	1.13
OUTFLOW: ID= 1 (6354)	1689.38	10.29	8.75	16.62	1.28	1.12

ADD HYD (8226)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0354):		262.68	0.864	8.00	9.21
+ ID2= 2 (6354):		1689.38	10.290	8.75	16.62
ID = 3 (8226):		1952.06	11.133	8.75	15.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0344)	Area	(ha)= 344.00	Curve Number (CN)= 59.0
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	0.87	

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 3.342 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 18.719
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (3402)	Area	(ha)= 234.60	
ID= 1 DT=15.0 min	Total Imp(%)=	28.00	Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.69	168.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1250.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	17.46
over (min)		15.00	45.00
Storage Coeff. (min)=		14.53 (ii)	36.03 (ii)

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     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.04         4.65          7.929 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10        16.03          23.19
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.22           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.55        27.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     584.24        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        25.11
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.20 (ii)   27.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.49         1.35          3.325 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        18.84          29.81
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.26           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360      1.7877
                         0.1730     0.6348   |   7.2780      2.2185
                         1.8360     0.8250   |   9.1880      2.6486
                         2.1540     1.1051   |   9.5880      2.6586
                         3.3950     1.3506   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      3.325      6.00      29.81
     OUTFLOW: ID= 1 (5340)     51.200      1.201      6.75      29.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.13
                   TIME SHIFT OF PEAK FLOW       (min)= 45.00
                   MAXIMUM  STORAGE   USED      (ha.m.)=  0.7607

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| ADD HYD   (8232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   234.60   7.929     6.00     23.19
       + ID2= 2 (5340):    51.20   1.201     6.75     29.79
         ================================================
         ID = 3 (8232):   285.80   8.040     6.00     24.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   3.660 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  16.262
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   3.488 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.241
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   2.643 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  13.432
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   2.757 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.036
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   6.058 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  29.204
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.400

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  20.009
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.471 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.165
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   2.560 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.954
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.838 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.552
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   4.212 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.530
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   1.561 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  16.518
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   1.561     6.75    16.52
      + ID2= 2 (0366):   462.62   4.212     7.50    20.53
        ================================================
        ID = 3 (8302):   617.89   5.710     7.25    19.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13        92.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     889.87        40.00
     Mannings n             =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        15.08
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.84 (ii)   34.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.03         2.25          2.946 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10        14.28         18.83
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.20          0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.611 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.508
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.171 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.385
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   1.611     7.50     8.51
      + ID2= 2 (0360):   138.37   1.171     6.75    12.38
        ================================================
        ID = 3 (8306):   568.24   2.716     7.00     9.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation        Manning
                 0.00         261.46         0.0550
                27.86         254.23         0.0550
                51.07         251.96         0.0550
                74.29         250.77         0.0550
                97.50         249.91         0.0550
```

125.36	249.40	0.0550	
150.93	247.40	0.0550	
155.93	247.33	0.0550 /0.0350	Main Channel
157.93	246.85	0.0350	Main Channel
159.18	246.65	0.0350	Main Channel
160.18	246.63	0.0350	Main Channel
160.93	246.85	0.0350	Main Channel
161.93	247.18	0.0350 /0.0550	Main Channel
163.18	248.03	0.0550	
168.18	248.58	0.0550	
183.18	250.18	0.0550	
201.97	252.59	0.0550	
213.57	256.02	0.0550	
225.18	260.31	0.0550	
229.82	261.00	0.0550	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	247.18	.556E+04	1.9	1.03	49.95
1.28	247.91	.336E+05	16.7	1.53	33.61
2.00	248.63	.913E+05	53.6	1.81	28.40
2.73	249.36	.185E+06	122.3	2.05	25.18
3.46	250.09	.344E+06	224.6	2.02	25.52
4.19	250.82	.574E+06	417.9	2.25	22.91
4.91	251.54	.855E+06	699.1	2.53	20.38
5.64	252.27	.118E+07	1075.3	2.82	18.26
6.37	253.00	.153E+07	1559.9	3.15	16.38
7.10	253.73	.191E+07	2137.6	3.46	14.89
7.82	254.45	.231E+07	2815.2	3.77	13.67
8.55	255.18	.272E+07	3608.5	4.10	12.58
9.28	255.91	.315E+07	4488.2	4.41	11.69
10.01	256.64	.358E+07	5458.0	4.71	10.95
10.73	257.36	.403E+07	6512.4	4.99	10.32
11.46	258.09	.449E+07	7649.8	5.27	9.78
12.19	258.82	.496E+07	8869.5	5.53	9.32
12.92	259.55	.544E+07	10171.2	5.78	8.91
13.64	260.27	.593E+07	11554.8	6.02	8.55

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8306)	568.24	2.72	7.00	9.45	0.59	1.05
OUTFLOW:	ID= 1 (6362)	568.24	2.40	8.25	9.45	0.58	1.04

ADD HYD (8304)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0362):		118.78	2.946	6.00	18.83
+ ID2= 2 (6362):		568.24	2.400	8.25	9.45
ID = 3 (8304):		687.02	3.953	6.50	11.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8300)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8302):		617.89	5.710	7.25	19.52
+ ID2= 2 (8304):		687.02	3.953	6.50	11.07
ID = 3 (8300):		1304.91	9.215	7.00	15.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6368)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3681.0) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0370	
18.48	223.26	0.0370	
36.96	223.05	0.0370	
64.67	222.94	0.0370	
110.87	222.86	0.0370	
133.96	222.74	0.0370	
147.82	222.65	0.0370	
170.92	222.31	0.0370	
174.79	222.26	0.0370 /0.0300	Main Channel
174.89	221.86	0.0300	Main Channel
175.54	221.86	0.0300	Main Channel
176.19	221.86	0.0300	Main Channel
176.29	222.26	0.0300 /0.0370	Main Channel
180.16	222.25	0.0370	
184.78	222.28	0.0370	
189.40	222.31	0.0370	
332.60	222.37	0.0370	
450.00	230.00	0.0370	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	222.26	.771E+03	0.3	0.52	41.74
0.81	222.67	.784E+05	30.3	0.51	43.17
1.21	223.07	.210E+06	123.2	0.77	28.42
1.62	223.48	.384E+06	301.0	1.03	21.25
2.03	223.89	.563E+06	550.2	1.28	17.06
2.44	224.30	.747E+06	860.7	1.51	14.46
2.84	224.70	.934E+06	1228.1	1.73	12.68
3.25	225.11	.113E+07	1649.3	1.92	11.37
3.66	225.52	.132E+07	2122.3	2.11	10.37
4.07	225.93	.152E+07	2645.5	2.29	9.58
4.47	226.33	.172E+07	3217.8	2.45	8.92
4.88	226.74	.193E+07	3838.3	2.61	8.38
5.29	227.15	.214E+07	4506.3	2.76	7.92
5.70	227.56	.236E+07	5221.3	2.91	7.52
6.10	227.96	.258E+07	5983.0	3.05	7.17
6.51	228.37	.280E+07	6790.9	3.19	6.87
6.92	228.78	.303E+07	7645.0	3.32	6.60
7.33	229.19	.326E+07	8545.1	3.45	6.35
7.73	229.59	.349E+07	9491.0	3.57	6.13

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8300)	1304.91	9.22	7.00	15.07	0.52	0.52
OUTFLOW:	ID= 1 (6368)	1304.91	8.43	8.25	15.07	0.51	0.52

ADD HYD (8298)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0368):		159.48	0.838	7.75	12.55
+ ID2= 2 (6368):		1304.91	8.430	8.25	15.07
ID = 3 (8298):		1464.39	9.262	8.00	14.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8296)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0370):		191.85	2.560	6.75	20.95
+ ID2= 2 (8298):		1464.39	9.262	8.00	14.80
ID = 3 (8296):		1656.24	11.367	7.75	15.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84

```
      1.97   220.48    .131E+07    1090.4          1.25      20.05
      2.32   220.83    .169E+07    1647.7          1.47      17.06
      2.67   221.18    .206E+07    2294.6          1.68      14.99
      3.01   221.52    .244E+07    3025.6          1.87      13.46
      3.36   221.87    .282E+07    3836.5          2.05      12.27
      3.71   222.22    .321E+07    4723.7          2.22      11.31
      4.06   222.57    .359E+07    5684.6          2.39      10.53
      4.40   222.91    .398E+07    6716.6          2.55       9.87
      4.75   223.26    .437E+07    7817.7          2.70       9.31
      5.10   223.61    .476E+07    8986.2          2.85       8.83
      5.45   223.96    .515E+07   10220.4          2.99       8.40
      5.79   224.30    .555E+07   11519.1          3.13       8.03
      6.14   224.65    .594E+07   12880.8          3.27       7.69
      6.49   225.00    .634E+07   14304.5          3.40       7.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24    11.37    7.75  15.51     0.62      0.79
    OUTFLOW: ID= 1 (6372) 1656.24    10.94    8.50  15.51     0.62      0.80


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6372):   110.42   0.471     7.25     9.16
      + ID2= 2 (6372):  1656.24  10.944     8.50    15.51
        ================================================
        ID = 3 (8294):  1766.66  11.372     8.50    15.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   3.687     8.25    20.01
      + ID2= 2 (8294):  1766.66  11.372     8.50    15.12
        ================================================
        ID = 3 (8292):  2312.36  15.040     8.50    16.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8292)   2312.360     15.040      8.50      16.27
    OUTFLOW: ID= 1 (5505)   2312.360     11.011     11.25      16.27

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.21
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 10.6689

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| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85   6.058     7.50    29.20
      + ID2= 2 (5505):  2312.36  11.011    11.25    16.27
        ================================================
        ID = 3 (8272):  2776.21  14.844    10.25    18.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=   3.390 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  25.220
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.345

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=   2.485 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  15.628
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.214

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=   3.048 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  16.653
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.228

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=   1.875 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  18.209
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.249

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=   2.408 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.881
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.272

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   2.408     7.25    19.88
      + ID2= 2 (0388):   220.77   1.875     7.25    18.21
        ================================================
        ID = 3 (8286):   462.04   4.284     7.25    19.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   3.537

    PEAK FLOW       (cms)=   1.095 (i)
```

```
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.721
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380)  |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.322 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.074
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382)  |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.181 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.501
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   1.322     6.50    10.07
      + ID2= 2 (0382):   216.59   2.181     6.75    15.50
        ================================================
        ID = 3 (8290):   398.60   3.495     6.75    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30       0.0300       Main Channel
                79.39         279.30       0.0300       Main Channel
                79.64         279.30       0.0300       Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.34   279.64    .715E+03         0.2         0.85      63.42
       1.10   280.40    .507E+05        21.9         1.40      38.54
       1.85   281.15    .141E+06        91.8         2.10      25.69
       2.61   281.91    .269E+06       218.9         2.63      20.46
       3.36   282.66    .445E+06       407.1         2.96      18.23
       4.12   283.42    .681E+06       698.3         3.31      16.26
       4.87   284.17    .977E+06      1111.8         3.68      14.65
       5.63   284.93    .133E+07      1674.3         4.06      13.27
       6.39   285.69    .173E+07      2457.8         4.59      11.73
       7.14   286.44    .215E+07      3378.8         5.07      10.63
       7.90   287.20    .261E+07      4418.4         5.47       9.85
       8.65   287.95    .310E+07      5676.3         5.92       9.11
       9.41   288.71    .361E+07      7150.5         6.40       8.42
      10.17   289.47    .414E+07      8783.1         6.86       7.86
      10.92   290.22    .469E+07     10575.1         7.30       7.38
      11.68   290.98    .525E+07     12520.4         7.72       6.98
      12.43   291.73    .582E+07     14619.0         8.12       6.64
      13.19   292.49    .642E+07     16863.2         8.50       6.34
      13.94   293.24    .703E+07     19259.8         8.86       6.08

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     3.50    6.75  13.02      0.45      0.90
     OUTFLOW: ID= 1 (6384)  398.60     2.74    8.00  13.02      0.43      0.89

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0384):   199.07   1.095     7.25    11.72
      + ID2= 2 (6384):   398.60   2.742     8.00    13.02
        ================================================
        ID = 3 (8288):   597.67   3.810     7.75    12.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8286):   462.04   4.284     7.25    19.08
      + ID2= 2 (8288):   597.67   3.810     7.75    12.59
        ================================================
        ID = 3 (8284):  1059.71   8.003     7.50    15.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):   420.00   3.048     7.50    16.65
      + ID2= 2 (8284):  1059.71   8.003     7.50    15.42
        ================================================
        ID = 3 (8280):  1479.71  11.051     7.50    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.002 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  20.396
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.279

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   4.102 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.674
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0378):   606.72   4.102     7.75    16.67
      + ID2= 2 (0392):   167.22   2.002     7.00    20.40
        ================================================
        ID = 3 (8282):   773.94   5.981     7.25    17.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8280):  1479.71  11.051     7.50    15.77
      + ID2= 2 (8282):   773.94   5.981     7.25    17.48
        ================================================
        ID = 3 (8278):  2253.65  17.022     7.50    16.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3941.0) ------>
             Distance      Elevation       Manning
                0.00         283.00        0.0380
               13.48         282.87        0.0380
               53.92         280.08        0.0380
               74.13         276.62        0.0380
               97.72         265.45        0.0380
              114.57         256.93        0.0380
              131.42         253.04        0.0380
              134.79         252.58        0.0380
              138.53         251.74    0.0380 /0.0300  Main Channel
              139.03         251.20        0.0300      Main Channel
              141.53         251.20        0.0300      Main Channel
              144.03         251.20        0.0300      Main Channel
              144.53         251.74    0.0300 /0.0380  Main Channel
              148.27         252.69        0.0380
              151.64         252.97        0.0380
              185.34         255.08        0.0380
              219.03         257.54        0.0380
              262.84         259.43        0.0380
              310.02         262.80        0.0380
              333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)        (m/s)      (min)
       0.54   251.74    .827E+04         4.5         1.51       30.71
       2.19   253.39    .758E+05        73.2         2.69       17.27
       3.83   255.03    .282E+06       331.8         3.27       14.17
       5.48   256.68    .633E+06       917.3         4.03       11.51
       7.12   258.32    .112E+07      1889.5         4.69        9.90
       8.77   259.97    .179E+07      3410.2         5.31        8.73
      10.41   261.61    .259E+07      5627.6         6.05        7.66
      12.06   263.26    .351E+07      8605.1         6.83        6.79
      13.70   264.90    .447E+07     12544.9         7.81        5.94
      15.35   266.55    .546E+07     17101.4         8.71        5.32
      16.99   268.19    .648E+07     22251.7         9.56        4.85
      18.64   269.84    .752E+07     27979.0        10.36        4.48
      20.28   271.48    .858E+07     34269.0        11.11        4.17
      21.93   273.13    .967E+07     41110.8        11.83        3.92
      23.57   274.77    .108E+08     48495.9        12.51        3.71
      25.22   276.42    .119E+08     56418.1        13.17        3.52
      26.86   278.06    .131E+08     64410.6        13.69        3.39
      28.51   279.71    .143E+08     73002.1        14.18        3.27
      30.15   281.35    .156E+08     81379.3        14.50        3.20

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65    17.02    7.50  16.36      0.84      1.64
    OUTFLOW: ID= 1 (6394) 2253.65    16.55    8.00  16.36      0.83      1.64


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| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   2.485     7.25    15.63
      + ID2= 2 (6394):  2253.65  16.553     8.00    16.36
        ================================================
        ID = 3 (8276):  2579.10  18.926     8.00    16.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3961.0) ------>
             Distance      Elevation       Manning
                0.00         263.00        0.0410
               11.75         257.14        0.0410
               23.50         253.97        0.0410
               41.13         247.83        0.0410
               76.38         232.09        0.0410
              135.13         229.07        0.0410
              149.82         228.97        0.0410
              152.75         228.96    0.0410 /0.0300  Main Channel
              154.19         228.73        0.0300      Main Channel
              154.69         228.20        0.0300      Main Channel
              155.69         228.20        0.0300      Main Channel
              156.69         228.20        0.0300      Main Channel
              157.19         228.73        0.0300      Main Channel
              158.63         228.95    0.0300 /0.0410  Main Channel
              161.57         228.96        0.0410
              164.51         229.71        0.0410
              196.82         241.70        0.0410
              223.26         249.21        0.0410
              246.76         255.13        0.0410
              290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)        (m/s)      (min)
       0.75   228.95    .780E+04         2.2         0.98       58.06
       2.54   230.74    .277E+06       145.1         1.78       31.76
       4.33   232.53    .786E+06       609.1         2.63       21.50
       6.13   234.33    .140E+07      1481.5         3.59       15.77
       7.92   236.12    .207E+07      2677.3         4.39       12.90
       9.71   237.91    .280E+07      4184.8         5.09       11.14
      11.50   239.70    .357E+07      6001.4         5.71        9.93
      13.29   241.49    .441E+07      8129.1         6.27        9.03
      15.09   243.29    .530E+07     10549.4         6.77        8.37
      16.88   245.08    .625E+07     13300.6         7.24        7.83
      18.67   246.87    .726E+07     16396.2         7.68        7.38
      20.46   248.66    .834E+07     19809.8         8.07        7.02
      22.26   250.46    .949E+07     23532.5         8.43        6.72
      24.05   252.25    .107E+08     27641.2         8.77        6.46
      25.84   254.04    .120E+08     32155.2         9.10        6.22
      27.63   255.83    .134E+08     36901.0         9.37        6.05
      29.42   257.62    .149E+08     42147.7         9.64        5.88
      31.22   259.42    .164E+08     48149.1         9.97        5.68
      33.01   261.21    .181E+08     54644.8        10.29        5.51

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    18.93    8.00  16.26      0.96      1.03
    OUTFLOW: ID= 1 (6396) 2579.10    17.09    9.00  16.26      0.93      1.02


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   3.390     7.50    25.22
      + ID2= 2 (6396):  2579.10  17.092     9.00    16.26
        ================================================
        ID = 3 (8274):  2884.31  20.021     9.00    17.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  14.844    10.25    18.43
      + ID2= 2 (8274):  2884.31  20.021     9.00    17.21
        ================================================
        ID = 3 (8270):  5660.52  34.206     9.25    17.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810   135.6832
                         31.1490    24.6697   |  96.2770   900.4431
                         36.8120    37.0045   |  96.6770   900.4531
                         45.3070    86.3439   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520    34.206     9.25      17.81
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     OUTFLOW: ID= 1 (5506)   5660.520     28.236     11.75      17.81

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.54
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 22.3717

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--------------------
| CALIB            |
| NASHYD    (0406) |   Area     (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.315 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  22.790
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.312

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0404) |   Area     (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.475 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.944
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.177

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0402) |   Area     (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.133 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.936
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0400) |   Area     (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.222 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.807
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.203

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0398) |   Area     (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.909 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.581
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   2.909     7.00    16.58
       + ID2= 2 (0400):    93.97   1.222     6.50    14.81
         ================================================
         ID = 3 (8268):   422.16   4.012     6.75    16.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <---- DATA FOR SECTION (4021.0) ------>
               Distance      Elevation        Manning
                  0.00         238.50         0.0360
                 11.50         238.00         0.0360
                 23.00         237.93         0.0360
                 34.49         236.39         0.0360
                 63.24         233.98         0.0360
                 97.73         228.15         0.0360
                123.60         227.08         0.0360
                126.48         226.61         0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25         0.0330      Main Channel
                129.35         225.25         0.0330      Main Channel
                130.85         225.25         0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59         0.0360
                143.72         227.42         0.0360
                169.59         227.88         0.0360
                192.59         231.19         0.0360
                218.46         233.02         0.0360
                241.45         235.50         0.0360
                284.57         236.43         0.0360

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.41   225.66    .391E+04         1.7          1.36      38.31
        0.81   226.06    .804E+04         5.0          1.93      27.02
        1.22   226.47    .124E+05         9.1          2.30      22.61
        1.84   227.09    .308E+05        23.3          2.36      22.03
        2.46   227.71    .904E+05        62.0          2.14      24.31
        3.09   228.34    .223E+06       188.3          2.63      19.75
        3.71   228.96    .379E+06       410.2          3.38      15.39
        4.33   229.58    .550E+06       711.5          4.04      12.89
        4.95   230.20    .737E+06      1091.3          4.62      11.25
        5.58   230.83    .939E+06      1550.6          5.15      10.10
        6.20   231.45    .116E+07      2072.4          5.59       9.31
        6.82   232.07    .140E+07      2659.2          5.93       8.77
        7.44   232.69    .167E+07      3345.8          6.27       8.30
        8.07   233.32    .195E+07      4159.0          6.64       7.83
        8.69   233.94    .226E+07      5100.8          7.03       7.39
        9.31   234.56    .259E+07      6081.3          7.32       7.11
        9.93   235.18    .295E+07      7183.1          7.60       6.84
       10.56   235.81    .334E+07      8145.2          7.62       6.83
       11.18   236.43    .379E+07      9116.0          7.51       6.92

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.01    6.75  16.19      0.70      1.72
     OUTFLOW: ID= 1 (6402)  422.16     3.72    7.50  16.19      0.66      1.66

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--------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   2.133     7.50    19.94
       + ID2= 2 (6402):   422.16   3.724     7.50    16.19
         ================================================
         ID = 3 (8266):   666.16   5.857     7.50    17.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.475     7.25    12.94
       + ID2= 2 (8266):   666.16   5.857     7.50    17.56
         ================================================
         ID = 3 (8264):   912.62   7.330     7.50    16.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   2.315     6.50    22.79
      + ID2= 2 (8264):   912.62   7.330     7.50    16.31
        ================================================
        ID = 3 (8262):  1055.27   9.418     7.25    17.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  28.236    11.75    17.81
      + ID2= 2 (8262):  1055.27   9.418     7.25    17.19
        ================================================
        ID = 3 (8260):  6715.79  32.331    11.25    17.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   2.757     6.75    18.04
      + ID2= 2 (8260):  6715.79  32.331    11.25    17.71
        ================================================
        ID = 3 (8258):  6947.41  33.171    11.00    17.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   2.643     8.25    13.43
      + ID2= 2 (8258):  6947.41  33.171    11.00    17.72
        ================================================
        ID = 3 (8256):  7519.42  35.308    10.75    17.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |    (cms)    (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     35.308     10.75      17.40
    OUTFLOW: ID= 1 (5507)   7519.421     34.570     11.75      17.40

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.91
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 10.7597

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   1.485 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  15.590
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.213

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   1.780 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  21.774
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.298

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0416) |   Area     (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

    Unit Hyd Qpeak  (cms)=   5.832

    PEAK FLOW       (cms)=   3.686 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  21.827
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.299

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0412) |   Area     (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   5.088

    PEAK FLOW       (cms)=   2.105 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  16.071
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.220

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4141) |   Area     (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      15.73        27.97
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     539.75        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      96.49        52.82
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       8.77 (ii)   22.58 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
    PEAK FLOW       (cms)=       1.74         1.96          2.978 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25           6.00
    RUNOFF VOLUME    (mm)=      71.10        26.72          34.27
    TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
    RUNOFF COEFFICIENT   =       0.97         0.37           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |    (cms)    (ha.m.)
                          0.0000     0.0000   |   3.4720      1.9177
                          0.3820     0.3152   |   3.8720      1.9277
                          1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4141)     43.700      2.978      6.00      34.27
    OUTFLOW: ID= 1 (5414)     43.700      1.837      6.50      34.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.71
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
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                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4849

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--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     96.49         25.80
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     12.55 (ii)    30.95 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.02          4.96          5.721 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=     71.10         24.32         29.00
     TOTAL RAINFALL   (mm)=     73.10         73.10         73.10
     RUNOFF COEFFICIENT   =      0.97          0.33          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):   144.30   5.721     6.50    29.00
       + ID2= 2 (5414):    43.70   1.837     6.50    34.26
         ================================================
         ID = 3 (8254):   188.00   7.558     6.50    30.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0412):   238.70   2.105     7.00    16.07
       + ID2= 2 (8254):   188.00   7.558     6.50    30.22
         ================================================
         ID = 3 (8252):   426.70   9.538     6.50    22.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   246.02    .295E+04        0.6         0.75      88.26
       1.53   247.28    .168E+06       69.7         1.65      40.13
       2.79   248.54    .490E+06      299.5         2.42      27.28
       4.06   249.81    .962E+06      740.1         3.05      21.67
       5.32   251.07    .158E+07     1440.0         3.61      18.33
       6.58   252.33    .235E+07     2443.8         4.12      16.06
       7.84   253.59    .327E+07     3811.2         4.63      14.30
       9.10   254.85    .432E+07     5565.1         5.11      12.94
      10.37   256.12    .550E+07     7721.3         5.57      11.88
      11.63   257.38    .682E+07    10309.9         6.00      11.02
      12.89   258.64    .827E+07    13360.6         6.42      10.31
      14.15   259.90    .985E+07    16884.5         6.81       9.72
      15.42   261.17    .116E+08    20818.4         7.14       9.26
      16.68   262.43    .134E+08    25510.4         7.53       8.78
      17.94   263.69    .154E+08    30958.0         7.97       8.30
      19.20   264.95    .175E+08    36988.3         8.38       7.89
      20.46   266.21    .197E+08    43617.1         8.78       7.53
      21.73   267.48    .220E+08    50868.1         9.17       7.22
      22.99   268.74    .244E+08    58854.0         9.56       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70     9.54    6.50  22.31      0.43      0.81
    OUTFLOW: ID= 1 (6416)  426.70     4.90    7.50  22.31      0.35      0.78

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   3.686     8.00    21.83
       + ID2= 2 (6416):   426.70   4.904     7.50    22.31
         ================================================
         ID = 3 (8250):   866.00   8.541     7.50    22.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   162.79   1.780     7.50    21.77
       + ID2= 2 (8250):   866.00   8.541     7.50    22.06
         ================================================
         ID = 3 (8248):  1048.79  10.321     7.50    22.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.485     7.00    15.59
       + ID2= 2 (8248):  1048.79  10.321     7.50    22.01
         ================================================
         ID = 3 (8246):  1224.61  11.759     7.50    21.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  34.570    11.75    17.40
       + ID2= 2 (8246):  1224.61  11.759     7.50    21.09
         ================================================
         ID = 3 (8244):  8744.03  40.750    11.00    17.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0422):   780.20   3.488     9.00    16.24
       + ID2= 2 (8244):  8744.03  40.750    11.00    17.91
         ================================================
         ID = 3 (8242):  9524.23  43.985    11.00    17.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
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```
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231    43.985     11.00      17.78
     OUTFLOW: ID= 1 (5508)   9524.231    42.683     12.25      17.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.04
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 17.2250

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD     (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.370 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  27.751
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     194.58        331.32
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1872.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         57.38
               over (min)        15.00         45.00
     Storage Coeff.  (min)=     18.51 (ii)    31.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      15.86         19.45      25.210 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.50
     RUNOFF VOLUME    (mm)=      71.10         28.48      35.73
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.39       0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.77         37.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     697.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         72.01
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.23 (ii)    22.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.77          3.58       6.061 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         31.13      40.32
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.43       0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    73.000     6.061      6.00      40.32
     OUTFLOW: ID= 1 (5338)    73.000     2.647      6.75      40.32

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.67
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1258

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3382):   525.90  25.210     6.50     35.73
        + ID2= 2 (5338):    73.00   2.647     6.75     40.32
          ================================================
          ID = 3 (8310):   598.90  27.843     6.50     36.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.825 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  17.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.237

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83         16.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     469.04         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         43.28
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      8.06 (ii)    23.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.45          0.92       3.022 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         20.49      36.18
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.28       0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   0.6540      0.4604
                        0.0390     0.1699   |   0.8330      0.5240
                        0.1860     0.2610   |   1.0130      0.5896
                        0.3750     0.3534   |   1.4130      0.5996
                        0.4340     0.3813   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (3341)     33.000     3.022      6.00      36.18
     OUTFLOW: ID= 1 (5334)     33.000     0.928      6.50      36.15

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.69
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5651

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.825    15.25    17.32
      + ID2= 2 (5334):    33.00   0.928     6.50    36.15
        ================================================
        ID = 3 (8314):   620.10   1.209     6.75    18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.445 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  15.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   4.421 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  39.488
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.540

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.078 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.027
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.351 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  38.894
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   5.078     8.00    32.03
      + ID2= 2 (0284):    78.93   2.351     6.50    38.89
        ================================================
        ID = 3 (8388):   528.31   6.886     7.25    33.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2861.0) ------>
              Distance      Elevation       Manning
                 0.00         233.00        0.0450
                20.58         228.51        0.0450
                41.17         227.74        0.0450
                51.46         227.41        0.0450
                97.77         225.96        0.0450
               149.23         223.94        0.0450
               200.69         220.84        0.0450
               226.42         220.66        0.0450
               238.85         220.22        0.0450
               241.35         220.01   0.0450 /0.0350  Main Channel
               241.85         219.70        0.0350      Main Channel
               245.85         219.72        0.0350      Main Channel
               246.35         220.06        0.0350      Main Channel
               248.85         220.23        0.0350      Main Channel
               303.60         221.64        0.0350      Main Channel
               380.79         224.98        0.0450
               432.25         229.54        0.0450
               457.98         233.33        0.0450
               483.71         234.27        0.0450
               509.44         233.81        0.0450

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.31  220.01   .382E+04        0.8         0.57       82.89
       1.06  220.76   .525E+05       12.1         0.66       72.51
       1.81  221.51   .240E+06       88.6         1.05       45.21
       2.56  222.26   .510E+06      261.7         1.46       32.47
       3.31  223.01   .843E+06      533.8         1.81       26.34
       4.06  223.76   .124E+07      913.6         2.10       22.64
       4.81  224.51   .171E+07     1399.0         2.34       20.33
       5.56  225.26   .225E+07     2051.0         2.60       18.27
       6.31  226.01   .285E+07     2907.0         2.91       16.35
       7.06  226.76   .352E+07     3902.5         3.16       15.04
       7.82  227.52   .426E+07     5069.9         3.39       14.01
       8.57  228.27   .507E+07     6433.0         3.62       13.13
       9.32  229.02   .593E+07     8069.2         3.89       12.24
      10.07  229.77   .681E+07     9926.7         4.16       11.44
      10.82  230.52   .772E+07    11962.8         4.42       10.75
      11.57  231.27   .864E+07    14167.1         4.68       10.17
      12.32  232.02   .959E+07    16537.1         4.92        9.66
      13.07  232.77   .105E+08    19070.7         5.16        9.22
      13.82  233.52   .115E+08    21790.4         5.39        8.82

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8388) 528.31     6.89    7.25  33.05      0.72      0.62
     OUTFLOW: ID= 1 (6286) 528.31     5.82    9.00  33.05      0.64      0.61

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51   4.421     7.50    39.49
      + ID2= 2 (6286):   528.31   5.824     9.00    33.05
        ================================================
        ID = 3 (8386):   788.82   9.844     8.50    35.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0302) |   Area    (ha)= 473.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   2.715 (i)
```

```
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  18.313
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.251

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0300)  |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   1.811 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.576
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0298)  |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.541 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.163
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   1.541     8.00    12.16
       + ID2= 2 (0300):   258.93   1.811     7.50    15.58
         ================================================
         ID = 3 (8395):   589.44   3.331     7.75    13.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0288)  |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   2.858 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  33.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.453

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0290)  |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   3.986 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  32.883
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   2.858     9.25    33.08
       + ID2= 2 (0290):   269.18   3.986     7.25    32.88
         ================================================
         ID = 3 (8397):   610.01   6.617     8.00    32.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0296)  |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.926 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  31.003
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0292)  |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   6.145 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  24.582
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0294)  |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.633
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   6.145     8.25    24.58
       + ID2= 2 (0294):   274.15   2.485     7.00    17.63
         ================================================
         ID = 3 (8398):  1012.64   8.463     8.00    22.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation       Manning
                  0.00         243.98        0.0400
                 42.59         243.18        0.0400
                 85.17         241.81        0.0400
                120.66         240.50        0.0400
                156.15         239.56        0.0400
                198.74         236.15        0.0400
                237.78         234.01        0.0400
                241.33         233.82        0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32        0.0400      Main Channel
                250.37         231.80        0.0400      Main Channel
                250.87         232.23        0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22        0.0400
                259.07         233.87        0.0400
                262.62         234.12        0.0400
                266.17         234.23        0.0400
                283.91         234.73        0.0400
```

```
            337.15        241.75        0.0400
            351.34        244.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.43   232.23    .510E+03        0.1         0.53      81.07
       0.87   232.67    .213E+04        0.7         0.83      51.49
       1.30   233.10    .501E+04        2.2         1.10      38.75
       1.98   233.78    .242E+05       12.6         1.34      31.93
       2.66   234.46    .738E+05       42.1         1.46      29.21
       3.34   235.14    .177E+06      127.9         1.84      23.13
       4.02   235.82    .314E+06      281.4         2.29      18.61
       4.70   236.50    .481E+06      509.4         2.71      15.73
       5.38   237.18    .672E+06      815.6         3.11      13.73
       6.06   237.86    .886E+06     1200.7         3.46      12.30
       6.74   238.54    .112E+07     1669.4         3.80      11.23
       7.42   239.22    .139E+07     2226.9         4.11      10.38
       8.10   239.90    .168E+07     2808.4         4.28       9.95
       8.78   240.58    .202E+07     3470.4         4.40       9.68
       9.46   241.26    .240E+07     4331.7         4.61       9.24
      10.14   241.94    .283E+07     5335.2         4.83       8.84
      10.82   242.62    .330E+07     6482.6         5.03       8.48
      11.50   243.30    .381E+07     7764.1         5.21       8.18
      12.18   243.98    .439E+07     9101.2         5.31       8.04

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     8.46    8.00  22.70      1.71      1.23
     OUTFLOW: ID= 1 (6296) 1012.64     8.22    8.50  22.70      1.69      1.22


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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   3.926     7.50    31.00
       + ID2= 2 (6296):  1012.64   8.218     8.50    22.70
         ================================================
         ID = 3 (8396):  1306.29  11.968     8.25    24.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  11.968     8.25    24.57
       + ID2= 2 (8397):   610.01   6.617     8.00    32.99
         ================================================
         ID = 3 (8394):  1916.30  18.538     8.00    27.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  18.538     8.00    27.25
       + ID2= 2 (8395):   589.44   3.331     7.75    13.66
         ================================================
         ID = 3 (8392):  2505.74  21.856     8.00    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   221.29    .228E+04        0.2         0.32     165.63
       0.59   221.59    .465E+04        0.7         0.45     116.15
       0.88   221.88    .713E+04        1.2         0.54      96.87
       1.18   222.18    .971E+04        1.9         0.61      86.20
       1.57   222.57    .175E+05        3.3         0.59      88.86
       1.97   222.97    .427E+05        6.4         0.47     111.39
       2.36   223.36    .115E+06       16.1         0.44     119.14
       2.76   223.76    .237E+06       37.1         0.49     106.49
       3.15   224.15    .409E+06       72.9         0.56      93.40
       3.55   224.55    .631E+06      127.0         0.63      82.76
       3.94   224.94    .903E+06      202.4         0.70      74.37
       4.34   225.34    .123E+07      301.8         0.77      67.68
       4.73   225.73    .160E+07      433.5         0.85      61.37
       5.13   226.13    .200E+07      602.2         0.95      55.29
       5.52   226.52    .242E+07      804.7         1.05      50.13
       5.92   226.92    .286E+07     1034.2         1.14      46.11
       6.31   227.31    .332E+07     1290.5         1.22      42.88
       6.71   227.71    .380E+07     1560.9         1.29      40.55
       7.10   228.10    .432E+07     1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    21.86    8.00  24.05      2.47      0.45
     OUTFLOW: ID= 1 (6302) 2505.74    17.19   10.25  24.05      2.38      0.44


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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   2.715     8.50    18.31
       + ID2= 2 (6302):  2505.74  17.189    10.25    24.05
         ================================================
         ID = 3 (8390):  2979.64  19.699    10.25    23.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   9.844     8.50    35.18
       + ID2= 2 (8390):  2979.64  19.699    10.25    23.14
         ================================================
         ID = 3 (8348):  3768.46  28.649     9.75    25.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.311 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  21.297
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.291

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   6.103 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  36.959
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB           |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   6.254 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.239
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.509

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.014 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  33.570
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.459

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   5.249 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  30.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.412

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0274):   392.49   5.249     7.50    30.08
      + ID2= 2 (0276):    90.89   2.014     6.75    33.57
        ================================================
        ID = 3 (8360):   483.38   7.141     7.00    30.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0278):   485.49   6.254     8.00    37.24
      + ID2= 2 (8360):   483.38   7.141     7.00    30.74
        ================================================
        ID = 3 (8358):   968.87  13.139     7.50    34.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2801.0) ------>
             Distance       Elevation       Manning
                0.00          241.14        0.0500
               13.32          240.80        0.0500
               39.95          240.07        0.0500
               96.54          236.21        0.0500
              113.19          234.15        0.0500
              123.18          232.35        0.0500
              143.15          225.80        0.0500
              149.81          225.62        0.0500
              153.14          225.40        0.0500
              157.30          224.76    0.0500 /0.0300  Main Channel
              159.80          224.26        0.0300      Main Channel
              162.30          224.85        0.0300      Main Channel
              162.55          224.97    0.0300 /0.0500  Main Channel
              167.80          225.05        0.0500
              186.43          229.14        0.0500
              213.06          234.75        0.0500
              236.37          237.09        0.0500
              266.33          237.31        0.0500
              292.96          237.83        0.0500
              329.58          241.50        0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
           0.50   224.76    .263E+04        0.8          0.65      58.31
           1.36   225.62    .278E+05       13.4          1.10      34.54
           2.22   226.48    .855E+05       52.6          1.40      27.09
           3.09   227.35    .157E+06      120.4          1.74      21.78
           3.95   228.21    .242E+06      216.3          2.04      18.64
           4.81   229.07    .340E+06      341.8          2.29      16.56
           5.67   229.93    .450E+06      498.3          2.52      15.06
           6.53   230.79    .574E+06      688.3          2.73      13.90
           7.40   231.66    .711E+06      913.8          2.93      12.97
           8.26   232.52    .861E+06     1173.4          3.11      12.23
           9.12   233.38    .103E+07     1461.3          3.24      11.72
           9.98   234.24    .121E+07     1793.3          3.37      11.26
          10.85   235.11    .142E+07     2141.0          3.45      11.02
          11.71   235.97    .165E+07     2530.4          3.50      10.86
          12.57   236.83    .192E+07     2954.0          3.51      10.81
          13.43   237.69    .226E+07     3160.3          3.18      11.93
          14.29   238.55    .271E+07     3869.4          3.26      11.67
          15.16   239.42    .320E+07     4740.3          3.38      11.24
          16.02   240.28    .373E+07     5688.4          3.48      10.92

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    13.14    7.50  34.00      1.34      1.08
     OUTFLOW: ID= 1 (6280)  968.87    12.85    8.00  34.00      1.32      1.06

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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0280):   299.86   6.103     7.00    36.96
      + ID2= 2 (6280):   968.87  12.849     8.00    34.00
        ================================================
        ID = 3 (8354):  1268.73  18.341     7.75    34.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.090 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  30.086
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.412

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   3.490 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.833
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807
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     PEAK FLOW       (cms)=   3.054 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  29.811
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   2.544 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  25.249
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   2.622 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  21.852
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0264):   353.96   2.544     8.25    25.25
      + ID2= 2 (0266):   508.09   2.622     9.25    21.85
        ================================================
        ID = 3 (8380):   862.05   5.142     8.50    23.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2681.0) ------>
              Distance      Elevation       Manning
                 0.00         274.03        0.0500
                10.55         272.73        0.0500
                21.10         271.28        0.0500
                50.12         266.83        0.0500
                87.04         260.36        0.0500
                92.32         260.06        0.0500
                94.95         259.93        0.0500
               101.00         256.87        0.0500
               103.00         256.58    0.0500 /0.0350  Main Channel
               104.00         256.32        0.0350      Main Channel
               106.00         256.05        0.0350      Main Channel
               108.00         256.25        0.0350      Main Channel
               110.78         256.65    0.0350 /0.0500  Main Channel
               113.42         256.81        0.0500
               116.06         257.00        0.0500
               155.62         260.24        0.0500
               187.27         263.35        0.0500
               211.01         267.22        0.0500
               224.20         269.60        0.0500
               261.13         272.68        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.53   256.58    .697E+04        2.1         0.97      55.64
        1.38   257.43    .477E+05       25.9         1.76      30.66
        2.22   258.27    .123E+06       84.3         2.22      24.26
        3.07   259.12    .231E+06      185.4         2.60      20.72
        3.92   259.97    .371E+06      335.8         2.92      18.42
        4.77   260.82    .560E+06      547.6         3.15      17.06
        5.61   261.66    .790E+06      845.6         3.46      15.57
        6.46   262.51    .106E+07     1225.0         3.75      14.37
        7.31   263.36    .136E+07     1693.3         4.02      13.37
        8.16   264.21    .169E+07     2283.2         4.35      12.36
        9.00   265.05    .206E+07     2969.1         4.66      11.54
        9.85   265.90    .245E+07     3754.4         4.96      10.86
       10.70   266.75    .286E+07     4643.0         5.24      10.28
       11.55   267.60    .331E+07     5636.1         5.50       9.78
       12.39   268.44    .378E+07     6746.2         5.76       9.34
       13.24   269.29    .428E+07     7972.2         6.01       8.96
       14.09   270.14    .482E+07     9218.9         6.18       8.71
       14.94   270.99    .539E+07    10550.5         6.32       8.52
       15.78   271.83    .601E+07    12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     5.14    8.50  23.25      0.64      1.03
     OUTFLOW: ID= 1 (6268)  862.05     5.00   10.00  23.25      0.63      1.02

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-------------------
| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   3.054     7.00    29.81
      + ID2= 2 (6268):   862.05   5.000    10.00    23.25
        ================================================
        ID = 3 (8382):  1077.81   7.285     8.75    24.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2701.0) ------>
              Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.45   234.34    .217E+04         0.7         0.99      52.83
        0.98   234.87    .966E+04         4.6         1.49      35.20
        1.50   235.39    .250E+05        13.7         1.73      30.41
        2.03   235.92    .475E+05        29.5         1.95      26.87
        2.56   236.45    .772E+05        52.5         2.14      24.50
        3.09   236.98    .142E+06        82.4         1.83      28.73
        3.61   237.50    .246E+06       158.1         2.03      25.91
        4.14   238.03    .357E+06       262.0         2.31      22.73
        4.67   238.56    .477E+06       392.1         2.59      20.27
        5.20   239.09    .604E+06       547.8         2.86      18.38
        5.72   239.61    .739E+06       729.2         3.11      16.90
        6.25   240.14    .882E+06       936.5         3.34      15.70
        6.78   240.67    .103E+07      1169.7         3.57      14.72
        7.31   241.20    .119E+07      1425.9         3.77      13.94
        7.83   241.72    .136E+07      1710.4         3.96      13.26
        8.36   242.25    .154E+07      1967.9         4.02      13.07
        8.89   242.78    .174E+07      2264.9         4.09      12.83
        9.42   243.31    .196E+07      2589.3         4.15      12.65
        9.94   243.83    .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     7.29    8.75  24.56      1.13      1.56
     OUTFLOW: ID= 1 (6270) 1077.81     7.18    9.25  24.56      1.13      1.55

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   3.490     7.25    35.83
      + ID2= 2 (6270):  1077.81   7.180     9.25    24.56
        ================================================
        ID = 3 (8384):  1321.42  10.209     8.75    26.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   4.455 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  37.033
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.507

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   5.038 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.154
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.508

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   1.930 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  33.887
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   3.102 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.314
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.387

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.749
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.990 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.662
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation         Manning
                0.00         276.07          0.0400
               11.68         273.71          0.0400
               23.36         271.35          0.0400
               29.19         270.30          0.0400
               35.03         269.44          0.0400
               55.47         267.90          0.0400
               78.82         266.24          0.0400
               90.50         265.63          0.0400
              102.18         265.40          0.0400
              105.10         264.95    0.0400 /0.0350  Main Channel
              108.02         264.39         0.0350     Main Channel
              110.94         264.72         0.0350     Main Channel
              113.86         265.19    0.0350 /0.0400  Main Channel
              116.78         265.49          0.0400
              143.05         268.24          0.0400
              172.25         270.53          0.0400
              207.28         271.95          0.0400
              233.55         273.72          0.0400
              256.91         274.98          0.0400
              289.02         275.97          0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.56   264.95    .723E+04         1.9          0.90      62.51
        1.14   265.53    .307E+05        13.5          1.49      37.92
        1.72   266.11    .951E+05        48.6          1.73      32.62
        2.30   266.69    .191E+06       117.8          2.09      27.03
        2.88   267.27    .314E+06       225.2          2.43      23.24
        3.46   267.85    .464E+06       375.5          2.74      20.59
        4.04   268.43    .641E+06       573.2          3.03      18.62
        4.62   269.01    .846E+06       821.9          3.29      17.15
        5.20   269.59    .108E+07      1135.0          3.56      15.87
        5.78   270.17    .134E+07      1525.1          3.86      14.64
        6.36   270.75    .162E+07      1971.1          4.12      13.71
        6.94   271.33    .194E+07      2474.0          4.33      13.04
        7.52   271.91    .228E+07      3065.0          4.55      12.42
        8.10   272.49    .266E+07      3773.4          4.80      11.75
        8.68   273.07    .306E+07      4566.3          5.05      11.17
        9.26   273.65    .348E+07      5443.7          5.30      10.66
        9.84   274.23    .393E+07      6389.6          5.51      10.25
       10.42   274.81    .440E+07      7426.2          5.72       9.88
       11.00   275.39    .490E+07      8490.1          5.86       9.63

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     1.99    8.00  16.66      0.56      0.90
     OUTFLOW: ID= 1 (6256)  403.00     1.87    9.75  16.66      0.54      0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0256):   145.79   1.174     8.00    23.75
      + ID2= 2 (6256):   403.00   1.869     9.75    16.66
        ================================================
        ID = 3 (8370):   548.79   2.934     9.25    18.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930
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```
     PEAK FLOW      (cms)=   1.508 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=  25.980
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0246)  |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW      (cms)=   2.778 (i)
     TIME TO PEAK   (hrs)=  10.000
     RUNOFF VOLUME   (mm)=  16.720
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0248)  |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW      (cms)=   1.326 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  21.646
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0246):   759.61   2.778    10.00    16.72
      + ID2= 2 (0248):   146.04   1.326     7.25    21.65
        ================================================
        ID = 3 (8364):   905.65   3.933     8.25    17.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                 0.00         269.96        0.0500
                 8.56         268.55        0.0500
                17.13         266.91        0.0500
                21.41         266.13        0.0500
                40.68         263.15        0.0500
                62.09         260.75        0.0500
                85.64         258.02        0.0500
                88.20         257.69        0.0500
                93.20         257.05    0.0500 /0.0350  Main Channel
                93.45         256.88        0.0350      Main Channel
                94.20         256.56        0.0350      Main Channel
                94.95         256.83        0.0350      Main Channel
                95.20         257.08    0.0350 /0.0500  Main Channel
               100.62         257.45        0.0500
               115.61         258.57        0.0500
               139.16         260.43        0.0500
               152.01         261.95        0.0500
               171.27         264.63        0.0500
               188.40         267.90        0.0500
               211.95         274.18        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.49   257.05    .205E+04         0.4          0.68       89.65
       1.17   257.73    .248E+05         5.7          0.85       72.16
       1.85   258.41    .841E+05        25.2          1.10       55.60
       2.53   259.09    .180E+06        66.5          1.36       45.14
       3.21   259.77    .312E+06       135.7          1.60       38.36
       3.89   260.45    .481E+06       238.3          1.82       33.61
       4.57   261.13    .681E+06       383.5          2.07       29.60
       5.25   261.81    .911E+06       568.9          2.29       26.70
       5.93   262.49    .117E+07       800.5          2.51       24.36
       6.61   263.17    .146E+07      1079.0          2.72       22.49
       7.28   263.84    .177E+07      1413.4          2.94       20.85
       7.96   264.52    .210E+07      1797.0          3.14       19.50
       8.64   265.20    .246E+07      2241.6          3.35       18.28
       9.32   265.88    .283E+07      2739.9          3.55       17.25
      10.00   266.56    .323E+07      3295.7          3.75       16.34
      10.68   267.24    .364E+07      3908.9          3.94       15.54
      11.36   267.92    .408E+07      4578.5          4.12       14.84
      12.04   268.60    .453E+07      5320.1          4.32       14.18
      12.72   269.28    .499E+07      6109.1          4.50       13.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8364)  905.65     3.93    8.25  17.51      0.94      0.78
     OUTFLOW: ID= 1 (6250)  905.65     3.66   10.25  17.51      0.90      0.77

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0250):   192.88   1.508     8.00    25.98
      + ID2= 2 (6250):   905.65   3.662    10.25    17.51
        ================================================
        ID = 3 (8366):  1098.53   5.036    10.00    19.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8366):  1098.53   5.036    10.00    19.00
      + ID2= 2 (8370):   548.79   2.934     9.25    18.54
        ================================================
        ID = 3 (8368):  1647.32   7.940     9.75    18.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0252):   319.99   3.102     8.00    28.31
      + ID2= 2 (8368):  1647.32   7.940     9.75    18.85
        ================================================
        ID = 3 (8372):  1967.31  10.760     9.00    20.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2581.0) ------>
             Distance      Elevation       Manning
                 0.00         252.88        0.0500
                15.47         251.89        0.0500
                46.41         248.45        0.0500
                73.48         245.81        0.0500
                88.95         243.75        0.0500
               112.15         242.00        0.0500
               135.35         240.23        0.0500
               162.42         239.76        0.0500
               170.97         239.52    0.0500 /0.0350  Main Channel
               171.58         239.03        0.0350      Main Channel
               174.02         239.03        0.0350      Main Channel
               176.46         239.03        0.0350      Main Channel
               177.07         239.52    0.0350 /0.0500  Main Channel
               185.63         239.67        0.0500
               208.83         239.87        0.0500
               239.77         240.14        0.0500
               274.57         244.93        0.0500
               336.45         249.51        0.0500
               363.52         249.77        0.0500
               382.85         251.78        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.49   239.52    .135E+05         2.5          0.92       91.32
       1.14   240.17    .175E+06        25.6          0.73      114.22
       1.78   240.81    .532E+06       123.5          1.17       71.85
       2.43   241.46    .932E+06       285.3          1.54       54.48
       3.07   242.10    .138E+07       506.5          1.85       45.25
       3.72   242.75    .186E+07       786.8          2.12       39.42
       4.36   243.39    .239E+07      1127.3          2.37       35.33
```

5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8372)	1967.31	10.76	9.00	20.39	0.72	0.84
OUTFLOW: ID= 1 (6258)	1967.31	9.73	11.25	20.39	0.69	0.85

ADD HYD (8374)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0258):	181.99	1.930	8.00	33.89
+ ID2= 2 (6258):	1967.31	9.734	11.25	20.39
ID = 3 (8374):	2149.30	11.262	11.00	21.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0260):	476.24	5.038	8.00	37.15
+ ID2= 2 (8374):	2149.30	11.262	11.00	21.53
ID = 3 (8376):	2625.54	15.711	10.25	24.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0262):	341.31	4.455	7.75	37.03
+ ID2= 2 (8376):	2625.54	15.711	10.25	24.37
ID = 3 (8378):	2966.85	19.393	10.00	25.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8378):	2966.85	19.393	10.00	25.82
+ ID2= 2 (8384):	1321.42	10.209	8.75	26.64
ID = 3 (8362):	4288.27	29.326	9.50	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8362)	4288.27	29.33	9.50	26.07	1.84	0.81
OUTFLOW: ID= 1 (6272)	4288.27	28.76	10.25	26.07	1.83	0.81

ADD HYD (8356)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0272):	157.38	2.090	7.50	30.09
+ ID2= 2 (6272):	4288.27	28.759	10.25	26.07
ID = 3 (8356):	4445.65	30.243	10.00	26.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8354):	1268.73	18.341	7.75	34.70
+ ID2= 2 (8356):	4445.65	30.243	10.00	26.22
ID = 3 (8352):	5714.38	45.383	8.75	28.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.00	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	220.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43

```
      2.56   220.93    .708E+06     109.5          0.58     107.67
      3.25   221.62    .118E+07     224.3          0.71      87.36
      3.94   222.31    .168E+07     376.5          0.84      74.48
      4.63   223.00    .222E+07     567.9          0.96      65.26
      5.32   223.69    .279E+07     794.7          1.07      58.58
      6.02   224.39    .339E+07    1056.2          1.17      53.52
      6.71   225.08    .402E+07    1352.4          1.26      49.52
      7.40   225.77    .468E+07    1677.3          1.34      46.46
      8.09   226.46    .536E+07    2050.0          1.43      43.58
      8.79   227.16    .607E+07    2457.9          1.52      41.14
      9.48   227.85    .680E+07    2901.0          1.60      39.05
     10.17   228.54    .755E+07    3352.7          1.66      37.53
     10.86   229.23    .834E+07    3812.5          1.71      36.48
     11.55   229.92    .919E+07    4241.8          1.73      36.13
     12.25   230.62    .101E+08    4697.0          1.74      35.93
     12.94   231.31    .111E+08    5186.3          1.74      35.83

                                 <---- hydrograph ---->  <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8352) 5714.38    45.38    8.75  28.10      1.91      0.48
OUTFLOW: ID= 1 (6304) 5714.38    37.83   11.50  28.10      1.80      0.47


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| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.311    10.25    21.30
      + ID2= 2 (6304):  5714.38  37.830    11.50    28.10
        ================================================
        ID = 3 (8350):  6006.75  39.122    11.25    27.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  28.649     9.75    25.66
      + ID2= 2 (8350):  6006.75  39.122    11.25    27.77
        ================================================
        ID = 3 (8346):  9775.21  66.196    10.75    26.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.445    13.75    15.32
      + ID2= 2 (8346):  9775.21  66.196    10.75    26.96
        ================================================
        ID = 3 (8344): 10059.18  66.598    10.75    26.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (8344)    ********     66.598     10.75      26.63
OUTFLOW: ID= 1 (5509)    ********     45.744     15.25      26.63

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 68.69
               TIME SHIFT OF PEAK FLOW         (min)=270.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 76.3485

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-------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

    Unit Hyd Qpeak  (cms)=   2.894

    PEAK FLOW       (cms)=   2.902 (i)
    TIME TO PEAK    (hrs)=   9.750
    RUNOFF VOLUME    (mm)=  30.269
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.414

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

    Unit Hyd Qpeak  (cms)=   7.335

    PEAK FLOW       (cms)=   7.311 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  34.924
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.478

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3321.0) ------>
               Distance      Elevation       Manning
                   0.00         234.00        0.0380
                  25.85         227.20        0.0380
                  96.94         226.44        0.0380
                 168.03         227.38        0.0380
                 219.73         225.62        0.0380
                 342.52         221.57        0.0380
                 368.37         221.42        0.0380
                 374.83         221.23        0.0380
                 379.79         220.98     0.0380 /0.0300  Main Channel
                 380.29         220.47        0.0300       Main Channel
                 381.29         220.47        0.0300       Main Channel
                 382.79         220.47        0.0300       Main Channel
                 383.29         220.98     0.0300 /0.0380  Main Channel
                 394.22         221.22        0.0380
                 400.68         221.33        0.0380
                 407.14         221.44        0.0380
                 491.16         225.70        0.0380
                 568.71         227.55        0.0380
                 607.49         230.14        0.0380
                 639.80         234.08        0.0380

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.51    220.98    .554E+04        0.9         0.56      107.27
       1.20    221.67    .885E+05       12.1         0.49      122.32
       1.88    222.35    .309E+06       64.7         0.76       79.70
       2.57    223.04    .615E+06      165.4         0.97       61.99
       3.25    223.72    .101E+07      322.1         1.16       52.06
       3.94    224.41    .148E+07      542.9         1.33       45.51
       4.62    225.09    .204E+07      835.4         1.48       40.77
       5.31    225.78    .269E+07     1202.8         1.62       37.27
       5.99    226.46    .344E+07     1618.0         1.70       35.46
       6.68    227.15    .447E+07     1932.0         1.56       38.56
       7.36    227.83    .580E+07     2763.9         1.72       34.96
       8.05    228.52    .718E+07     3861.9         1.95       30.97
       8.73    229.20    .859E+07     5115.4         2.16       27.98
       9.42    229.89    .100E+08     6519.2         2.35       25.64
      10.10    230.57    .115E+08     8092.3         2.55       23.69
      10.79    231.26    .130E+08     9821.5         2.73       22.05
      11.47    231.94    .145E+08    11690.9         2.92       20.68
      12.16    232.63    .160E+08    13694.9         3.09       19.52
      12.84    233.31    .176E+08    15833.9         3.26       18.52

                                 <---- hydrograph ---->  <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0330)  468.30     7.31    7.50  34.92      0.90      0.52
OUTFLOW: ID= 1 (6332)  468.30     5.57    9.75  34.92      0.80      0.53


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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   2.902     9.75    30.27
      + ID2= 2 (6332):   468.30   5.567     9.75    34.92
        ================================================
        ID = 3 (8322):   861.74   8.469     9.75    32.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0328) |   Area     (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   4.508 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  32.087
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0326) |   Area     (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   6.697 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  35.107
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0324) |   Area     (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   6.021 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0320) |   Area     (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   3.792 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  36.087
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.494

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3182) |   Area     (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   5.284 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.999
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.451

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3181) |   Area     (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.06         4.94
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    416.33        40.00

     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        50.01
           over (min)     =     15.00        30.00
     Storage Coeff.  (min)=      7.51 (ii)   21.62 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.13         0.33         5.342 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     71.10        32.21        63.71
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.44         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  77.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3800      0.7654
                          0.0510     0.4423   |   4.1500      0.8231
                          0.8700     0.5378   |   4.8750      0.8778
                          1.9590     0.6105   |   5.2750      0.8878
                          2.5620     0.6796   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000      5.342      6.00       63.71
     OUTFLOW: ID= 1 (5318)     26.000      2.943      6.25       63.63

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.08
               TIME SHIFT OF PEAK FLOW       (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7756

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40    5.284     8.00    33.00
       + ID2= 2 (5318):    26.00    2.943     6.25    63.63
         ================================================
         ID = 3 (8334):   483.40    6.378     6.25    34.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (3201.0) ------>
              Distance      Elevation       Manning
                 0.00         249.00        0.0380
                22.92         245.86        0.0380
                45.83         244.87        0.0380
                91.66         243.11        0.0380
               126.03         239.53        0.0380
               160.41         237.17        0.0380
               166.14         237.06        0.0380
               177.59         237.13        0.0380
               183.32         237.20        0.0380
               189.05         236.70    0.0380 /0.0350  Main Channel
               193.05         235.89        0.0350      Main Channel
               197.05         236.64    0.0350 /0.0380  Main Channel
               200.51         236.74        0.0380
               206.24         237.03        0.0380
               246.34         238.82        0.0380
               263.53         243.87        0.0380
               389.56         247.64        0.0380
               452.58         247.74        0.0380
               498.41         248.60        0.0380
               567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.37   236.26    .270E+04        0.4         0.58     107.96
      0.75   236.64    .108E+05        2.6         0.92      68.01
      1.48   237.37    .877E+05       27.4         1.17      53.35
      2.20   238.09    .277E+06      122.1         1.65      37.83
      2.93   238.82    .540E+06      299.7         2.08      30.01
      3.66   239.55    .857E+06      587.8         2.57      24.29
      4.39   240.28    .120E+07      977.8         3.04      20.52
      5.11   241.00    .158E+07     1458.1         3.46      18.02
```

5.84	241.73	.198E+07	2028.6	3.84	16.23
6.57	242.46	.240E+07	2690.5	4.19	14.86
7.29	243.18	.285E+07	3431.8	4.50	13.84
8.02	243.91	.335E+07	4149.1	4.64	13.44
8.75	244.64	.393E+07	4746.6	4.51	13.80
9.47	245.36	.463E+07	5618.6	4.53	13.75
10.20	246.09	.545E+07	6781.8	4.66	13.39
10.93	246.82	.635E+07	8274.5	4.87	12.79
11.66	247.55	.733E+07	9988.0	5.10	12.23
12.38	248.27	.853E+07	11422.0	5.01	12.45
13.11	249.00	.989E+07	13749.7	5.20	11.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8334)	483.40	6.38	6.25	34.65	0.86	0.95
OUTFLOW: ID= 1 (6320)	483.40	5.21	9.00	34.65	0.82	0.94

ADD HYD (8332)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0320):	278.74	3.792	8.00	36.09
	+ ID2= 2 (6320):	483.40	5.207	9.00	34.65
	ID = 3 (8332):	762.14	8.824	8.50	35.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0314)	Area (ha)= 165.20	Curve Number (CN)= 78.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.71		

Unit Hyd Qpeak (cms)= 3.978

PEAK FLOW (cms)= 3.404 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 32.624
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.446

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6316)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3161.0) ------>

Distance	Elevation	Manning	
0.00	248.54	0.0350	
27.93	248.34	0.0350	
41.89	246.61	0.0350	
62.83	243.09	0.0350	
132.65	239.00	0.0350	
188.50	236.74	0.0350	
195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0314)	165.20	3.40	6.75	32.62	0.74	1.34
OUTFLOW: ID= 1 (6316)	165.20	3.22	7.25	32.62	0.71	1.27

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 82.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 4.118 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 37.068
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0316):	232.34	4.118	7.25	37.07
	+ ID2= 2 (6316):	165.20	3.215	7.25	32.62
	ID = 3 (8338):	397.54	7.333	7.25	35.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 80.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 4.750 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 35.011
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.479

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 3.491 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 20.621
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 65.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 1.788 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 22.291
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.305

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   3.491     8.25    20.62
      + ID2= 2 (0310):   138.28   1.788     7.00    22.29
        ====================================================
        ID = 3 (8342):   667.58   5.034     7.75    20.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation        Manning
                 0.00         265.94         0.0360
                38.07         265.43         0.0360
                59.82         263.98         0.0360
               103.32         254.59         0.0360
               157.70         252.16         0.0360
               217.52         250.45         0.0360
               233.84         247.69         0.0360
               234.71         247.27         0.0360
               239.71         246.38         0.0360
               244.71         246.12    0.0360 /0.0330  Main Channel
               247.71         245.17         0.0330      Main Channel
               249.71         245.19         0.0330      Main Channel
               251.71         245.64    0.0330 /0.0360  Main Channel
               259.71         246.67         0.0360
               282.78         247.12         0.0360
               315.41         251.60         0.0360
               424.17         256.13         0.0360
               478.55         257.04         0.0360
               516.62         259.37         0.0360
               538.37         266.00         0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.47   245.64    .111E+04       3.1          1.78       6.07
       1.54   246.71    .103E+05      53.9          3.39       3.19
       2.61   247.78    .414E+05     281.3          4.40       2.45
       3.68   248.85    .839E+05     749.1          5.79       1.87
       4.74   249.91    .136E+06    1463.2          6.97       1.55
       5.81   250.98    .201E+06    2354.8          7.61       1.42
       6.88   252.05    .295E+06    3533.0          7.76       1.39
       7.95   253.12    .427E+06    5303.9          8.05       1.34
       9.02   254.19    .594E+06    7856.5          8.58       1.26
      10.09   255.26    .792E+06   11449.2          9.37       1.15
      11.15   256.32    .101E+07   15862.4         10.15       1.06
      12.22   257.39    .127E+07   21074.5         10.75       1.01
      13.29   258.46    .155E+07   28184.1         11.78       0.92
      14.36   259.53    .185E+07   36386.2         12.77       0.85
      15.43   260.60    .215E+07   46110.6         13.89       0.78
      16.50   261.67    .246E+07   56822.5         14.95       0.72
      17.56   262.73    .278E+07   68498.1         15.97       0.68
      18.63   263.80    .310E+07   81118.8         16.94       0.64
      19.70   264.87    .344E+07   93603.2         17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8342)  667.58    5.03    7.75  20.97     0.51      1.81
    OUTFLOW: ID= 1 (6312)  667.58    5.03    8.00  20.97     0.51      1.81
```

```
--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   4.750     8.00    35.01
      + ID2= 2 (6312):   667.58   5.033     8.00    20.97
        ====================================================
        ID = 3 (8340):  1027.02   9.783     8.00    25.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   7.333     7.25    35.22
      + ID2= 2 (8340):  1027.02   9.783     8.00    25.88
        ====================================================
        ID = 3 (8336):  1424.56  16.950     7.50    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   8.824     8.50    35.17
      + ID2= 2 (8336):  1424.56  16.950     7.50    28.49
        ====================================================
        ID = 3 (8330):  2186.70  25.333     7.75    30.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation        Manning
                 0.00         234.38         0.0360
                33.57         232.48         0.0360
                67.14         230.14         0.0360
                83.93         228.80         0.0360
               134.29         227.62         0.0360
               209.82         225.10         0.0360
               218.21         224.86         0.0360
               226.61         224.47         0.0360
               234.00         223.86    0.0360 /0.0300  Main Channel
               234.10         223.66         0.0300      Main Channel
               235.00         223.66         0.0300      Main Channel
               235.90         223.66         0.0300      Main Channel
               236.00         223.86    0.0300 /0.0360  Main Channel
               243.39         224.92         0.0360
               251.78         224.89         0.0360
               335.71         225.64         0.0360
               562.32         226.53         0.0360
               637.85         228.36         0.0360
               705.00         229.80         0.0360
               830.89         234.00         0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.86    .145E+04       0.2          0.43     147.27
       0.73   224.39    .159E+05       2.8          0.68      93.11
       1.27   224.93    .561E+05      11.0          0.75      85.19
       1.80   225.46    .217E+06      45.6          0.80      79.20
       2.33   225.99    .566E+06     134.4          0.91      70.20
       2.87   226.53    .122E+07     338.1          1.06      59.97
       3.40   227.06    .206E+07     744.3          1.38      46.16
       3.94   227.60    .298E+07    1295.9          1.66      38.38
       4.47   228.13    .399E+07    1979.9          1.90      33.59
       5.00   228.66    .509E+07    2807.5          2.11      30.21
       5.54   229.20    .627E+07    3815.1          2.32      27.41
       6.07   229.73    .753E+07    4984.1          2.53      25.17
       6.60   230.26    .884E+07    6346.3          2.74      23.20
       7.14   230.80    .102E+08    7861.2          2.95      21.61
       7.67   231.33    .116E+08    9526.4          3.14      20.29
       8.21   231.87    .131E+08   11342.2          3.32      19.18
       8.74   232.40    .146E+08   13309.6          3.49      18.22
       9.27   232.93    .161E+08   15414.0          3.66      17.41
       9.81   233.47    .177E+08   17671.0          3.81      16.70

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.70    25.33    7.75  30.82     1.49      0.77
    OUTFLOW: ID= 1 (6324) 2186.70    21.73    9.50  30.82     1.43      0.76
```

```
--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0324):   615.64   6.021     8.75    34.06
      + ID2= 2 (6324):  2186.70  21.726     9.50    30.82
        ====================================================
        ID = 3 (8328):  2802.34  27.648     9.50    31.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   5.538 (i)
     TIME TO PEAK    (hrs)=   8.500
```

```
     RUNOFF VOLUME    (mm)=  35.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   5.538     8.50    35.08
      + ID2= 2 (8328):  2802.34  27.648     9.50    31.53
        ================================================
        ID = 3 (8326):  3315.47  32.995     9.50    32.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   6.697     8.75    35.11
      + ID2= 2 (8326):  3315.47  32.995     9.50    32.08
        ================================================
        ID = 3 (8324):  3994.38  39.647     9.25    32.59
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.50   218.64    .373E+05         3.2         0.33     192.37
       1.00   219.14    .752E+05        10.1         0.51     124.71
       1.52   219.66    .149E+06        22.2         0.57     112.06
       2.04   220.18    .279E+06        43.4         0.59     107.06
       2.56   220.70    .464E+06        77.0         0.63     100.52
       3.08   221.22    .705E+06       125.7         0.68      93.56
       3.61   221.75    .100E+07       192.7         0.73      86.62
       4.13   222.27    .135E+07       278.1         0.79      80.92
       4.65   222.79    .176E+07       385.9         0.84      75.86
       5.17   223.31    .222E+07       514.9         0.89      71.82
       5.69   223.83    .280E+07       662.7         0.90      70.40
       6.21   224.35    .345E+07       867.7         0.96      66.35
       6.73   224.87    .417E+07      1107.0         1.01      62.81
       7.25   225.39    .494E+07      1400.0         1.08      58.80
       7.78   225.92    .573E+07      1732.2         1.15      55.17
       8.30   226.44    .655E+07      2099.9         1.22      52.02
       8.82   226.96    .740E+07      2502.8         1.29      49.29
       9.34   227.48    .828E+07      2940.9         1.36      46.90
       9.86   228.00    .918E+07      3414.3         1.42      44.79

                                <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8324) 3994.38    39.65    9.25  32.59      1.95      0.59
     OUTFLOW: ID= 1 (6328) 3994.38    33.85   11.00  32.59      1.81      0.58
```

```
-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0328):   492.92   4.508     8.75    32.09
      + ID2= 2 (6328):  3994.38  33.850    11.00    32.59
        ================================================
        ID = 3 (8320):  4487.30  37.891    11.00    32.54
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  37.891    11.00    32.54
      + ID2= 2 (8322):   861.74   8.469     9.75    32.80
        ================================================
        ID = 3 (8318):  5349.04  46.022    10.75    32.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  45.744    15.25    26.63
      + ID2= 2 (8318):  5349.04  46.022    10.75    32.58
        ================================================
        ID = 3 (8316): 15408.22  86.971    11.75    28.69
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   1.209     6.75    18.32
      + ID2= 2 (8316): 15408.22  86.971    11.75    28.69
        ================================================
        ID = 3 (8312): 16028.32  87.875    11.75    28.29
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90  27.843     6.50    36.29
      + ID2= 2 (8312): 16028.32  87.875    11.75    28.29
        ================================================
        ID = 3 (8308): 16627.22  89.765    11.50    28.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     74.0090
                         66.5450    18.5023   |  *******    ********
                         98.5430    37.0045   |  *******    ********

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8308)  ********     89.765     11.50      28.58
     OUTFLOW: ID= 1 (5510)  ********     85.396     13.25      28.58

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.13
               TIME SHIFT OF PEAK FLOW        (min)=105.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 29.4137
```

```
-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   3.370    22.25    27.75
      + ID2= 2 (5510): 16627.22  85.396    13.25    28.58
        ================================================
        ID = 3 (8240): 19412.22  88.298    13.50    28.47
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
```

```
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  42.683    12.25    17.78
      + ID2= 2 (8240): 19412.22  88.298    13.50    28.47
        ================================================
        ID = 3 (8238): 28936.45 130.148    12.75    24.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   3.660    10.00    16.26
      + ID2= 2 (8238): 28936.45 130.148    12.75    24.95
        ================================================
        ID = 3 (8236): 29941.03 133.430    12.75    24.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   8.040     6.00    24.37
      + ID2= 2 (8236): 29941.03 133.430    12.75    24.66
        ================================================
        ID = 3 (8234): 30226.83 133.766    12.75    24.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   3.342     7.00    18.72
      + ID2= 2 (8234): 30226.83 133.766    12.75    24.65
        ================================================
        ID = 3 (8230): 30570.83 134.707    12.75    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06  11.133     8.75    15.62
      + ID2= 2 (8230): 30570.83 134.707    12.75    24.59
        ================================================
        ID = 3 (8228): 32522.89 141.797    12.50    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   4.610     8.00    12.58
      + ID2= 2 (8228): 32522.89 141.797    12.50    24.05
        ================================================
        ID = 3 (8190): 33538.11 144.663    12.25    23.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  13 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\f574c8d3
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.57 |  3.25    2.51 |'  6.25   11.29 |  9.25    2.19
               0.50    1.57 |  3.50    2.51 |'  6.50   11.29 |  9.50    2.19
               0.75    1.57 |  3.75    2.51 |'  6.75    5.02 |  9.75    2.19
               1.00    1.57 |  4.00    2.51 |'  7.00    5.02 | 10.00    2.19
               1.25    1.57 |  4.25    3.76 |'  7.25    3.76 | 10.25    1.25
               1.50    1.57 |  4.50    3.76 |'  7.50    3.76 | 10.50    1.25
               1.75    1.57 |  4.75    5.02 |'  7.75    3.76 | 10.75    1.25
               2.00    1.57 |  5.00    5.02 |'  8.00    3.76 | 11.00    1.25
               2.25    1.88 |  5.25    7.52 |'  8.25    2.19 | 11.25    1.25
               2.50    1.88 |  5.50    7.52 |'  8.50    2.19 | 11.50    1.25
               2.75    1.88 |  5.75   30.10 |'  8.75    2.19 | 11.75    1.25
               3.00    1.88 |  6.00   82.76 |'  9.00    2.19 | 12.00    1.25

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   3.392 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   9.295
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.148

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.631 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.749
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.108

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980

    PEAK FLOW       (cms)=   2.453 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.980
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.191

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   6.254

    PEAK FLOW       (cms)=   3.349 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.771
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.315

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   5.831

    PEAK FLOW       (cms)=   1.564 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=   9.910
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.158

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
     OUTFLOW: ID= 1 (5510)   ********    105.320     13.75      38.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.90
                   TIME SHIFT OF PEAK FLOW          (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 44.9262

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   4.639    22.25    38.20
       + ID2= 2 (5510): 16627.22 105.320    13.75    38.94
         ================================================
         ID = 3 (8240): 19412.22 109.428    14.00    38.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  56.167    11.75    25.09
       + ID2= 2 (8240): 19412.22 109.428    14.00    38.84
         ================================================
         ID = 3 (8238): 28936.45 163.719    13.00    34.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   5.230    10.00    23.19
       + ID2= 2 (8238): 28936.45 163.719    13.00    34.32
         ================================================
         ID = 3 (8236): 29941.03 168.365    12.75    33.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80  10.972     6.50    32.52
       + ID2= 2 (8236): 29941.03 168.365    12.75    33.94
         ================================================
         ID = 3 (8234): 30226.83 168.774    12.50    33.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.771     7.00    26.48
       + ID2= 2 (8234): 30226.83 168.774    12.50    33.93
         ================================================
         ID = 3 (8230): 30570.83 170.215    12.50    33.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  15.927     8.75    22.21
       + ID2= 2 (8230): 30570.83 170.215    12.50    33.84
         ================================================
         ID = 3 (8228): 32522.89 180.663    12.00    33.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   6.685     8.00    18.15
       + ID2= 2 (8228): 32522.89 180.663    12.00    33.15
         ================================================
         ID = 3 (8190): 33538.11 185.041    12.00    32.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  11 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\9255d239
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
               0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
               0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
               1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
               1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
               1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
               1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
               2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
               2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
               2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
               2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
               3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   5.609 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.056 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.232
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.018 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.394
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   5.278 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.777
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.381
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   2.583 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  16.221
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   2.683 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.307
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                0.00         287.00        0.0500
               23.66         283.72        0.0500
               70.98         280.94        0.0500
              112.38         280.23        0.0500
              171.52         276.80        0.0500
              260.24         274.46        0.0500
              266.16         274.26        0.0500
              272.07         274.12        0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82        0.0300      Main Channel
              277.99         273.82        0.0300      Main Channel
              279.49         273.82        0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27        0.0500
              289.81         274.57        0.0500
              325.30         275.75        0.0500
              396.28         278.98        0.0500
              449.51         280.97        0.0500
              496.83         283.90        0.0500
              585.54         287.92        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
       0.30   274.12   .273E+04        0.9          0.99      49.81
       0.98   274.80   .583E+05       20.8          1.05      46.71
       1.66   275.48   .283E+06       95.2          1.38      35.53
       2.33   276.15   .438E+06      256.0          1.73      28.50
       3.01   276.83   .755E+06      524.8          2.05      23.97
       3.69   277.51   .114E+07      935.8          2.43      20.26
       4.37   278.19   .157E+07     1472.0          2.76      17.82
       5.05   278.87   .206E+07     2140.7          3.06      16.06
       5.72   279.54   .261E+07     2938.6          3.33      14.79
       6.40   280.22   .321E+07     3887.6          3.57      13.77
       7.08   280.90   .390E+07     4795.4          3.63      13.56
       7.76   281.58   .468E+07     6196.2          3.91      12.58
       8.43   282.25   .550E+07     7803.9          4.19      11.74
       9.11   282.93   .637E+07     9601.9          4.45      11.05
       9.79   283.61   .728E+07    11594.8          4.70      10.46
      10.47   284.29   .823E+07    13845.3          4.96       9.91
      11.15   284.97   .922E+07    16293.4          5.21       9.43
      11.82   285.64   .103E+08    18952.0          5.45       9.02
      12.50   286.32   .113E+08    21824.3          5.69       8.65

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     2.68    9.00  16.31      0.36      0.99
     OUTFLOW: ID= 1 (6350)  590.18     2.62   10.25  16.31      0.36      0.99

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0350):   366.84    2.583     7.50    16.22
        + ID2= 2 (6350):   590.18    2.617    10.25    16.31
          ================================================
          ID = 3 (8220):   957.02    4.788     8.75    16.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0346):   350.93    5.278     7.25    30.78
        + ID2= 2 (8220):   957.02    4.788     8.75    16.27
          ================================================
          ID = 3 (8222):  1307.95    9.701     8.00    20.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
       0.60   239.41   .224E+04        2.2          1.52      17.12
       1.58   240.39   .216E+05       22.3          1.61      16.16
       2.55   241.36   .804E+05      101.0          1.96      13.27
       3.53   242.34   .173E+06      275.6          2.48      10.46
       4.50   243.31   .293E+06      553.9          2.95       8.80
       5.48   244.29   .438E+06      961.8          3.42       7.60
       6.45   245.26   .599E+06     1534.4          3.99       6.51
       7.43   246.24   .770E+06     2228.4          4.51       5.76
       8.41   247.22   .951E+06     3043.6          4.98       5.21
       9.38   248.19   .114E+07     3982.1          5.43       4.78
      10.36   249.17   .134E+07     5040.1          5.85       4.44
      11.33   250.14   .155E+07     6218.5          6.24       4.16
      12.31   251.12   .177E+07     7518.6          6.61       3.93
      13.29   252.10   .200E+07     8969.0          6.98       3.72
      14.26   253.07   .224E+07    10554.1          7.35       3.53
      15.24   254.05   .248E+07    12257.1          7.71       3.37
      16.21   255.02   .272E+07    14045.1          8.03       3.23
      17.19   256.00   .298E+07    15954.8          8.34       3.11
      18.16   256.97   .325E+07    17780.4          8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     9.70    8.00  20.17      0.97      1.55
     OUTFLOW: ID= 1 (6352) 1307.95     9.63    8.25  20.17      0.96      1.55

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0352):   381.43    4.018     7.00    19.39
        + ID2= 2 (6352):  1307.95    9.633     8.25    20.17
          ================================================
          ID = 3 (8224):  1689.38   13.278     7.75    19.99
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<-------- DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	13.28	7.75	19.99	1.52	1.15
OUTFLOW: ID= 1 (6354)	1689.38	12.41	8.75	19.99	1.45	1.14

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-------------------
| ADD HYD   (8226) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	1.056	8.00	11.23
+ ID2= 2 (6354):	1689.38	12.412	8.75	19.99
ID = 3 (8226):	1952.06	13.442	8.75	18.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area     (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   4.034 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.484
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area     (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	65.69	168.91
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1250.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	21.15
over (min)	15.00	45.00
Storage Coeff. (min)=	13.95 (ii)	33.87 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.07	0.03

		TOTALS
PEAK FLOW (cms)=	6.78	5.80	9.169 (iii)
TIME TO PEAK (hrs)=	6.00	6.50	6.00
RUNOFF VOLUME (mm)=	78.80	19.31	27.04
TOTAL RAINFALL (mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT =	0.98	0.24	0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB            |
| STANDHYD  (3401) |   Area     (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	23.55	27.65
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	584.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	49.39
over (min)	15.00	30.00
Storage Coeff. (min)=	8.84 (ii)	23.02 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.09	0.04

		TOTALS
PEAK FLOW (cms)=	2.78	1.79	3.900 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	78.80	22.56	34.37
TOTAL RAINFALL (mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT =	0.98	0.28	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |
-------------------
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.3360	1.7877
0.1730	0.6348	7.2780	2.2185
1.8360	0.8250	9.1880	2.6486
2.1540	1.1051	9.5880	2.6586
3.3950	1.3506	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3401)	51.200	3.900	6.00	34.37
OUTFLOW: ID= 1 (5340)	51.200	1.657	6.50	34.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.48
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.8094

```
-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3402):	234.60	9.169	6.00	27.04
+ ID2= 2 (5340):	51.20	1.657	6.50	34.35
ID = 3 (8232):	285.80	9.337	6.50	28.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0342)	Area (ha)=1004.58	Curve Number (CN)= 54.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.57		

Unit Hyd Qpeak (cms)= 6.686

PEAK FLOW (cms)= 4.420 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 19.616
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0422)	Area (ha)= 780.20	Curve Number (CN)= 54.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.95		

Unit Hyd Qpeak (cms)= 6.838

PEAK FLOW (cms)= 4.215 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 19.591
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.242

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0410)	Area (ha)= 572.01	Curve Number (CN)= 48.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.46		

Unit Hyd Qpeak (cms)= 6.698

PEAK FLOW (cms)= 3.210 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 16.276
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.201

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0408)	Area (ha)= 231.62	Curve Number (CN)= 58.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.64		

Unit Hyd Qpeak (cms)= 6.198

PEAK FLOW (cms)= 3.331 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 21.683
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0376)	Area (ha)= 463.85	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.07		

Unit Hyd Qpeak (cms)= 7.380

PEAK FLOW (cms)= 7.184 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 34.493
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0374)	Area (ha)= 545.70	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.51		

Unit Hyd Qpeak (cms)= 6.158

PEAK FLOW (cms)= 4.432 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 23.989
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.297

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0372)	Area (ha)= 110.42	Curve Number (CN)= 37.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.96		

Unit Hyd Qpeak (cms)= 1.954

PEAK FLOW (cms)= 0.576 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 11.182
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.138

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0370)	Area (ha)= 191.85	Curve Number (CN)= 63.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.67		

Unit Hyd Qpeak (cms)= 4.860

PEAK FLOW (cms)= 3.080 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 25.072
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.310

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0368)	Area (ha)= 159.48	Curve Number (CN)= 46.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 1.020 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 15.231
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.189

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0366)	Area (ha)= 462.62	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.06		

Unit Hyd Qpeak (cms)= 7.451

PEAK FLOW (cms)= 5.064 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 24.589
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.304

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0364)	Area (ha)= 155.27	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 1.891 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 19.909
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.246

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0364):   155.27   1.891     6.75    19.91
       + ID2= 2 (0366):   462.62   5.064     7.50    24.59
         ================================================
         ID = 3 (8302):   617.89   6.881     7.25    23.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.13        92.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    889.87        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        18.31
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     11.38 (ii)   32.47 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                        *TOTALS*
     PEAK FLOW      (cms)=      2.28         2.82          3.434 (iii)
     TIME TO PEAK   (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME   (mm)=     78.80        17.25         22.18
     TOTAL RAINFALL  (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT  =      0.98         0.21          0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW      (cms)=   1.973 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  10.392
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT  =   0.129

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW      (cms)=   1.427 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  15.028
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT  =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   1.973     7.50    10.39
       + ID2= 2 (0360):   138.37   1.427     6.75    15.03
         ================================================
         ID = 3 (8306):   568.24   3.321     7.00    11.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation        Manning
                  0.00         261.46         0.0550
                 27.86         254.23         0.0550
                 51.07         251.96         0.0550
                 74.29         250.77         0.0550
                 97.50         249.91         0.0550
                125.36         249.40         0.0550
                150.93         247.40         0.0550
                155.93         247.33     0.0550 /0.0350  Main Channel
                157.93         246.85         0.0350      Main Channel
                159.18         246.65         0.0350      Main Channel
                160.18         246.63         0.0350      Main Channel
                160.93         246.85         0.0350      Main Channel
                161.93         247.18     0.0350 /0.0550  Main Channel
                163.18         248.03         0.0550
                168.18         248.58         0.0550
                183.18         250.18         0.0550
                201.97         252.59         0.0550
                213.57         256.02         0.0550
                225.18         260.31         0.0550
                229.82         261.00         0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE      VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)          (m/s)       (min)
        0.55   247.18    .556E+04         1.9           1.03       49.95
        1.28   247.91    .336E+05        16.7           1.53       33.61
        2.00   248.63    .913E+05        53.6           1.81       28.40
        2.73   249.36    .185E+06       122.3           2.05       25.18
        3.46   250.09    .344E+06       224.6           2.02       25.52
        4.19   250.82    .574E+06       417.9           2.25       22.91
        4.91   251.54    .855E+06       699.1           2.53       20.38
        5.64   252.27    .118E+07      1075.3           2.82       18.26
        6.37   253.00    .153E+07      1559.9           3.15       16.38
        7.10   253.73    .191E+07      2137.6           3.46       14.89
        7.82   254.45    .231E+07      2815.2           3.77       13.67
        8.55   255.18    .272E+07      3608.5           4.10       12.58
        9.28   255.91    .315E+07      4488.2           4.41       11.69
       10.01   256.64    .358E+07      5458.0           4.71       10.95
       10.73   257.36    .403E+07      6512.4           4.99       10.32
       11.46   258.09    .449E+07      7649.8           5.27        9.78
       12.19   258.82    .496E+07      8869.5           5.53        9.32
       12.92   259.55    .544E+07     10171.2           5.78        8.91
       13.64   260.27    .593E+07     11554.8           6.02        8.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8306)  568.24     3.32    7.00  11.52      0.62      1.07
    OUTFLOW: ID= 1 (6362)  568.24     2.94    8.25  11.52      0.60      1.06

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78   3.434     6.00    22.18
       + ID2= 2 (6362):   568.24   2.938     8.25    11.52
         ================================================
         ID = 3 (8304):   687.02   4.850     6.50    13.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   6.881     7.25    23.41
       + ID2= 2 (8304):   687.02   4.850     6.50    13.36
         ================================================
         ID = 3 (8300):  1304.91  11.147     7.00    18.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3681.0) ------>
               Distance      Elevation        Manning
                  0.00         230.00         0.0370
                 18.48         223.26         0.0370
                 36.96         223.05         0.0370
                 64.67         222.94         0.0370
                110.87         222.86         0.0370
```

```
              133.96        222.74        0.0370
              147.82        222.65        0.0370
              170.92        222.31        0.0370
              174.79        222.26    0.0370 /0.0300  Main Channel
              174.89        221.86        0.0300      Main Channel
              175.54        221.86        0.0300      Main Channel
              176.19        221.86        0.0300      Main Channel
              176.29        222.26    0.0300 /0.0370  Main Channel
              180.16        222.25        0.0370
              184.78        222.28        0.0370
              189.40        222.31        0.0370
              332.60        222.37        0.0370
              450.00        230.00        0.0370

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.40   222.26    .771E+03         0.3          0.52       41.74
       0.81   222.67    .784E+05        30.3          0.51       43.17
       1.21   223.07    .210E+06       123.2          0.77       28.42
       1.62   223.48    .384E+06       301.0          1.03       21.25
       2.03   223.89    .563E+06       550.2          1.28       17.06
       2.44   224.30    .747E+06       860.7          1.51       14.46
       2.84   224.70    .934E+06      1228.1          1.73       12.68
       3.25   225.11    .113E+07      1649.3          1.92       11.37
       3.66   225.52    .132E+07      2122.3          2.11       10.37
       4.07   225.93    .152E+07      2645.5          2.29        9.58
       4.47   226.33    .172E+07      3217.8          2.45        8.92
       4.88   226.74    .193E+07      3838.3          2.61        8.38
       5.29   227.15    .214E+07      4506.3          2.76        7.92
       5.70   227.56    .236E+07      5221.3          2.91        7.52
       6.10   227.96    .258E+07      5983.0          3.05        7.17
       6.51   228.37    .280E+07      6790.9          3.19        6.87
       6.92   228.78    .303E+07      7645.0          3.32        6.60
       7.33   229.19    .326E+07      8545.1          3.45        6.35
       7.73   229.59    .349E+07      9491.0          3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    11.15    7.00  18.12      0.55       0.52
     OUTFLOW: ID= 1 (6368) 1304.91    10.16    8.00  18.12      0.53       0.52


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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0368):   159.48    1.020     7.75    15.23
      + ID2= 2 (6368):  1304.91   10.162     8.00    18.12
        ==========================================
        ID = 3 (8298):  1464.39  11.178     8.00    17.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85    3.080     6.75    25.07
      + ID2= 2 (8298):  1464.39  11.178     8.00    17.81
        ==========================================
        ID = 3 (8296):  1656.24  13.707     7.75    18.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation       Manning
                0.00         225.00        0.0390
               30.80         219.38        0.0390
               61.61         219.30        0.0390
               77.01         219.27        0.0390
              469.76         219.14        0.0390
              477.46         219.13        0.0390
              485.16         219.10        0.0390
              492.86         219.09        0.0390
              495.56         219.09    0.0390 /0.0310  Main Channel
              495.66         218.51        0.0310      Main Channel
              500.56         218.51        0.0310      Main Channel
              505.46         218.51        0.0310      Main Channel
              505.56         219.09    0.0310 /0.0390  Main Channel
              508.26         219.09        0.0390
              515.96         219.10        0.0390
              523.67         219.21        0.0390
              562.17         219.32        0.0390
              654.58         219.43        0.0390
              731.59         219.46        0.0390
              762.39         225.00        0.0390

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.29   218.80    .431E+04         1.7          0.58       43.48
       0.58   219.09    .867E+04         5.1          0.89       28.32
       0.93   219.44    .200E+06        58.2          0.44       57.35
       1.28   219.79    .568E+06       278.6          0.74       33.99
       1.62   220.13    .939E+06       630.2          1.01       24.84
       1.97   220.48    .131E+07      1090.4          1.25       20.05
       2.32   220.83    .169E+07      1647.7          1.47       17.06
       2.67   221.18    .206E+07      2294.6          1.68       14.99
       3.01   221.52    .244E+07      3025.6          1.87       13.46
       3.36   221.87    .282E+07      3836.5          2.05       12.27
       3.71   222.22    .321E+07      4723.7          2.22       11.31
       4.06   222.57    .359E+07      5684.6          2.39       10.53
       4.40   222.91    .398E+07      6716.6          2.55        9.87
       4.75   223.26    .437E+07      7817.7          2.70        9.31
       5.10   223.61    .476E+07      8986.2          2.85        8.83
       5.45   223.96    .515E+07     10220.4          2.99        8.40
       5.79   224.30    .555E+07     11519.1          3.13        8.03
       6.14   224.65    .594E+07     12880.8          3.27        7.69
       6.49   225.00    .634E+07     14304.5          3.40        7.39

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    13.71    7.75  18.65      0.64       0.76
     OUTFLOW: ID= 1 (6372) 1656.24    13.13    8.50  18.65      0.63       0.77


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42    0.576     7.25    11.18
      + ID2= 2 (6372):  1656.24  13.134     8.50    18.65
        ==========================================
        ID = 3 (8294):  1766.66  13.657     8.50    18.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70    4.432     8.25    23.99
      + ID2= 2 (8294):  1766.66  13.657     8.50    18.18
        ==========================================
        ID = 3 (8292):  2312.36  18.064     8.50    19.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |    (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360    18.064     8.50      19.55
     OUTFLOW: ID= 1 (5505)   2312.360    13.246    11.25      19.55

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.32
               TIME SHIFT OF PEAK FLOW          (min)=165.00
               MAXIMUM  STORAGE   USED        (ha.m.)= 12.8339

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85    7.184     7.25    34.49
      + ID2= 2 (5505):  2312.36  13.246    11.25    19.55
        ==========================================
        ID = 3 (8272):  2776.21  17.737    10.25    22.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   4.047 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  29.979
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   3.012 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.867
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.233

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   3.688 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.072
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   2.265 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.891
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   2.901 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.835
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   2.901     7.00    23.84
      + ID2= 2 (0388):   220.77   2.265     7.25    21.89
        ================================================
        ID = 3 (8286):   462.04   5.164     7.25    22.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.336 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.242
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.618 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  12.271
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.645 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.713
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   1.618     6.50    12.27
      + ID2= 2 (0382):   216.59   2.645     6.75    18.71
        ================================================
        ID = 3 (8290):   398.60   4.252     6.75    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (3841.0) ------>
                 Distance      Elevation        Manning
                    0.00         294.40         0.0380
                   10.59         291.93         0.0380
                   21.17         289.19         0.0380
                   26.46         287.99         0.0380
                   31.76         286.79         0.0380
                   71.45         279.97         0.0380
                   74.10         279.79         0.0380
                   76.74         279.71         0.0380
                   78.99         279.64    0.0380 /0.0300  Main Channel
                   79.14         279.30         0.0300      Main Channel
                   79.39         279.30         0.0300      Main Channel
                   79.64         279.30         0.0300      Main Channel
                   79.79         279.64    0.0300 /0.0380  Main Channel
                   89.98         279.78         0.0380
                  119.09         281.86         0.0380
                  145.55         282.87         0.0380
                  198.48         284.85         0.0380
                  211.71         286.31         0.0380
                  230.23         287.59         0.0380
                  261.99         294.00         0.0380

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.34	279.64	.715E+03	0.2	0.85	63.42
1.10	280.40	.507E+05	21.9	1.40	38.54
1.85	281.15	.141E+06	91.8	2.10	25.69
2.61	281.91	.269E+06	218.9	2.63	20.46
3.36	282.66	.445E+06	407.1	2.96	18.23
4.12	283.42	.681E+06	698.3	3.31	16.26
4.87	284.17	.977E+06	1111.8	3.68	14.65
5.63	284.93	.133E+07	1674.3	4.06	13.27
6.39	285.69	.173E+07	2457.8	4.59	11.73
7.14	286.44	.215E+07	3378.8	5.07	10.63
7.90	287.20	.261E+07	4418.4	5.47	9.85
8.65	287.95	.310E+07	5676.3	5.92	9.11
9.41	288.71	.361E+07	7150.5	6.40	8.42
10.17	289.47	.414E+07	8783.1	6.86	7.86
10.92	290.22	.469E+07	10575.1	7.30	7.38
11.68	290.98	.525E+07	12520.4	7.72	6.98
12.43	291.73	.582E+07	14619.0	8.12	6.64
13.19	292.49	.642E+07	16863.2	8.50	6.34
13.94	293.24	.703E+07	19259.8	8.86	6.08

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8290)	398.60	4.25	6.75	15.77	0.48	0.92
OUTFLOW: ID= 1 (6384)	398.60	3.34	8.00	15.77	0.45	0.90

ADD HYD (8288)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8384):	199.07	1.336	7.25	14.24
+ ID2= 2 (6384):	398.60	3.339	8.00	15.77
ID = 3 (8288):	597.67	4.648	7.75	15.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8284)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8286):	462.04	5.164	7.25	22.91
+ ID2= 2 (8288):	597.67	4.648	7.75	15.26
ID = 3 (8284):	1059.71	9.705	7.50	18.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8280)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0390):	420.00	3.688	7.50	20.07
+ ID2= 2 (8284):	1059.71	9.705	7.50	18.59
ID = 3 (8280):	1479.71	13.393	7.50	19.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0392)	Area (ha)= 167.22	Curve Number (CN)= 62.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.74			

Unit Hyd Qpeak (cms)= 3.837

PEAK FLOW (cms)= 2.409 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 24.429
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.302

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0378)	Area (ha)= 606.72	Curve Number (CN)= 55.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 1.18			

Unit Hyd Qpeak (cms)= 8.771

PEAK FLOW (cms)= 4.960 (i)
TIME TO PEAK (hrs)= 7.750

RUNOFF VOLUME (mm)= 20.097
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.249

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0378):	606.72	4.960	7.75	20.10
+ ID2= 2 (0392):	167.22	2.409	7.00	24.43
ID = 3 (8282):	773.94	7.226	7.25	21.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8278)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8280):	1479.71	13.393	7.50	19.01
+ ID2= 2 (8282):	773.94	7.226	7.25	21.03
ID = 3 (8278):	2253.65	20.600	7.50	19.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3941.0) ------>

Distance	Elevation	Manning	
0.00	283.00	0.0380	
13.48	282.87	0.0380	
53.92	280.08	0.0380	
74.13	276.62	0.0380	
97.72	265.45	0.0380	
114.57	256.93	0.0380	
131.42	253.04	0.0380	
134.79	252.58	0.0380	
138.53	251.74	0.0380 /0.0300	Main Channel
139.03	251.20	0.0300	Main Channel
141.53	251.20	0.0300	Main Channel
144.03	251.20	0.0300	Main Channel
144.53	251.74	0.0300 /0.0380	Main Channel
148.27	252.69	0.0380	
151.64	252.97	0.0380	
185.34	255.08	0.0380	
219.03	257.54	0.0380	
262.84	259.43	0.0380	
310.02	262.80	0.0380	
333.60	283.00	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	251.74	.827E+04	4.5	1.51	30.71
2.19	253.39	.758E+05	73.2	2.69	17.27
3.83	255.03	.282E+06	331.8	3.27	14.17
5.48	256.68	.633E+06	917.3	4.03	11.51
7.12	258.32	.112E+07	1889.5	4.69	9.90
8.77	259.97	.179E+07	3410.2	5.31	8.73
10.41	261.61	.259E+07	5627.6	6.05	7.66
12.06	263.26	.351E+07	8605.1	6.83	6.79
13.70	264.90	.447E+07	12544.9	7.81	5.94
15.35	266.55	.546E+07	17101.4	8.71	5.32
16.99	268.19	.648E+07	22251.7	9.56	4.85
18.64	269.84	.752E+07	27979.0	10.36	4.48
20.28	271.48	.858E+07	34269.0	11.11	4.17
21.93	273.13	.967E+07	41119.8	11.83	3.92
23.57	274.77	.108E+08	48495.9	12.51	3.71
25.22	276.42	.119E+08	56418.1	13.17	3.52
26.86	278.06	.131E+08	64410.6	13.69	3.39
28.51	279.71	.143E+08	73002.1	14.18	3.27
30.15	281.35	.156E+08	81379.3	14.50	3.20

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8278)	2253.65	20.60	7.50	19.71	0.93	1.68
OUTFLOW: ID= 1 (6394)	2253.65	20.08	8.00	19.71	0.91	1.68

ADD HYD (8276)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   3.012     7.25    18.87
      + ID2= 2 (6394):  2253.65  20.077     8.00    19.71
        ================================================
        ID = 3 (8276):  2579.10  22.946     8.00    19.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3961.0) ------>
             Distance      Elevation       Manning
                0.00         263.00        0.0410
               11.75         257.14        0.0410
               23.50         253.97        0.0410
               41.13         247.83        0.0410
               76.38         232.09        0.0410
              135.13         229.07        0.0410
              149.82         228.97        0.0410
              152.75         228.96    0.0410 /0.0300  Main Channel
              154.19         228.73        0.0300      Main Channel
              154.69         228.20        0.0300      Main Channel
              155.69         228.20        0.0300      Main Channel
              156.69         228.20        0.0300      Main Channel
              157.19         228.73        0.0300      Main Channel
              158.63         228.95    0.0300 /0.0410  Main Channel
              161.57         228.96        0.0410
              164.51         229.71        0.0410
              196.82         241.70        0.0410
              223.26         249.21        0.0410
              246.76         255.13        0.0410
              290.82         263.51        0.0410

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98      58.06
       2.54   230.74    .277E+06       145.1          1.78      31.76
       4.33   232.53    .786E+06       609.1          2.63      21.50
       6.13   234.33    .140E+07      1481.5          3.59      15.77
       7.92   236.12    .207E+07      2677.3          4.39      12.90
       9.71   237.91    .280E+07      4184.8          5.09      11.14
      11.50   239.70    .357E+07      6001.4          5.71       9.93
      13.29   241.49    .441E+07      8129.1          6.27       9.03
      15.09   243.29    .530E+07     10549.4          6.77       8.37
      16.88   245.08    .625E+07     13300.6          7.24       7.83
      18.67   246.87    .726E+07     16396.2          7.68       7.38
      20.46   248.66    .834E+07     19809.8          8.07       7.02
      22.26   250.46    .949E+07     23532.5          8.43       6.72
      24.05   252.25    .107E+08     27641.2          8.77       6.46
      25.84   254.04    .120E+08     32155.2          9.10       6.22
      27.63   255.83    .134E+08     36901.0          9.37       6.05
      29.42   257.62    .149E+08     42147.7          9.64       5.88
      31.22   259.42    .164E+08     48149.1          9.97       5.68
      33.01   261.21    .181E+08     54644.8         10.29       5.51

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    22.95    8.00  19.60      1.01      1.04
    OUTFLOW: ID= 1 (6396) 2579.10    20.73    9.00  19.60      0.98      1.04


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   4.047     7.50    29.98
      + ID2= 2 (6396):  2579.10  20.733     9.00    19.60
        ================================================
        ID = 3 (8274):  2884.31  24.211     9.00    20.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  17.737    10.25    22.05
      + ID2= 2 (8274):  2884.31  24.211     9.00    20.70
        ================================================
        ID = 3 (8270):  5660.52  41.092     9.25    21.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520     41.092      9.25       21.36
    OUTFLOW: ID= 1 (5506)   5660.520     32.437     12.00       21.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.94
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 27.4808

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0406) |   Area     (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.779 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  27.183
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0404) |   Area     (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.795 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.696
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0402) |   Area     (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.567 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.900
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0400) |   Area     (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.483 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.889
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0398) |   Area     (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   3.522 (i)
```

```
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.985
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   3.522     7.00    19.99
      + ID2= 2 (0400):    93.97   1.483     6.50    17.89
        ================================================
        ID = 3 (8268):   422.16   4.864     6.75    19.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4021.0) ------>
             Distance      Elevation       Manning
                0.00         238.50        0.0360
               11.50         238.00        0.0360
               23.00         237.93        0.0360
               34.49         236.39        0.0360
               63.24         233.98        0.0360
               97.73         228.15        0.0360
              123.60         227.08        0.0360
              126.48         226.61        0.0360
              127.60         226.47    0.0360 /0.0330  Main Channel
              127.85         225.25        0.0330      Main Channel
              129.35         225.25        0.0330      Main Channel
              130.85         225.25        0.0330      Main Channel
              131.10         226.47    0.0330 /0.0360  Main Channel
              132.22         226.59        0.0360
              143.72         227.42        0.0360
              169.59         227.88        0.0360
              192.59         231.19        0.0360
              218.46         233.02        0.0360
              241.45         235.50        0.0360
              284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
       0.41   225.66    .391E+04         1.7          1.36      38.31
       0.81   226.06    .804E+04         5.0          1.93      27.02
       1.22   226.47    .124E+05         9.1          2.30      22.61
       1.84   227.09    .308E+05        23.3          2.36      22.03
       2.46   227.71    .904E+05        62.0          2.14      24.31
       3.09   228.34    .223E+06       188.3          2.63      19.75
       3.71   228.96    .379E+06       410.2          3.38      15.39
       4.33   229.58    .550E+06       711.5          4.04      12.89
       4.95   230.20    .737E+06      1091.3          4.62      11.25
       5.58   230.83    .939E+06      1550.6          5.15      10.10
       6.20   231.45    .116E+07      2072.4          5.59       9.31
       6.82   232.07    .140E+07      2659.2          5.93       8.77
       7.44   232.69    .167E+07      3345.8          6.27       8.30
       8.07   233.32    .195E+07      4159.0          6.64       7.83
       8.69   233.94    .226E+07      5100.8          7.03       7.39
       9.31   234.56    .259E+07      6081.3          7.32       7.11
       9.93   235.18    .295E+07      7183.1          7.60       6.84
      10.56   235.81    .334E+07      8145.2          7.62       6.83
      11.18   236.43    .379E+07      9116.0          7.51       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.86    6.75  19.52      0.80      1.90
     OUTFLOW: ID= 1 (6402)  422.16     4.63    7.25  19.52      0.77      1.84
```

```
-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00   2.567     7.50    23.90
      + ID2= 2 (6402):   422.16   4.628     7.25    19.52
        ================================================
        ID = 3 (8266):   666.16   7.186     7.25    21.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   1.795     7.25    15.70
      + ID2= 2 (8266):   666.16   7.186     7.25    21.12
        ================================================
        ID = 3 (8264):   912.62   8.981     7.25    19.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   2.779     6.50    27.18
      + ID2= 2 (8264):   912.62   8.981     7.25    19.66
        ================================================
        ID = 3 (8262):  1055.27  11.503     7.25    20.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  32.437    12.00    21.36
      + ID2= 2 (8262):  1055.27  11.503     7.25    20.68
        ================================================
        ID = 3 (8260):  6715.79  37.738    10.25    21.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   3.331     6.75    21.68
      + ID2= 2 (8260):  6715.79  37.738    10.25    21.25
        ================================================
        ID = 3 (8258):  6947.41  39.031    10.25    21.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   3.210     8.25    16.28
      + ID2= 2 (8258):  6947.41  39.031    10.25    21.27
        ================================================
        ID = 3 (8256):  7519.42  41.844    10.25    20.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (8256)   7519.421     41.844     10.25       20.89
     OUTFLOW: ID= 1 (5507)   7519.421     40.140     11.75       20.89

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.93
               TIME SHIFT OF PEAK FLOW         (min)= 90.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 12.6987
```

```
-------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   1.800 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.821
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.233
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0418)  |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   2.136 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  26.026
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0416)  |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   4.419 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  26.090
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0412)  |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   2.551 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.387
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4141)  |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.73        27.97
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    539.75        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        62.65
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     8.43 (ii)   21.33 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     1.95         2.39         3.467 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=    78.80        31.64         39.66
     TOTAL RAINFALL   (mm)=    80.80        80.80         80.80
     RUNOFF COEFFICIENT   =     0.98         0.39          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| RESERVOIR (5414)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   3.4720      1.9177
                        0.3820     0.3152   |   3.8720      1.9277
                        1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)    43.700     3.467     6.00       39.66
     OUTFLOW: ID= 1 (5414)    43.700     1.932     6.50       39.65

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.72
               TIME SHIFT OF PEAK FLOW          (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.5610

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (4142)  |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min  |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30       114.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    980.82        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        50.20
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.06 (ii)   26.15 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     3.39         7.05         8.447 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=    78.80        28.93         33.92
     TOTAL RAINFALL   (mm)=    80.80        80.80         80.80
     RUNOFF COEFFICIENT   =     0.98         0.36          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254)  |
|   1 +  2 =   3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4142):   144.30   8.447     6.25    33.92
      + ID2= 2 (5414):    43.70   1.932     6.50    39.65
        ================================================
        ID = 3 (8254):   188.00  10.322     6.25    35.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252)  |
|   1 +  2 =   3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70   2.551     7.00    19.39
      + ID2= 2 (8254):   188.00  10.322     6.25    35.25
        ================================================
        ID = 3 (8252):   426.70  12.418     6.25    26.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
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             <------ DATA FOR SECTION (4161.0) ------>
            Distance      Elevation       Manning
               0.00         270.07        0.0340
              20.67         267.91        0.0340
              62.01         264.33        0.0340
             113.69         259.75        0.0340
             165.37         253.30        0.0340
             227.38         246.29        0.0340
             232.55         246.03        0.0340
             237.72         246.16        0.0340
             241.39         246.02    0.0340 /0.0300  Main Channel
             241.64         245.75        0.0300      Main Channel
             242.89         245.75        0.0300      Main Channel
             244.14         245.75        0.0300      Main Channel
             244.39         246.02    0.0300 /0.0340  Main Channel
             248.06         246.20        0.0340
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              253.22        246.28        0.0340
              258.39        246.63        0.0340
              346.25        252.57        0.0340
              413.43        257.77        0.0340
              465.11        261.78        0.0340
              511.62        270.00        0.0340

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.27   246.02   .295E+04        0.6         0.75       88.26
        1.53   247.28   .168E+06       69.7         1.65       40.13
        2.79   248.54   .490E+06      299.5         2.42       27.28
        4.06   249.81   .962E+06      740.1         3.05       21.67
        5.32   251.07   .158E+07     1440.0         3.61       18.33
        6.58   252.33   .235E+07     2443.8         4.12       16.06
        7.84   253.59   .327E+07     3811.2         4.63       14.30
        9.10   254.85   .432E+07     5565.1         5.11       12.94
       10.37   256.12   .550E+07     7721.3         5.57       11.88
       11.63   257.38   .682E+07    10309.9         6.00       11.02
       12.89   258.64   .827E+07    13360.6         6.42       10.31
       14.15   259.90   .985E+07    16884.5         6.81        9.72
       15.42   261.17   .116E+08    20818.4         7.14        9.26
       16.68   262.43   .134E+08    25510.4         7.53        8.78
       17.94   263.69   .154E+08    30958.0         7.97        8.30
       19.20   264.95   .175E+08    36988.3         8.38        7.89
       20.46   266.21   .197E+08    43617.1         8.78        7.53
       21.73   267.48   .220E+08    50868.1         9.17        7.22
       22.99   268.74   .244E+08    58854.0         9.56        6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.70    12.42    6.25  26.38      0.49      0.83
     OUTFLOW: ID= 1 (6416)  426.70     5.93    7.25  26.38      0.37      0.78


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| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   4.419     8.00    26.09
       + ID2= 2 (6416):   426.70   5.929     7.25    26.38
         ================================================
         ID = 3 (8250):   866.00  10.218     7.25    26.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   182.79   2.136     7.50    26.03
       + ID2= 2 (8250):   866.00  10.218     7.25    26.23
         ================================================
         ID = 3 (8248):  1048.79  12.352     7.25    26.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.800     7.00    18.82
       + ID2= 2 (8248):  1048.79  12.352     7.25    26.20
         ================================================
         ID = 3 (8246):  1224.61  14.132     7.25    25.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  40.140    11.75    20.89
       + ID2= 2 (8246):  1224.61  14.132     7.25    25.14
         ================================================
         ID = 3 (8244):  8744.03  48.352    10.50    21.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0422):   780.20   4.215     9.00    19.59
       + ID2= 2 (8244):  8744.03  48.352    10.50    21.48
         ================================================
         ID = 3 (8242):  9524.23  52.389    10.50    21.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  ******     197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)    9524.231    52.389     10.50      21.33
     OUTFLOW: ID= 1 (5508)    9524.231    50.303     12.00      21.33

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.02
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED        (ha.m.)= 20.2951

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| CALIB            |
| NASHYD    (0336) |   Area     (ha)=2785.00   Curve Number    (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.992 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  32.865
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area     (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58        331.32
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1872.43         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         67.85
                over (min)       15.00         45.00
     Storage Coeff.  (min)=       17.78 (ii)    30.27 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       17.87         23.62       29.867 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50        6.50
     RUNOFF VOLUME    (mm)=       78.80         33.63       41.31
     TOTAL RAINFALL   (mm)=       80.80         80.80       80.80
     RUNOFF COEFFICIENT   =        0.98          0.42        0.51

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area     (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       35.77         37.23
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      697.61         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         84.70
                over (min)       15.00         30.00
     Storage Coeff.  (min)=        9.83 (ii)    21.26 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
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     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.22         4.33          7.010 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        36.58          46.29
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.45           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3350      1.2400
                          0.3230     0.3074   |   4.3560      1.3520
                          0.9360     0.5374   |   5.3290      1.4590
                          1.7590     0.8302   |   5.7290      1.4690
                          2.4110     1.0550   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     7.010      6.00      46.29
     OUTFLOW: ID= 1 (5338)     73.000     3.356      6.50      46.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.87
                TIME SHIFT OF PEAK FLOW       (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2583

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| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   525.90  29.867     6.50    41.31
       + ID2= 2 (5338):    73.00   3.356     6.50    46.29
         ==============================================
         ID = 3 (8310):   598.90  33.223     6.50    41.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.993 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  20.856
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.258

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83         16.17
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    469.04         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         51.83
           over (min)          15.00         30.00
     Storage Coeff.  (min)=     7.75 (ii)     21.66 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=     2.74          1.13          3.444 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=    78.80         24.48          41.32
     TOTAL RAINFALL   (mm)=    80.80         80.80          80.80
     RUNOFF COEFFICIENT   =     0.98          0.30           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6540      0.4604
                          0.0390     0.1699   |   0.8330      0.5249
                          0.1860     0.2610   |   1.0130      0.5896
                          0.3750     0.3534   |   1.4130      0.5996
                          0.4340     0.3813   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     3.444      6.00      41.32
     OUTFLOW: ID= 1 (5334)     33.000     1.579      6.50      41.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.84
                TIME SHIFT OF PEAK FLOW       (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6194

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| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   587.10   0.993    15.25    20.86
       + ID2= 2 (5334):    33.00   1.579     6.50    41.29
         ==============================================
         ID = 3 (8314):   620.10   1.884     6.50    21.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.538 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  18.507
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   5.156 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  45.890
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.568

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.992 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.664
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.746 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  45.199
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.559

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   5.992     8.00    37.66
      + ID2= 2 (0284):    78.93   2.746     6.50    45.20
        ================================================
        ID = 3 (8388):   528.31   8.107     7.25    38.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.31  220.01    .382E+04       0.8         0.57       82.89
       1.06  220.76    .525E+05      12.1         0.66       72.51
       1.81  221.51    .240E+06      88.6         1.05       45.21
       2.56  222.26    .510E+06     261.7         1.46       32.47
       3.31  223.01    .843E+06     533.8         1.81       26.34
       4.06  223.76    .124E+07     913.6         2.10       22.64
       4.81  224.51    .171E+07    1399.0         2.34       20.33
       5.56  225.26    .225E+07    2051.0         2.60       18.27
       6.31  226.01    .285E+07    2907.0         2.91       16.35
       7.06  226.76    .352E+07    3902.5         3.16       15.04
       7.82  227.52    .426E+07    5069.9         3.39       14.01
       8.57  228.27    .507E+07    6433.0         3.62       13.13
       9.32  229.02    .593E+07    8069.2         3.89       12.24
      10.07  229.77    .681E+07    9926.7         4.16       11.44
      10.82  230.52    .772E+07   11962.8         4.42       10.75
      11.57  231.27    .864E+07   14167.1         4.68       10.17
      12.32  232.02    .959E+07   16537.1         4.92        9.66
      13.07  232.77    .105E+08   19070.7         5.16        9.22
      13.82  233.52    .115E+08   21790.4         5.39        8.82

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8388)  528.31     8.11    7.25  38.79      0.80      0.62
    OUTFLOW: ID= 1 (6286)  528.31     6.86    9.00  38.79      0.71      0.62

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| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51   5.156     7.50    45.89
      + ID2= 2 (6286):   528.31   6.862     9.00    38.79
        ================================================
        ID = 3 (8386):   788.82  11.552     8.50    41.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.272 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  22.015
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   2.189 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.764
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.875 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.769
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0298):   330.51   1.875     8.00    14.77
      + ID2= 2 (0300):   258.93   2.189     7.50    18.76
        ================================================
        ID = 3 (8395):   589.44   4.038     7.75    16.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.362 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  38.847
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   4.704 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  38.611
     TOTAL RAINFALL   (mm)=  80.800
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     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.362     9.25    38.85
       + ID2= 2 (0290):   269.18   4.704     7.25    38.61
         ================================================
         ID = 3 (8397):   610.01   7.793     8.00    38.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   4.643 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  36.515
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.452

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   7.336 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.254
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.004 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.217
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   7.336     8.00    29.25
       + ID2= 2 (0294):   274.15   3.004     7.00    21.22
         ================================================
         ID = 3 (8398):  1012.64  10.132     8.00    27.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12   0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400     Main Channel
              250.37         231.80        0.0400     Main Channel
              250.87         232.23        0.0400     Main Channel
              251.97         233.10   0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.43    232.23    .510E+03        0.1          0.53       81.07
           0.87    232.67    .213E+04        0.7          0.83       51.49
           1.30    233.10    .501E+04        2.2          1.10       38.75
           1.98    233.78    .242E+05       12.6          1.34       31.93
           2.66    234.46    .738E+05       42.1          1.46       29.21
           3.34    235.14    .177E+06      127.9          1.84       23.13
           4.02    235.82    .314E+06      281.4          2.29       18.61
           4.70    236.50    .481E+06      509.4          2.71       15.73
           5.38    237.18    .672E+06      815.6          3.11       13.73
           6.06    237.86    .886E+06     1200.7          3.46       12.30
           6.74    238.54    .112E+07     1669.4          3.80       11.23
           7.42    239.22    .139E+07     2226.9          4.11       10.38
           8.10    239.90    .168E+07     2808.4          4.28        9.95
           8.78    240.58    .202E+07     3470.4          4.40        9.68
           9.46    241.26    .240E+07     4331.7          4.61        9.24
          10.14    241.94    .283E+07     5335.2          4.83        8.84
          10.82    242.62    .330E+07     6482.6          5.03        8.48
          11.50    243.30    .381E+07     7764.1          5.21        8.18
          12.18    243.98    .439E+07     9101.2          5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64    10.13    8.00   27.08     1.82      1.27
     OUTFLOW: ID= 1 (6296) 1012.64     9.86    8.50   27.08     1.80      1.26

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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   4.643     7.50    36.52
       + ID2= 2 (6296):  1012.64   9.865     8.50    27.08
         ================================================
         ID = 3 (8396):  1306.29  14.310     8.25    29.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  14.310     8.25    29.20
       + ID2= 2 (8397):   610.01   7.793     8.00    38.74
         ================================================
         ID = 3 (8394):  1916.30  22.076     8.00    32.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  22.076     8.00    32.24
       + ID2= 2 (8395):   589.44   4.038     7.75    16.52
         ================================================
         ID = 3 (8392):  2505.74  26.095     8.00    28.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
```

```
                272.47        222.88        0.0400
                277.09        222.76        0.0400
                281.71        222.58        0.0400
                288.54        222.18    0.0400 /0.0300  Main Channel
                288.64        221.00        0.0300      Main Channel
                290.94        221.00        0.0300      Main Channel
                291.04        221.00        0.0300      Main Channel
                291.54        222.75    0.0300 /0.0400  Main Channel
                300.18        222.83        0.0400
                304.80        223.04        0.0400
                309.42        223.25        0.0400
                318.65        223.69        0.0400
                360.22        225.57        0.0400
                397.16        227.60        0.0400
                457.20        228.35        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29    221.29    .228E+04       0.2          0.32     165.63
       0.59    221.59    .465E+04       0.7          0.45     116.15
       0.88    221.88    .713E+04       1.2          0.54      96.87
       1.18    222.18    .971E+04       1.9          0.61      86.20
       1.57    222.57    .175E+05       3.3          0.59      88.86
       1.97    222.97    .427E+05       6.4          0.47     111.39
       2.36    223.36    .115E+06      16.1          0.44     119.14
       2.76    223.76    .237E+06      37.1          0.49     106.49
       3.15    224.15    .409E+06      72.9          0.56      93.40
       3.55    224.55    .631E+06     127.0          0.63      82.76
       3.94    224.94    .903E+06     202.4          0.70      74.37
       4.34    225.34    .123E+07     301.8          0.77      67.68
       4.73    225.73    .160E+07     433.5          0.85      61.37
       5.13    226.13    .200E+07     602.2          0.95      55.29
       5.52    226.52    .242E+07     804.7          1.05      50.13
       5.92    226.92    .286E+07    1034.2          1.14      46.11
       6.31    227.31    .332E+07    1290.5          1.22      42.88
       6.71    227.71    .380E+07    1560.9          1.29      40.55
       7.10    228.10    .432E+07    1835.6          1.34      39.19

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    26.10    8.00  28.54      2.55      0.46
     OUTFLOW: ID= 1 (6302) 2505.74    20.61   10.25  28.54      2.45      0.45


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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   3.272     8.50     22.02
      + ID2= 2 (6302):  2505.74  20.608    10.25     28.54
        ================================================
        ID = 3 (8390):  2979.64  23.639    10.00     27.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  11.552     8.50     41.13
      + ID2= 2 (8390):  2979.64  23.639    10.00     27.50
        ================================================
        ID = 3 (8348):  3768.46  34.216     9.50     30.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.571 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  25.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   7.151 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  43.109
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   7.318 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.435
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.538

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.373 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  39.356
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.487

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   6.216 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0274):   392.49   6.216     7.50     35.48
      + ID2= 2 (0276):    90.89   2.373     6.75     39.36
        ================================================
        ID = 3 (8360):   483.38   8.455     7.00     36.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0278):   485.49   7.318     8.00     43.44
      + ID2= 2 (8360):   483.38   8.455     7.00     36.21
        ================================================
        ID = 3 (8358):   968.87  15.469     7.50     39.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
```

```
              0.00        241.14        0.0500
             13.32        240.80        0.0500
             39.95        240.07        0.0500
             96.54        236.21        0.0500
            113.19        234.15        0.0500
            123.18        232.35        0.0500
            143.15        225.80        0.0500
            149.81        225.62        0.0500
            153.14        225.40        0.0500
            157.30        224.76    0.0500 /0.0300  Main Channel
            159.80        224.26        0.0300      Main Channel
            162.30        224.85        0.0300      Main Channel
            162.55        224.97    0.0300 /0.0500  Main Channel
            167.80        225.05        0.0500
            186.43        229.14        0.0500
            213.06        234.75        0.0500
            236.37        237.09        0.0500
            266.33        237.31        0.0500
            292.96        237.83        0.0500
            329.58        241.50        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   224.76    .263E+04       0.8          0.65       58.31
      1.36   225.62    .278E+05      13.4          1.10       34.54
      2.22   226.48    .855E+05      52.6          1.40       27.09
      3.09   227.35    .157E+06     120.4          1.74       21.78
      3.95   228.21    .242E+06     216.3          2.04       18.64
      4.81   229.07    .340E+06     341.8          2.29       16.56
      5.67   229.93    .450E+06     498.3          2.52       15.06
      6.53   230.79    .574E+06     688.3          2.73       13.90
      7.40   231.66    .711E+06     913.8          2.93       12.97
      8.26   232.52    .861E+06    1173.4          3.11       12.23
      9.12   233.38    .103E+07    1461.3          3.24       11.72
      9.98   234.24    .121E+07    1793.3          3.37       11.26
     10.85   235.11    .142E+07    2141.0          3.45       11.02
     11.71   235.97    .165E+07    2530.4          3.50       10.86
     12.57   236.83    .192E+07    2954.0          3.51       10.81
     13.43   237.69    .226E+07    3160.3          3.18       11.93
     14.29   238.55    .271E+07    3869.4          3.26       11.67
     15.16   239.42    .320E+07    4740.3          3.38       11.24
     16.02   240.28    .373E+07    5688.4          3.48       10.92

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8358)  968.87    15.47    7.50  39.83      1.41      1.11
OUTFLOW: ID= 1 (6280)  968.87    15.03    8.25  39.83      1.40      1.11


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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0280):   299.86    7.151     7.00    43.11
     + ID2= 2 (6280):   968.87   15.029     8.25    39.83
       ================================================
       ID = 3 (8354):  1268.73   21.461     7.75    40.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.475 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.486
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.097 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.870
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.518

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   3.621 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  35.162
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   3.033 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.013
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   3.140 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  26.119
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0264):   353.96   3.033     8.00    30.01
     + ID2= 2 (0266):   508.09   3.140     9.00    26.12
       ================================================
       ID = 3 (8380):   862.05   6.146     8.50    27.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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          <------ DATA FOR SECTION (2681.0) ------>
         Distance      Elevation       Manning
            0.00         274.03        0.0500
           10.55         272.73        0.0500
           21.10         271.28        0.0500
           50.12         266.83        0.0500
           87.04         260.36        0.0500
           92.32         260.06        0.0500
           94.95         259.93        0.0500
          101.00         256.87        0.0500
          103.00         256.58    0.0500 /0.0350  Main Channel
          104.00         256.32        0.0350      Main Channel
          106.00         256.05        0.0350      Main Channel
          108.00         256.25        0.0350      Main Channel
          110.78         256.65    0.0350 /0.0500  Main Channel
          113.42         256.81        0.0500
          116.06         257.00        0.0500
          155.62         260.24        0.0500
          187.27         263.35        0.0500
          211.01         267.22        0.0500
          224.20         269.60        0.0500
          261.13         272.68        0.0500
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8380)	862.05	6.15	8.50	27.72	0.67	1.05
OUTFLOW: ID= 1 (6268)	862.05	5.97	9.75	27.72	0.67	1.04

ADD HYD (8382) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0268):	215.76	3.621	7.00	35.16
+ ID2= 2 (6268):	862.05	5.975	9.75	27.72
ID = 3 (8382):	1077.81	8.703	8.50	29.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel
69.68	233.95	0.0300	Main Channel
71.21	234.48	0.0300 /0.0500	Main Channel
81.38	236.44	0.0500	
95.63	236.66	0.0500	
120.04	237.00	0.0500	
148.53	241.77	0.0500	
158.70	242.34	0.0500	
187.18	244.03	0.0500	
201.42	244.36	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8382)	1077.81	8.70	8.50	29.21	1.22	1.59
OUTFLOW: ID= 1 (6270)	1077.81	8.58	9.25	29.21	1.21	1.59

ADD HYD (8384) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0270):	243.61	4.097	7.25	41.87
+ ID2= 2 (6270):	1077.81	8.581	9.25	29.21
ID = 3 (8384):	1321.42	12.139	8.75	31.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0262) | ID= 1 DT=15.0 min | Area (ha)= 341.31 Curve Number (CN)= 82.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 5.213 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 43.196
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.535

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0260) | ID= 1 DT=15.0 min | Area (ha)= 476.24 Curve Number (CN)= 82.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 4.360

PEAK FLOW (cms)= 5.896 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 43.337
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.536

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0258) | ID= 1 DT=15.0 min | Area (ha)= 181.99 Curve Number (CN)= 79.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 2.269 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 39.727
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.492

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0252) | ID= 1 DT=15.0 min | Area (ha)= 319.99 Curve Number (CN)= 73.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.04

Unit Hyd Qpeak (cms)= 3.761

PEAK FLOW (cms)= 3.678 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 33.488
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.414

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0256) | ID= 1 DT=15.0 min | Area (ha)= 145.79 Curve Number (CN)= 67.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.04

Unit Hyd Qpeak (cms)= 1.707

```
     PEAK FLOW       (cms)=   1.403 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.295
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.350

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   2.406 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.083
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation       Manning
                0.00        276.87        0.0400
               11.68        273.71        0.0400
               23.36        271.35        0.0400
               29.19        270.30        0.0400
               35.03        269.44        0.0400
               55.47        267.90        0.0400
               78.82        266.24        0.0400
               90.50        265.63        0.0400
              102.18        265.40        0.0400
              105.10        264.95    0.0400 /0.0350  Main Channel
              108.02        264.39        0.0350      Main Channel
              110.94        264.72        0.0350      Main Channel
              113.86        265.19    0.0350 /0.0400  Main Channel
              116.78        265.49        0.0400
              143.05        268.24        0.0400
              172.25        270.53        0.0400
              207.28        271.95        0.0400
              233.55        273.72        0.0400
              256.91        274.98        0.0400
              280.02        275.97        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95   .723E+04        1.9         0.90      62.51
       1.14   265.53   .307E+05       13.5         1.49      37.92
       1.72   266.11   .951E+05       48.6         1.73      32.62
       2.30   266.69   .191E+06      117.8         2.09      27.03
       2.88   267.27   .314E+06      225.2         2.43      23.24
       3.46   267.85   .464E+06      375.5         2.74      20.59
       4.04   268.43   .641E+06      573.2         3.03      18.62
       4.62   269.01   .846E+06      821.9         3.29      17.15
       5.20   269.59   .108E+07     1135.0         3.56      15.87
       5.78   270.17   .134E+07     1525.1         3.86      14.64
       6.36   270.75   .162E+07     1971.1         4.12      13.71
       6.94   271.33   .194E+07     2474.0         4.33      13.04
       7.52   271.91   .228E+07     3065.0         4.55      12.42
       8.10   272.49   .266E+07     3773.4         4.80      11.75
       8.68   273.07   .306E+07     4566.3         5.05      11.17
       9.26   273.65   .348E+07     5443.7         5.30      10.66
       9.84   274.23   .393E+07     6389.6         5.51      10.25
      10.42   274.81   .440E+07     7426.2         5.72       9.88
      11.00   275.39   .490E+07     8490.1         5.86       9.63

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     2.41    8.00  20.08      0.58      0.92
     OUTFLOW: ID= 1 (6256)  403.00     2.26    9.75  20.08      0.58      0.91


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.403     8.00     28.30
       + ID2= 2 (6256):   403.00   2.263     9.75     20.08
         ================================================
         ID = 3 (8370):   548.79   3.538     9.00     22.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   1.797 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.845
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   3.349 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  20.153
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   1.592 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.873
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   3.349     10.00     20.15
       + ID2= 2 (0248):   146.04   1.592      7.25     25.87
         ================================================
         ID = 3 (8364):   905.65   4.741      8.25     21.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                0.00        269.96        0.0500
                8.56        268.55        0.0500
               17.13        266.91        0.0500
               21.41        266.13        0.0500
               40.68        263.15        0.0500
               62.09        260.75        0.0500
               85.64        258.02        0.0500
               88.20        257.69        0.0500
               93.20        257.05    0.0500 /0.0350  Main Channel
               93.45        256.88        0.0350      Main Channel
               94.20        256.56        0.0350      Main Channel
               94.95        256.83        0.0350      Main Channel
               95.20        257.08    0.0350 /0.0500  Main Channel
              100.62        257.45        0.0500
              115.61        258.57        0.0500
              139.16        260.43        0.0500
              152.01        261.95        0.0500
              171.27        264.63        0.0500
              188.40        267.90        0.0500
              211.95        274.18        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
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DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	4.74	8.25	21.08	1.04	0.81
OUTFLOW: ID= 1 (6250)	905.65	4.43	10.25	21.08	1.00	0.80

ADD HYD (8366)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):	192.88	1.797	8.00	30.85
+ ID2= 2 (6250):	905.65	4.429	10.25	21.08
ID = 3 (8366):	1098.53	6.064	9.75	22.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):	1098.53	6.064	9.75	22.79
+ ID2= 2 (8370):	548.79	3.538	9.00	22.26
ID = 3 (8368):	1647.32	9.574	9.50	22.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	319.99	3.678	8.00	33.49
+ ID2= 2 (8368):	1647.32	9.574	9.50	22.62
ID = 3 (8372):	1967.31	12.931	9.00	24.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	12.93	9.00	24.38	0.78	0.82
OUTFLOW: ID= 1 (6258)	1967.31	11.62	11.25	24.38	0.75	0.83

ADD HYD (8374)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):	181.99	2.269	8.00	39.73
+ ID2= 2 (6258):	1967.31	11.623	11.25	24.38
ID = 3 (8374):	2149.30	13.409	11.00	25.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):	476.24	5.896	8.00	43.34
+ ID2= 2 (8374):	2149.30	13.409	11.00	25.68
ID = 3 (8376):	2625.54	18.584	10.25	28.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):	341.31	5.213	7.75	43.20
+ ID2= 2 (8376):	2625.54	18.584	10.25	28.89
ID = 3 (8378):	2966.85	22.865	10.00	30.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8378):	2966.85	22.865	10.00	30.53
+ ID2= 2 (8384):	1321.42	12.139	8.75	31.54
ID = 3 (8362):	4288.27	34.648	9.50	30.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning
0.00	231.01	0.0450
23.01	223.65	0.0450
34.51	222.46	0.0450
51.77	222.11	0.0450
69.02	221.87	0.0450

```
              161.06        221.92        0.0450
              166.81        221.91        0.0450
              172.56        221.89        0.0450
              180.57        221.40    0.0450 /0.0300  Main Channel
              181.57        220.60        0.0300      Main Channel
              184.07        220.16        0.0300      Main Channel
              195.57        221.85    0.0300 /0.0450  Main Channel
              201.32        221.82        0.0450
              207.07        221.77        0.0450
              212.83        221.72        0.0450
              253.09        222.52        0.0450
              408.40        222.65        0.0450
              460.17        223.20        0.0450
              517.69        224.84        0.0450
              569.46        232.57        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.41   220.57   .189E+04        0.5         0.49      60.18
       0.83   220.99   .697E+04        3.2         0.82      35.79
       1.24   221.40   .145E+05        8.8         1.07      27.45
       1.84   222.00   .643E+05       29.3         0.81      36.61
       2.44   222.60   .282E+06      132.9          0.83      35.41
       3.04   223.20   .707E+06      413.7          1.04      28.50
       3.64   223.80   .118E+07      876.8          1.31      22.46
       4.24   224.40   .168E+07     1494.8          1.57      18.75
       4.84   225.00   .221E+07     2264.1          1.82      16.23
       5.44   225.60   .274E+07     3196.3          2.06      14.29
       6.04   226.20   .328E+07     4258.6          2.30      12.84
       6.65   226.81   .383E+07     5444.7          2.52      11.72
       7.25   227.41   .438E+07     6749.7          2.73      10.82
       7.85   228.01   .494E+07     8169.4          2.93      10.08
       8.45   228.61   .551E+07     9700.7          3.12       9.46
       9.05   229.21   .608E+07    11340.8          3.30       8.94
       9.65   229.81   .666E+07    13087.4          3.48       8.48
      10.25   230.41   .724E+07    14938.5          3.65       8.08
      10.85   231.01   .783E+07    16892.4          3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.27    34.65    9.50  30.84      1.87      0.81
     OUTFLOW: ID= 1 (6272) 4288.27    34.18   10.25  30.84      1.87      0.81


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------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   2.475     7.50     35.49
      + ID2= 2 (6272):  4288.27  34.180    10.25     30.84
        ================================================
        ID = 3 (8356):  4445.65  35.965    10.00     31.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  21.461     7.75     40.61
      + ID2= 2 (8356):  4445.65  35.965    10.00     31.01
        ================================================
        ID = 3 (8352):  5714.38  54.080     9.00     33.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
              <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.48   218.85   .121E+05        1.2         0.36     173.94
       1.17   219.54   .839E+05        9.8         0.44     142.60
       1.86   220.23   .323E+06       41.0         0.47     131.43
       2.56   220.93   .708E+06      109.5         0.58     107.67
       3.25   221.62   .118E+07      224.3         0.71      87.36
       3.94   222.31   .168E+07      376.5         0.84      74.48
       4.63   223.00   .222E+07      567.9         0.96      65.26
       5.32   223.69   .279E+07      794.7         1.07      58.58
       6.02   224.39   .339E+07     1056.2         1.17      53.52
       6.71   225.08   .402E+07     1352.4         1.26      49.52
       7.40   225.77   .468E+07     1677.3         1.34      46.46
       8.09   226.46   .536E+07     2050.0         1.43      43.58
       8.79   227.16   .607E+07     2457.9         1.52      41.14
       9.48   227.85   .680E+07     2901.0         1.60      39.05
      10.17   228.54   .755E+07     3352.7         1.66      37.53
      10.86   229.23   .834E+07     3812.5         1.71      36.48
      11.55   229.92   .919E+07     4241.8         1.73      36.13
      12.25   230.62   .101E+08     4697.0         1.74      35.93
      12.94   231.31   .111E+08     5186.3         1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.38    54.08    9.00  33.14      2.00      0.49
     OUTFLOW: ID= 1 (6304) 5714.38    44.75   11.50  33.14      1.90      0.48


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------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.571    10.25     25.48
      + ID2= 2 (6304):  5714.38  44.745    11.50     33.14
        ================================================
        ID = 3 (8350):  6006.75  46.284    11.50     32.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  34.216     9.50     30.36
      + ID2= 2 (8350):  6006.75  46.284    11.50     32.77
        ================================================
        ID = 3 (8346):  9775.21  78.525    10.50     31.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.538    13.75     18.51
      + ID2= 2 (8346):  9775.21  78.525    10.50     31.84
        ================================================
        ID = 3 (8344): 10059.18  79.003    10.50     31.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********    79.003     10.50      31.46
     OUTFLOW: ID= 1 (5509)   ********    50.565     15.50      31.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.00
                TIME SHIFT OF PEAK FLOW          (min)=300.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 96.9336
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| CALIB             |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.428 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  35.702
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   8.597 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  40.876
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3321.0) ------>
             Distance       Elevation       Manning
                0.00          234.00        0.0380
               25.85          227.20        0.0380
               96.94          226.44        0.0380
              168.03          227.38        0.0380
              219.73          225.62        0.0380
              342.52          221.57        0.0380
              368.37          221.42        0.0380
              374.83          221.23        0.0380
              379.79          220.98    0.0380 /0.0300  Main Channel
              380.29          220.47        0.0300      Main Channel
              381.29          220.47        0.0300      Main Channel
              382.79          220.47        0.0300      Main Channel
              383.29          220.98    0.0300 /0.0380  Main Channel
              394.22          221.22        0.0380
              400.68          221.33        0.0380
              407.14          221.44        0.0380
              491.16          225.70        0.0380
              568.71          227.55        0.0380
              607.49          230.14        0.0380
              639.80          234.08        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)         (m/s)       (min)
       0.51   220.98    .554E+04        0.9          0.56       107.27
       1.20   221.67    .885E+05       12.1          0.49       122.32
       1.88   222.35    .309E+06       64.7          0.76        79.70
       2.57   223.04    .615E+06      165.4          0.97        61.99
       3.25   223.72    .101E+07      322.1          1.16        52.06
       3.94   224.41    .148E+07      542.9          1.33        45.51
       4.62   225.09    .204E+07      835.4          1.48        40.77
       5.31   225.78    .269E+07     1202.8          1.62        37.27
       5.99   226.46    .344E+07     1618.0          1.70        35.46
       6.68   227.15    .447E+07     1932.0          1.56        38.56
       7.36   227.83    .580E+07     2763.9          1.72        34.96
       8.05   228.52    .718E+07     3861.9          1.95        30.97
       8.73   229.20    .859E+07     5115.4          2.16        27.98
       9.42   229.89    .100E+08     6519.2          2.35        25.64
      10.10   230.57    .115E+08     8092.3          2.55        23.69
      10.79   231.26    .130E+08     9821.5          2.73        22.05
      11.47   231.94    .145E+08    11690.0          2.92        20.68
      12.16   232.63    .160E+08    13694.9          3.09        19.52
      12.84   233.31    .176E+08    15833.9          3.26        18.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     8.60    7.25  40.88      0.98      0.51
     OUTFLOW: ID= 1 (6332)  468.30     6.50    9.50  40.88      0.85      0.53


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| ADD HYD   (8322) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   3.428     9.50     35.70
      + ID2= 2 (6332):   468.30   6.501     9.50     40.88
        ================================================
        ID = 3 (8322):   861.74   9.928     9.50     38.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   5.314 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  37.735
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   7.858 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  41.091
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.509

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   7.077 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  39.932
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.494

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   4.443 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  42.167
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   6.226 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  38.748
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB           |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.06         4.94
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    416.33        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        58.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      7.21 (ii)    20.44 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      5.72         0.41          5.977 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        37.88         71.03
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.47          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800     0.7654
                         0.0510     0.4423   |   4.1500     0.8231
                         0.8700     0.5378   |   4.8750     0.8778
                         1.9590     0.6105   |   5.2750     0.8878
                         2.5620     0.6796   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000     5.977     6.00      71.03
     OUTFLOW: ID= 1 (5318)     26.000     3.426     6.25      70.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.33
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8392

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-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40   6.226     8.00     38.75
       + ID2= 2 (5318):    26.00   3.426     6.25     70.94
         ================================================
         ID = 3 (8334):   483.40   7.520     6.25     40.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                 0.00         249.00        0.0380
                22.92         245.86        0.0380
                45.83         244.87        0.0380
                91.66         243.11        0.0380
               126.03         239.53        0.0380
               160.41         237.17        0.0380
               166.14         237.06        0.0380
               177.59         237.13        0.0380
               183.32         237.20        0.0380
               189.05         236.70    0.0380 /0.0350  Main Channel
               193.05         235.89        0.0350      Main Channel
               197.05         236.64    0.0350 /0.0380  Main Channel
               200.51         236.74        0.0380
               206.24         237.03        0.0380
               246.34         238.82        0.0380
               263.53         243.87        0.0380
               389.56         247.64        0.0380
               452.58         247.74        0.0380
               498.41         248.60        0.0380
               567.16         249.84        0.0380

             <-------------------- TRAVEL TIME TABLE ---------------------->
              DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
                (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
               0.37   236.26    .270E+04         0.4          0.58      107.96
               0.75   236.64    .108E+05         2.6          0.92       68.01
               1.48   237.37    .877E+05        27.4          1.17       53.35
               2.20   238.09    .277E+06       122.1          1.65       37.83
               2.93   238.82    .540E+06       299.7          2.08       30.01
               3.66   239.55    .857E+06       587.8          2.57       24.29
               4.39   240.28    .120E+07       977.8          3.04       20.52
               5.11   241.00    .158E+07      1458.1          3.46       18.02
               5.84   241.73    .198E+07      2028.6          3.84       16.23
               6.57   242.46    .240E+07      2690.5          4.19       14.86
               7.29   243.18    .285E+07      3431.8          4.50       13.84
               8.02   243.91    .335E+07      4149.1          4.64       13.44
               8.75   244.64    .393E+07      4746.6          4.51       13.80
               9.47   245.36    .463E+07      5618.6          4.53       13.75
              10.20   246.09    .545E+07      6781.8          4.66       13.39
              10.93   246.82    .635E+07      8274.5          4.87       12.79
              11.66   247.55    .733E+07      9988.0          5.10       12.23
              12.38   248.27    .853E+07     11422.0          5.01       12.45
              13.11   249.00    .989E+07     13749.7          5.20       11.98

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     7.52    6.25  40.48      0.89      0.96
     OUTFLOW: ID= 1 (6320)  483.40     6.12    9.00  40.48      0.85      0.95

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-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   278.74   4.443     8.00     42.17
       + ID2= 2 (6320):   483.40   6.122     9.00     40.48
         ================================================
         ID = 3 (8332):   762.14  10.364     8.50     41.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   4.019 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  38.307
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.474

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
               207.98         235.25        0.0310      Main Channel
               209.98         235.53        0.0310      Main Channel
               210.48         236.00    0.0310 /0.0350  Main Channel
               216.42         236.73        0.0350
               258.31         239.09        0.0350
               328.12         239.84        0.0350
               439.83         241.47        0.0350
               530.58         242.08        0.0350
               586.43         242.93        0.0350
               691.16         248.00        0.0350

             <-------------------- TRAVEL TIME TABLE ---------------------->
              DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
                (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
               0.37   235.62    .215E+04         0.7          0.77       53.88
               0.75   236.00    .634E+04         3.5          1.36       30.45
               1.46   236.71    .297E+05        19.3          1.62       25.66
               2.16   237.41    .103E+06        75.8          1.84       22.60
```

2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0314)	165.20	4.02	6.75	38.31	0.77	1.37
OUTFLOW:	ID= 1 (6316)	165.20	3.84	7.25	38.31	0.77	1.37

CALIB					
NASHYD (0316)	Area	(ha)=	232.34	Curve Number	(CN)= 82.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 4.823 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 43.236
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.535

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0316):	232.34	4.823	7.25	43.24	
+ ID2= 2 (6316):	165.20	3.837	7.25	38.31	
ID = 3 (8338):	397.54	8.660	7.25	41.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0312)	Area	(ha)=	359.44	Curve Number	(CN)= 80.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 5.575 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 40.979
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0308)	Area	(ha)=	529.30	Curve Number	(CN)= 62.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 4.194 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 24.698
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0310)	Area	(ha)=	138.28	Curve Number	(CN)= 65.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 2.144 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 26.616
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0308):	529.30	4.194	8.25	24.70	
+ ID2= 2 (0310):	138.28	2.144	7.00	26.62	
ID = 3 (8342):	667.58	6.044	7.75	25.10	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)					
IN= 2 ---> OUT= 1	Routing time step (min)=		15.00		

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning		
0.00	265.94	0.0360		
38.07	265.43	0.0360		
59.82	263.98	0.0360		
103.32	254.59	0.0360		
157.70	252.16	0.0360		
217.52	250.45	0.0360		
233.84	247.69	0.0360		
234.71	247.27	0.0360		
239.71	246.38	0.0360		
244.71	246.12	0.0360 /0.0330	Main Channel	
247.71	245.17	0.0330	Main Channel	
249.71	245.19	0.0330	Main Channel	
251.71	245.64	0.0330 /0.0360	Main Channel	
259.71	246.67	0.0360		
282.78	247.12	0.0360		
315.41	251.60	0.0360		
424.17	256.13	0.0360		
478.55	257.04	0.0360		
516.62	259.37	0.0360		
538.37	266.00	0.0360		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (8342)	667.58	6.04	7.75	25.10	0.53	1.83
OUTFLOW:	ID= 1 (6312)	667.58	6.04	8.00	25.10	0.53	1.83

ADD HYD (8340)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0312):	359.44	5.575	8.00	40.98	
+ ID2= 2 (6312):	667.58	6.040	8.00	25.10	
ID = 3 (8340):	1027.02	11.615	8.00	30.65	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   8.660     7.25    41.19
      + ID2= 2 (8340):  1027.02  11.615     8.00    30.65
        ================================================
        ID = 3 (8336):  1424.56  20.099     7.50    33.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14  10.364     8.50    41.10
      + ID2= 2 (8336):  1424.56  20.099     7.50    33.59
        ================================================
        ID = 3 (8330):  2186.70  29.999     7.75    36.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3241.0) ------>
            Distance      Elevation       Manning
               0.00         234.38        0.0360
              33.57         232.48        0.0360
              67.14         230.14        0.0360
              83.93         228.80        0.0360
             134.29         227.62        0.0360
             209.82         225.10        0.0360
             218.21         224.86        0.0360
             226.61         224.47        0.0360
             234.00         223.86    0.0360 /0.0300  Main Channel
             234.10         223.66        0.0300      Main Channel
             235.00         223.66        0.0300      Main Channel
             235.90         223.66        0.0300      Main Channel
             236.00         223.86    0.0300 /0.0360  Main Channel
             243.39         224.92        0.0360
             251.78         224.89        0.0360
             335.71         225.64        0.0360
             562.32         226.53        0.0360
             637.85         228.36        0.0360
             705.00         229.80        0.0360
             830.89         234.00        0.0360

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   223.86    .145E+04       0.2          0.43     147.27
      0.73   224.39    .159E+05       2.8          0.68      93.11
      1.27   224.93    .561E+05      11.0          0.75      85.19
      1.80   225.46    .217E+06      45.6          0.80      79.20
      2.33   225.99    .566E+06     134.4          0.91      70.20
      2.87   226.53    .122E+07     338.1          1.06      59.97
      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.    MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.70    30.00    7.75  36.21      1.56      0.78
     OUTFLOW: ID= 1 (6324) 2186.70    25.63    9.50  36.21      1.49      0.77


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-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6324):   615.64   7.077     8.50    39.93
      + ID2= 2 (6324):  2186.70  25.633     9.50    36.21
        ================================================
        ID = 3 (8328):  2802.34  32.579     9.50    37.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number    (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   6.502 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  41.063
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.508

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   6.502     8.25    41.06
      + ID2= 2 (8328):  2802.34  32.579     9.50    37.03
        ================================================
        ID = 3 (8326):  3315.47  38.885     9.25    37.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   7.858     8.75    41.09
      + ID2= 2 (8326):  3315.47  38.885     9.25    37.65
        ================================================
        ID = 3 (8324):  3994.38  46.684     9.25    38.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
            Distance      Elevation       Manning
               0.00         228.00        0.0380
              18.58         224.97        0.0380
              78.98         223.52        0.0380
             125.44         223.28        0.0380
             171.90         221.71        0.0380
             213.72         219.65        0.0380
             218.36         219.40        0.0380
             223.01         219.19        0.0380
             225.95         219.14    0.0380 /0.0320  Main Channel
             226.45         218.14        0.0320      Main Channel
             236.95         218.14        0.0320      Main Channel
             245.85         218.14        0.0320      Main Channel
             245.95         219.14    0.0320 /0.0380  Main Channel
             246.24         219.16        0.0380
             250.88         219.24        0.0380
             255.53         219.39        0.0380
             325.22         221.47        0.0380
             367.03         223.14        0.0380
             404.20         225.17        0.0380
             459.95         228.04        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   218.64    .373E+05       3.2          0.33     192.37
      1.00   219.14    .752E+05      10.1          0.51     124.71
      1.52   219.66    .149E+06      22.2          0.57     112.06
      2.04   220.18    .279E+06      43.4          0.59     107.06
      2.56   220.70    .464E+06      77.0          0.63     100.52
      3.08   221.22    .705E+06     125.7          0.68      93.56
      3.61   221.75    .100E+07     192.7          0.73      86.62
      4.13   222.27    .135E+07     278.1          0.79      80.92
      4.65   222.79    .176E+07     385.9          0.84      75.86
      5.17   223.31    .222E+07     514.9          0.89      71.82
      5.69   223.83    .280E+07     662.7          0.90      70.40
      6.21   224.35    .345E+07     867.7          0.96      66.35
      6.73   224.87    .417E+07    1107.0          1.01      62.81
      7.25   225.39    .494E+07    1400.0          1.08      58.80
      7.78   225.92    .573E+07    1732.2          1.15      55.17
      8.30   226.44    .655E+07    2099.9          1.22      52.02
      8.82   226.96    .740E+07    2502.8          1.29      49.29
      9.34   227.48    .828E+07    2940.9          1.36      46.90
      9.86   228.00    .918E+07    3414.3          1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
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                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8324) 3994.38    46.68    9.25  38.24      2.09      0.60
     OUTFLOW: ID= 1 (6328) 3994.38    39.91   11.00  38.24      1.96      0.59


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| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   5.314     8.75    37.73
       + ID2= 2 (6328):  3994.38  39.913    11.00    38.24
         ================================================
         ID = 3 (8320):  4487.30  44.685    10.75    38.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  44.685    10.75    38.18
       + ID2= 2 (8322):   861.74   9.928     9.50    38.51
         ================================================
         ID = 3 (8318):  5349.04  54.210    10.75    38.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  50.565    15.50    31.46
       + ID2= 2 (8318):  5349.04  54.210    10.75    38.23
         ================================================
         ID = 3 (8316): 15408.22  97.899    11.75    33.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   1.884     6.50    21.94
       + ID2= 2 (8316): 15408.22  97.899    11.75    33.81
         ================================================
         ID = 3 (8312): 16028.32  98.974    11.75    33.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  33.223     6.50    41.92
       + ID2= 2 (8312): 16028.32  98.974    11.75    33.35
         ================================================
         ID = 3 (8308): 16627.22 101.128    11.50    33.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000    0.0000    |  *******     74.0090
                        66.5450   18.5023   |  *******    ********
                        98.5430   37.0045   |  *******    ********

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8308)  ********    101.128     11.50      33.66
     OUTFLOW: ID= 1 (5510)  ********     96.575     13.25      33.66

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.50
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 35.8687

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   3.992    22.25    32.86
       + ID2= 2 (5510): 16627.22  96.575    13.25    33.66
         ================================================
         ID = 3 (8240): 19412.22 100.014    13.25    33.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  50.303    12.00    21.33
       + ID2= 2 (8240): 19412.22 100.014    13.25    33.55
         ================================================
         ID = 3 (8238): 28936.45 149.326    12.75    29.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   4.420    10.00    19.62
       + ID2= 2 (8238): 28936.45 149.326    12.75    29.53
         ================================================
         ID = 3 (8236): 29941.03 153.277    12.75    29.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80   9.337     6.50    28.35
       + ID2= 2 (8236): 29941.03 153.277    12.75    29.20
         ================================================
         ID = 3 (8234): 30226.83 153.639    12.75    29.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.034     7.00    22.48
       + ID2= 2 (8234): 30226.83 153.639    12.75    29.19
         ================================================
         ID = 3 (8230): 30570.83 154.850    12.50    29.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  13.442     8.75    18.81
       + ID2= 2 (8230): 30570.83 154.850    12.50    29.11
         ================================================
         ID = 3 (8228): 32522.89 163.469    12.25    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   5.609     8.00    15.27
       + ID2= 2 (8228): 32522.89 163.469    12.25    28.09
         ================================================
         ID = 3 (8190): 33538.11 166.987    12.25    28.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:  12 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
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| | 3e280798-92ee-4282-809c-79f5caed0add\73a1f747
| Ptotal= 73.10 mm | Comments: 25-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	1.83	3.25	2.92	6.25	13.16	9.25	2.56
0.50	1.83	3.50	2.92	6.50	13.16	9.50	2.56
0.75	1.83	3.75	2.92	6.75	5.85	9.75	2.56
1.00	1.83	4.00	2.92	7.00	5.85	10.00	2.56
1.25	1.83	4.25	4.39	7.25	4.39	10.25	1.46
1.50	1.83	4.50	4.39	7.50	4.39	10.50	1.46
1.75	1.83	4.75	5.85	7.75	4.39	10.75	1.46
2.00	1.83	5.00	5.85	8.00	4.39	11.00	1.46
2.25	2.19	5.25	8.77	8.25	2.56	11.25	1.46
2.50	2.19	5.50	8.77	8.50	2.56	11.50	1.46
2.75	2.19	5.75	35.09	8.75	2.56	11.75	1.46
3.00	2.19	6.00	96.49	9.00	2.56	12.00	1.46

CALIB	
NASHYD (0356)	Area (ha)=1015.22 Curve Number (CN)= 46.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 12.651

PEAK FLOW (cms)= 4.610 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 12.581
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.172

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0354)	Area (ha)= 262.68 Curve Number (CN)= 37.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 3.252

PEAK FLOW (cms)= 0.864 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.206
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.126

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0352)	Area (ha)= 381.43 Curve Number (CN)= 54.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 7.980

PEAK FLOW (cms)= 3.316 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 16.078
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.220

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0346)	Area (ha)= 350.93 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.96

Unit Hyd Qpeak (cms)= 6.254

PEAK FLOW (cms)= 4.425 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 25.923
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0350)	Area (ha)= 366.84 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.07

Unit Hyd Qpeak (cms)= 5.831

PEAK FLOW (cms)= 2.124 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 13.386
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.183

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0348)	Area (ha)= 590.18 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 5.267

PEAK FLOW (cms)= 2.211 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.458
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.184

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6350)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3501.0) ------>

Distance	Elevation	Manning	
0.00	287.00	0.0500	
23.66	283.72	0.0500	
70.98	280.94	0.0500	
112.38	280.23	0.0500	
171.52	276.80	0.0500	
260.24	274.46	0.0500	
266.16	274.26	0.0500	
272.07	274.12	0.0500	
276.49	274.12	0.0500 /0.0300	Main Channel
276.99	273.82	0.0300	Main Channel
277.99	273.82	0.0300	Main Channel
279.49	273.82	0.0300	Main Channel
280.49	274.27	0.0300 /0.0500	Main Channel
283.90	274.27	0.0500	
289.81	274.57	0.0500	
325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	2.21	9.00	13.46	0.34	0.99
OUTFLOW: ID= 1 (6350)	590.18	2.16	10.25	13.46	0.34	0.99

ADD HYD (8220)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0350):	366.84	2.124	7.50	13.39	
+ ID2= 2 (6350):	590.18	2.158	10.25	13.46	
ID = 3 (8220):	957.02	3.943	8.75	13.43	

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| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   2.534     8.00     6.98
       + ID2= 2 (8228): 32522.89  87.695    12.50    14.27
         ================================================
         ID = 3 (8190): 33538.11  89.249    12.50    14.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   6 **
  ***************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\2687e965
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   6.685 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.151
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.265 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.427
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.770 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.930
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.259

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   6.173 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.852
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.405

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   3.076 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.261
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   3.191 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  19.364
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                 0.00         287.00        0.0500
                23.66         283.72        0.0500
                70.98         280.94        0.0500
               112.38         280.23        0.0500
               171.52         276.80        0.0500
               260.24         274.46        0.0500
               266.16         274.26        0.0500
               272.07         274.12        0.0500
               276.49         274.12    0.0500 /0.0300  Main Channel
               276.99         273.82        0.0300      Main Channel
               277.99         273.82        0.0300      Main Channel
               279.49         273.82        0.0300      Main Channel
               280.49         274.27    0.0300 /0.0500  Main Channel
               283.90         274.27        0.0500
               289.81         274.57        0.0500
               325.30         275.75        0.0500
               396.28         278.98        0.0500
               449.51         280.97        0.0500
               496.83         283.90        0.0500
               585.54         287.92        0.0500

          <---------- TRAVEL TIME TABLE ---------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
           0.30   274.12    .273E+04       0.9          0.99       49.81
           0.98   274.80    .583E+05      20.8          1.05       46.71
           1.66   275.48    .203E+06      95.2          1.38       35.53
           2.33   276.15    .438E+06     256.0          1.73       28.50
           3.01   276.83    .755E+06     524.8          2.05       23.97
           3.69   277.51    .114E+07     935.8          2.43       20.26
           4.37   278.19    .157E+07    1472.0          2.76       17.82
           5.05   278.87    .206E+07    2140.7          3.06       16.06
           5.72   279.54    .261E+07    2938.6          3.33       14.79
           6.40   280.22    .321E+07    3887.6          3.57       13.77
           7.08   280.90    .390E+07    4795.4          3.63       13.56
           7.76   281.58    .468E+07    6196.2          3.91       12.58
           8.43   282.25    .550E+07    7803.9          4.19       11.74
           9.11   282.93    .637E+07    9601.9          4.45       11.05
           9.79   283.61    .728E+07   11594.8          4.70       10.46
          10.47   284.29    .823E+07   13845.3          4.96        9.91
```

11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	3.19	9.00	19.36	0.38	0.99
OUTFLOW: ID= 1 (6350)	590.18	3.11	10.25	19.36	0.37	0.99

ADD HYD (8220)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0350):	366.84	3.076	7.50	19.26
+ ID2= 2 (6350):	590.18	3.111	10.25	19.36
ID = 3 (8220):	957.02	5.697	8.75	19.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):	350.93	6.173	7.25	35.85
+ ID2= 2 (8220):	957.02	5.697	8.75	19.32
ID = 3 (8222):	1307.95	11.432	8.00	23.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning	
0.00	257.95	0.0500	
7.83	257.34	0.0500	
15.66	256.19	0.0500	
21.53	254.01	0.0500	
41.11	244.06	0.0500	
76.35	241.38	0.0500	
111.58	239.74	0.0500	
113.54	239.61	0.0500	
113.75	239.41	0.0500 /0.0300	Main Channel
113.85	238.81	0.0300	Main Channel
115.50	238.81	0.0300	Main Channel
116.15	238.81	0.0300	Main Channel
116.25	239.41	0.0300	Main Channel
117.46	239.52	0.0500	
119.41	239.72	0.0500	
121.37	240.04	0.0500	
131.16	241.84	0.0500	
156.61	247.03	0.0500	
176.19	251.46	0.0500	
193.80	258.79	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	11.43	8.00	23.76	1.05	1.56
OUTFLOW: ID= 1 (6352)	1307.95	11.35	8.25	23.76	1.05	1.56

ADD HYD (8224)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	4.770	7.00	22.93
+ ID2= 2 (6352):	1307.95	11.354	8.25	23.76
ID = 3 (8224):	1689.38	15.685	7.75	23.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	15.68	7.75	23.57	1.65	1.16
OUTFLOW: ID= 1 (6354)	1689.38	14.70	8.75	23.57	1.62	1.16

ADD HYD (8226)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	1.265	8.00	13.43
+ ID2= 2 (6354):	1689.38	14.695	8.75	23.57
ID = 3 (8226):	1952.06	15.927	8.75	22.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0344) | Area (ha)= 344.00 Curve Number (CN)= 59.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 4.771 (i)
TIME TO PEAK (hrs)= 7.000

```
     RUNOFF VOLUME    (mm)=  26.476
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3402)  |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min  |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        25.11
               over (min)      15.00        45.00
     Storage Coeff.  (min)=    13.46 (ii)   32.05 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
     Unit Hyd. peak  (cms)=     0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     7.54         7.07       10.471 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=    86.50        22.80       31.08
     TOTAL RAINFALL   (mm)=    88.50        88.50       88.50
     RUNOFF COEFFICIENT   =     0.98         0.26        0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3401)  |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min  |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        58.14
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     8.52 (ii)   21.81 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     3.08         2.17        4.437 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=    86.50        26.50       39.10
     TOTAL RAINFALL   (mm)=    88.50        88.50       88.50
     RUNOFF COEFFICIENT   =     0.98         0.30        0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360      1.7877
                         0.1730     0.6348   |   7.2780      2.2185
                         1.8360     0.8250   |   9.1880      2.6486
                         2.1540     1.1051   |   9.5880      2.6586
                         3.3950     1.3506   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200     4.437      6.00      39.10
     OUTFLOW: ID= 1 (5340)     51.200     1.889      6.50      39.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.58
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8780

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3402):   234.60  10.471     6.00    31.08
        + ID2= 2 (5340):    51.20   1.889     6.50    39.08
          ================================================
          ID = 3 (8232):   285.80  10.972     6.50    32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0342)  |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   5.230 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  23.193
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0422)  |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   4.992 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  23.163
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0410)  |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   3.821 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.326
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0408)  |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   3.942 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.554
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.289

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0376)  |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   8.365 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  39.991
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.452
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   5.223 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  28.198
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.691 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.367
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   3.631 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.417
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   1.216 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  18.110
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   5.968 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.878
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.326

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   2.245 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  23.520
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   2.245     6.75    23.52
      + ID2= 2 (0366):   462.62   5.968     7.50    28.88
        ================================================
        ID = 3 (8302):   617.89   8.124     7.25    27.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         21.80
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      10.97 (ii)    30.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=       2.53          3.45          4.005 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      86.50         20.43         25.72
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.23          0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   2.367 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.436
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.703 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.868
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   2.367     7.50    12.44
       + ID2= 2 (0360):   138.37   1.703     6.75    17.87
         ================================================
         ID = 3 (8306):   568.24   3.976     7.00    13.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3621.0) ------>
             Distance      Elevation       Manning
                0.00         261.46        0.0550
               27.86         254.23        0.0550
               51.07         251.96        0.0550
               74.29         250.77        0.0550
               97.50         249.91        0.0550
              125.36         249.40        0.0550
              150.93         247.40        0.0550
              155.93         247.33    0.0550 /0.0350  Main Channel
              157.93         246.85        0.0350      Main Channel
              159.18         246.65        0.0350      Main Channel
              160.18         246.63        0.0350      Main Channel
              160.93         246.85        0.0350      Main Channel
              161.93         247.18    0.0350 /0.0550  Main Channel
              163.18         248.03        0.0550
              168.18         248.58        0.0550
              183.18         250.18        0.0550
              201.97         252.59        0.0550
              213.57         256.02        0.0550
              225.18         260.31        0.0550
              229.82         261.00        0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)     (min)
       0.55   247.18    .556E+04         1.9         1.03     49.95
       1.28   247.91    .336E+05        16.7         1.53     33.61
       2.00   248.63    .913E+05        53.6         1.81     28.40
       2.73   249.36    .185E+06       122.3         2.05     25.18
       3.46   250.09    .344E+06       224.6         2.02     25.52
       4.19   250.82    .574E+06       417.9         2.25     22.91
       4.91   251.54    .855E+06       699.1         2.53     20.38
       5.64   252.27    .118E+07      1075.3         2.82     18.26
       6.37   253.00    .153E+07      1559.9         3.15     16.38
       7.10   253.73    .191E+07      2137.6         3.46     14.89
       7.82   254.45    .231E+07      2815.2         3.77     13.67
       8.55   255.18    .272E+07      3608.5         4.10     12.58
       9.28   255.91    .315E+07      4488.2         4.41     11.69
      10.01   256.64    .358E+07      5458.0         4.71     10.95
      10.73   257.36    .403E+07      6512.4         4.99     10.32
      11.46   258.09    .449E+07      7649.8         5.27      9.78
      12.19   258.82    .496E+07      8869.5         5.53      9.32
      12.92   259.55    .544E+07     10171.2         5.78      8.91
      13.64   260.27    .593E+07     11554.8         6.02      8.55

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     3.98     7.00  13.76      0.65      1.08
     OUTFLOW: ID= 1 (6362)  568.24     3.52     8.25  13.76      0.63      1.07
```

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78   4.005     6.50    25.72
       + ID2= 2 (6362):   568.24   3.522     8.25    13.76
         ================================================
         ID = 3 (8304):   687.02   5.831     6.50    15.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   8.124     7.25    27.53
       + ID2= 2 (8304):   687.02   5.831     6.50    15.83
         ================================================
         ID = 3 (8300):  1304.91  13.263     6.50    21.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation       Manning
                0.00         230.00        0.0370
               18.48         223.26        0.0370
               36.96         223.05        0.0370
               64.67         222.94        0.0370
              110.87         222.86        0.0370
              133.96         222.74        0.0370
              147.82         222.65        0.0370
              170.92         222.31        0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86        0.0300      Main Channel
              175.54         221.86        0.0300      Main Channel
              176.19         221.86        0.0300      Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25        0.0370
              184.78         222.28        0.0370
              189.40         222.31        0.0370
              332.60         222.37        0.0370
              450.00         230.00        0.0370

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)     (min)
       0.40   222.26    .771E+03         0.3         0.52     41.74
       0.81   222.67    .784E+05        30.3         0.51     43.17
       1.21   223.07    .210E+06       123.2         0.77     28.42
       1.62   223.48    .384E+06       301.0         1.03     21.25
       2.03   223.89    .563E+06       550.2         1.28     17.06
       2.44   224.30    .747E+06       860.7         1.51     14.46
       2.84   224.70    .934E+06      1228.1         1.73     12.68
       3.25   225.11    .113E+07      1649.3         1.92     11.37
       3.66   225.52    .132E+07      2122.3         2.11     10.37
       4.07   225.93    .152E+07      2645.5         2.29      9.58
       4.47   226.33    .172E+07      3217.8         2.45      8.92
       4.88   226.74    .193E+07      3838.3         2.61      8.38
       5.29   227.15    .214E+07      4506.3         2.76      7.92
       5.70   227.56    .236E+07      5221.3         2.91      7.52
       6.10   227.96    .258E+07      5983.0         3.05      7.17
       6.51   228.37    .280E+07      6790.9         3.19      6.87
       6.92   228.78    .303E+07      7645.0         3.32      6.60
       7.33   229.19    .326E+07      8545.1         3.45      6.35
       7.73   229.59    .349E+07      9491.0         3.57      6.13

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    13.26     6.50  21.37      0.58      0.52
     OUTFLOW: ID= 1 (6368) 1304.91    12.01     8.00  21.37      0.56      0.52
```

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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0368):   159.48   1.216     7.75    18.11
       + ID2= 2 (6368):  1304.91  12.014     8.00    21.37
         ================================================
         ID = 3 (8298):  1464.39  13.223     8.00    21.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0370):   191.85   3.631     6.75    29.42
       + ID2= 2 (8298):  1464.39  13.223     8.00    21.01
         ================================================
         ID = 3 (8296):  1656.24  16.201     7.75    21.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation       Manning
                0.00         225.00        0.0390
               30.80         219.38        0.0390
               61.61         219.30        0.0390
               77.01         219.27        0.0390
              469.76         219.14        0.0390
              477.46         219.13        0.0390
              485.16         219.10        0.0390
```

```
              492.86        219.09         0.0390
              495.56        219.09    0.0390 /0.0310  Main Channel
              495.66        218.51         0.0310      Main Channel
              500.56        218.51         0.0310      Main Channel
              505.46        218.51         0.0310      Main Channel
              505.56        219.09    0.0310 /0.0390  Main Channel
              508.26        219.09         0.0390
              515.96        219.10         0.0390
              523.67        219.21         0.0390
              562.17        219.32         0.0390
              654.58        219.43         0.0390
              731.59        219.46         0.0390
              762.39        225.00         0.0390

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
      (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
     0.29    218.80    .431E+04         1.7          0.58       43.48
     0.58    219.09    .867E+04         5.1          0.89       28.32
     0.93    219.44    .200E+06        58.2          0.44       57.35
     1.28    219.79    .568E+06       278.6          0.74       33.99
     1.62    220.13    .939E+06       630.2          1.01       24.84
     1.97    220.48    .131E+07      1090.4          1.25       20.05
     2.32    220.83    .169E+07      1647.7          1.47       17.06
     2.67    221.18    .206E+07      2294.6          1.68       14.99
     3.01    221.52    .244E+07      3025.6          1.87       13.46
     3.36    221.87    .282E+07      3836.5          2.05       12.27
     3.71    222.22    .321E+07      4723.7          2.22       11.31
     4.06    222.57    .359E+07      5684.6          2.39       10.53
     4.40    222.91    .398E+07      6716.6          2.55        9.87
     4.75    223.26    .437E+07      7817.7          2.70        9.31
     5.10    223.61    .476E+07      8986.2          2.85        8.83
     5.45    223.96    .515E+07     10220.4          2.99        8.40
     5.79    224.30    .555E+07     11519.1          3.13        8.03
     6.14    224.65    .594E+07     12880.8          3.27        7.69
     6.49    225.00    .634E+07     14304.5          3.40        7.39

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    16.20     7.75  21.99      0.65      0.73
     OUTFLOW: ID= 1 (6372) 1656.24    15.45     8.50  21.99      0.65      0.74


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):    110.42   0.691     7.25    13.37
      + ID2= 2 (6372):   1656.24  15.450     8.50    21.99
        ==========================================================
        ID = 3 (8294):   1766.66  16.075     8.50    21.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):    545.70   5.223     8.25    28.20
      + ID2= 2 (8294):   1766.66  16.075     8.50    21.45
        ==========================================================
        ID = 3 (8292):   2312.36  21.266     8.50    23.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  65.1290    345.3754
                        25.4850     24.6697   |  84.9510    456.3890
                        31.1490     98.6787   |  *******    838.7689
                        39.6440     *******   |  *******    838.7789
                        48.1390     *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     21.266      8.50      23.04
     OUTFLOW: ID= 1 (5505)   2312.360     15.623     11.25      23.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.47
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.1370

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):    463.85   8.365     7.25    39.99
      + ID2= 2 (5505):   2312.36  15.623    11.25    23.04
        ==========================================================
        ID = 3 (8272):   2776.21  20.788    10.25    25.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=   4.736 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  34.962
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.395

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=   3.577 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  22.323
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.252

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=   4.371 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  23.713
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.268

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=   2.679 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  25.800
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.292

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=   3.426 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  28.018
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.317

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   3.426     7.00    28.02
       + ID2= 2 (0388):   220.77   2.679     7.25    25.80
         ================================================
         ID = 3 (8286):   462.04   6.100     7.25    26.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area     (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.596 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  16.955
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area     (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.939 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.644
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0382) |   Area     (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   3.143 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  22.142
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   1.939     6.50    14.64
       + ID2= 2 (0382):   216.59   3.143     6.75    22.14
         ================================================
         ID = 3 (8290):   398.60   5.066     6.75    18.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30        0.0300      Main Channel
                79.39         279.30        0.0300      Main Channel
                79.64         279.30        0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.34   279.64    .715E+03        0.2         0.85      63.42
      1.10   280.40    .507E+05       21.9          1.40      38.54
      1.85   281.15    .141E+06       91.8          2.10      25.69
      2.61   281.91    .269E+06      218.9          2.63      20.46
      3.36   282.66    .445E+06      407.1          2.96      18.23
      4.12   283.42    .681E+06      698.3          3.31      16.26
      4.87   284.17    .977E+06     1111.8          3.68      14.65
      5.63   284.93    .133E+07     1674.3          4.06      13.27
      6.39   285.69    .173E+07     2457.8          4.59      11.73
      7.14   286.44    .215E+07     3378.8          5.07      10.63
      7.90   287.20    .261E+07     4418.4          5.47       9.85
      8.65   287.95    .310E+07     5676.3          5.92       9.11
      9.41   288.71    .361E+07     7150.5          6.40       8.42
     10.17   289.47    .414E+07     8783.1          6.86       7.86
     10.92   290.22    .469E+07    10575.1          7.30       7.38
     11.68   290.98    .525E+07    12520.4          7.72       6.98
     12.43   291.73    .582E+07    14619.0          8.12       6.64
     13.19   292.49    .642E+07    16863.2          8.50       6.34
     13.94   293.24    .703E+07    19259.8          8.86       6.08

                                  <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     5.07     6.75  18.72      0.51      0.93
     OUTFLOW: ID= 1 (6384)  398.60     3.99     7.75  18.72      0.47      0.91

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--------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   1.596     7.25    16.95
       + ID2= 2 (6384):   398.60   3.985     7.75    18.72
         ================================================
         ID = 3 (8288):   597.67   5.554     7.75    18.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   6.100     7.25    26.96
       + ID2= 2 (8288):   597.67   5.554     7.75    18.13
         ================================================
         ID = 3 (8284):  1059.71  11.532     7.50    21.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   4.371     7.50    23.71
       + ID2= 2 (8284):  1059.71  11.532     7.50    21.98
         ================================================
         ID = 3 (8280):  1479.71  15.903     7.50    22.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0392) |   Area     (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.690
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.324

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   5.877 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  23.743
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0378):   606.72   5.877     7.75    23.74
      + ID2= 2 (0392):   167.22   2.840     7.00    28.69
        ====================================================
        ID = 3 (8282):   773.94   8.554     7.25    24.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8280):  1479.71  15.903     7.50    22.47
      + ID2= 2 (8282):   773.94   8.554     7.25    24.81
        ====================================================
        ID = 3 (8278):  2253.65  24.428     7.50    23.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.54   251.74    .827E+04         4.5          1.51       30.71
       2.19   253.39    .758E+05        73.2          2.69       17.27
       3.83   255.03    .282E+06       331.8          3.27       14.17
       5.48   256.68    .633E+06       917.3          4.03       11.51
       7.12   258.32    .112E+07      1889.5          4.69        9.90
       8.77   259.97    .179E+07      3410.2          5.31        8.73
      10.41   261.61    .259E+07      5627.6          6.05        7.66
      12.06   263.26    .351E+07      8605.1          6.83        6.79
      13.70   264.90    .447E+07     12544.9          7.81        5.94
      15.35   266.55    .546E+07     17101.4          8.71        5.32
      16.99   268.19    .648E+07     22251.7          9.56        4.85
      18.64   269.84    .752E+07     27979.0         10.36        4.48
      20.28   271.48    .858E+07     34269.0         11.11        4.17
      21.93   273.13    .967E+07     41110.8         11.83        3.92
      23.57   274.77    .108E+08     48495.9         12.51        3.71
      25.22   276.42    .119E+08     56418.1         13.17        3.52
      26.86   278.06    .131E+08     64410.6         13.69        3.39
      28.51   279.71    .143E+08     73002.1         14.18        3.27
      30.15   281.35    .156E+08     81379.3         14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65   24.43    7.50  23.28      1.02      1.73
    OUTFLOW: ID= 1 (6394) 2253.65   23.85    8.00  23.28      1.00      1.72

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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6394):   325.45   3.577     7.25    22.32
      + ID2= 2 (6394):  2253.65  23.853     8.00    23.28
        ====================================================
        ID = 3 (8276):  2579.10  27.252     8.00    23.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98       58.06
       2.54   230.74    .277E+06       145.1          1.78       31.76
       4.33   232.53    .786E+06       609.1          2.63       21.50
       6.13   234.33    .140E+07      1481.5          3.59       15.77
       7.92   236.12    .207E+07      2677.3          4.39       12.90
       9.71   237.91    .280E+07      4184.8          5.09       11.14
      11.50   239.70    .357E+07      6001.4          5.71        9.93
      13.29   241.49    .441E+07      8129.1          6.27        9.03
      15.09   243.29    .530E+07     10549.4          6.77        8.37
      16.88   245.08    .625E+07     13300.6          7.24        7.83
      18.67   246.87    .726E+07     16396.2          7.68        7.38
      20.46   248.66    .834E+07     19809.8          8.07        7.02
      22.26   250.46    .949E+07     23532.5          8.43        6.72
      24.05   252.25    .107E+08     27641.2          8.77        6.46
      25.84   254.04    .120E+08     32155.2          9.10        6.22
      27.63   255.83    .134E+08     36901.0          9.37        6.05
      29.42   257.62    .149E+08     42147.7          9.64        5.88
      31.22   259.42    .164E+08     48149.1          9.97        5.68
      33.01   261.21    .181E+08     54644.8         10.29        5.51

                                  <---- hydrograph ---->   <-pipe / channel->
                                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10   27.25    8.00  23.16      1.06      1.06
    OUTFLOW: ID= 1 (6396) 2579.10   24.64    9.00  23.16      1.03      1.05

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   4.736     7.50    34.96
      + ID2= 2 (6396):  2579.10  24.639     9.00    23.16
        ====================================================
        ID = 3 (8274):  2884.31  28.747     8.75    24.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  20.788    10.25    25.87
      + ID2= 2 (8274):  2884.31  28.747     8.75    24.40
        ================================================
        ID = 3 (8270):  5660.52  48.391     9.25    25.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     48.391     9.25      25.12
     OUTFLOW: ID= 1 (5506)   5660.520     35.821    12.25      25.12

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 74.02
                   TIME SHIFT OF PEAK FLOW         (min)=180.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 34.8735

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   3.269 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  31.802
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.359

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   2.141 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.650
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   3.028 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.095
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.763 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.182
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   4.178 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.611
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   4.178     7.00    23.61
      + ID2= 2 (0400):    93.97   1.763     6.50    21.18
        ================================================
        ID = 3 (8268):   422.16   5.776     6.75    23.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36      38.31
      0.81   226.06    .804E+04        5.0         1.93      27.02
      1.22   226.47    .124E+05        9.1         2.30      22.61
      1.84   227.09    .308E+05       23.3         2.36      22.03
      2.46   227.71    .904E+05       62.0         2.14      24.31
      3.09   228.34    .223E+06      188.3         2.63      19.75
      3.71   228.96    .379E+06      410.2         3.38      15.39
      4.33   229.58    .550E+06      711.5         4.04      12.89
      4.95   230.20    .737E+06     1091.3         4.62      11.25
      5.58   230.83    .939E+06     1550.6         5.15      10.10
      6.20   231.45    .116E+07     2072.4         5.59       9.31
      6.82   232.07    .140E+07     2659.2         5.93       8.77
      7.44   232.69    .167E+07     3345.8         6.27       8.30
      8.07   233.32    .195E+07     4159.0         6.64       7.83
      8.69   233.94    .226E+07     5100.8         7.03       7.39
      9.31   234.56    .259E+07     6081.3         7.32       7.11
      9.93   235.18    .295E+07     7183.1         7.60       6.84
     10.56   235.81    .334E+07     8145.2         7.62       6.83
     11.18   236.43    .379E+07     9116.0         7.51       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     5.78    6.75  23.07      0.89      1.99
     OUTFLOW: ID= 1 (6402)  422.16     5.53    7.25  23.07      0.87      1.97

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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
        ID1= 1 (0402):   244.00   3.028     7.50    28.09
      + ID2= 2 (6402):   422.16   5.530     7.25    23.07
        ================================================
        ID = 3 (8266):   666.16   8.550     7.25    24.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   2.141     7.25    18.65
      + ID2= 2 (8266):   666.16   8.550     7.25    24.91
        ================================================
        ID = 3 (8264):   912.62  10.690     7.25    23.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   3.260     6.50    31.80
      + ID2= 2 (8264):   912.62  10.690     7.25    23.22
        ================================================
        ID = 3 (8262):  1055.27  13.662     7.00    24.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  35.821    12.25    25.12
      + ID2= 2 (8262):  1055.27  13.662     7.00    24.38
        ================================================
        ID = 3 (8260):  6715.79  41.240    10.75    25.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   3.942     6.75    25.55
      + ID2= 2 (8260):  6715.79  41.240    10.75    25.01
        ================================================
        ID = 3 (8258):  6947.41  42.741    10.00    25.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   3.821     8.00    19.33
      + ID2= 2 (8258):  6947.41  42.741    10.00    25.03
        ================================================
        ID = 3 (8256):  7519.42  46.169    10.00    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  90.6140     67.8416
                       39.6440    12.3348    |  *******    160.3529
                       48.1390    18.5023    |  *******    160.3629
                       67.9600    37.0045    |   0.0000      0.0000

                            AREA      QPEAK     TPEAK       R.V.
                            (ha)      (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     46.169     10.00      24.59
    OUTFLOW: ID= 1 (5507)   7519.421     43.949     12.25      24.59

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.19
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.4685

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------------------
| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   2.139 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  22.269
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.252

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   2.512 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  30.508
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.345

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0416) |   Area     (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.29

    Unit Hyd Qpeak  (cms)=   5.832

    PEAK FLOW       (cms)=   5.193 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  30.583
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.346

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0412) |   Area     (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   5.088

    PEAK FLOW       (cms)=   3.028 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  22.921
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.259

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (4141) |   Area     (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
------------------

                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      15.73         27.97
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     539.75         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=     116.82         72.91
              over (min)       15.00         30.00
    Storage Coeff.  (min)=       8.13 (ii)   20.27 (ii)
    Unit Hyd. Tpeak (min)=      15.00         30.00
    Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
    PEAK FLOW       (cms)=       2.15          2.85      3.979 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.25       6.00
    RUNOFF VOLUME    (mm)=      86.50         36.78      45.23
    TOTAL RAINFALL   (mm)=      88.50         88.50      88.50
    RUNOFF COEFFICIENT   =       0.98          0.42       0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
        CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720      1.9177
                         0.3820     0.3152   |   3.8720      1.9277
                         1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700     3.979      6.00      45.23
     OUTFLOW: ID= 1 (5414)     43.700     2.035      6.50      45.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.13
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6598

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-------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.30       114.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     980.82        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        58.69
           over (min)      =      15.00        30.00
     Storage Coeff.  (min)=      11.63 (ii)   24.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.76         8.48          9.979 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50        33.77          39.04
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.38           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):   144.30   9.979     6.25    39.04
       + ID2= 2 (5414):    43.70   2.035     6.50    45.23
         ================================================
         ID = 3 (8254):   188.00  11.926     6.25    40.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0412):   238.70   3.028     7.00    22.92
       + ID2= 2 (8254):   188.00  11.926     6.25    40.48
         ================================================
         ID = 3 (8252):   426.70  14.425     6.25    30.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation      Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.27    246.02    .295E+04        0.6         0.75      88.26
     1.53    247.28    .168E+06       69.7         1.65      40.13
     2.79    248.54    .490E+06      299.5         2.42      27.28
     4.06    249.81    .962E+06      740.1         3.05      21.67
     5.32    251.07    .158E+07     1440.0         3.61      18.33
     6.58    252.33    .235E+07     2443.8         4.12      16.06
     7.84    253.59    .327E+07     3811.2         4.63      14.30
     9.10    254.85    .432E+07     5565.1         5.11      12.94
    10.37    256.12    .550E+07     7721.3         5.57      11.88
    11.63    257.38    .682E+07    10309.9         6.00      11.02
    12.89    258.64    .827E+07    13360.6         6.42      10.31
    14.15    259.90    .985E+07    16884.5         6.81       9.72
    15.42    261.17    .116E+08    20818.4         7.14       9.26
    16.68    262.43    .134E+08    25510.4         7.53       8.78
    17.94    263.69    .154E+08    30958.0         7.97       8.30
    19.20    264.95    .175E+08    36988.3         8.38       7.89
    20.46    266.21    .197E+08    43617.1         8.78       7.53
    21.73    267.48    .220E+08    50868.1         9.17       7.22
    22.99    268.74    .244E+08    58854.0         9.56       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70    14.42    6.25  30.66      0.52      0.84
    OUTFLOW: ID= 1 (6416)  426.70     6.92    7.25  30.66      0.39      0.79

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| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   5.193     8.00    30.58
       + ID2= 2 (6416):   426.70   6.920     7.25    30.66
         ================================================
         ID = 3 (8250):   866.00  11.994     7.50    30.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   182.79   2.512     7.50    30.51
       + ID2= 2 (8250):   866.00  11.994     7.50    30.62
         ================================================
         ID = 3 (8248):  1048.79  14.506     7.50    30.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   2.139     7.00    22.27
       + ID2= 2 (8248):  1048.79  14.506     7.50    30.60
         ================================================
         ID = 3 (8246):  1224.61  16.598     7.25    29.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  43.949    12.25    24.59
       + ID2= 2 (8246):  1224.61  16.598     7.25    29.40
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        ================================================
        ID = 3 (8244):  8744.03  53.161    10.00    25.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   4.992     9.00    23.16
      + ID2= 2 (8244):  8744.03  53.161    10.00    25.27
        ================================================
        ID = 3 (8242):  9524.23  58.066    10.00    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231     58.066     10.00      25.09
     OUTFLOW: ID= 1 (5508)   9524.231     56.167     11.75      25.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.73
                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 22.6576

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   4.639 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  38.196
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.432

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    194.58       331.32
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1872.43        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        78.75
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    17.14 (ii)   28.91 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     19.91        30.73        41.342 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     86.50        38.99         47.07
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.44          0.53

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        97.85
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     9.48 (ii)   20.27 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.67         5.12          7.996 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        42.23         52.41
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.48          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  3.3350      1.2400
                         0.3230     0.3074   |  4.3560      1.3520
                         0.9360     0.5374   |  5.3290      1.4590
                         1.7590     0.8302   |  5.7290      1.4690
                         2.4110     1.0550   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    73.000     7.996      6.00      52.41
     OUTFLOW: ID= 1 (5338)    73.000     4.417      6.50      52.41

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.24
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3680

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  41.342     6.25    47.07
      + ID2= 2 (5338):    73.00   4.417     6.50    52.41
        ================================================
        ID = 3 (8310):   598.90  44.535     6.25    47.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   1.173 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  24.620
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        60.88
               over (min)      15.00        30.00
     Storage Coeff.  (min)=      7.47 (ii)   20.52 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
```

```
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.02         1.37          3.881 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        28.70         46.62
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.32          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.6540      0.4604
                          0.0390     0.1699    |   0.8330      0.5249
                          0.1860     0.2610    |   1.0130      0.5896
                          0.3750     0.3534    |   1.4130      0.5996
                          0.4340     0.3813    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     3.881      6.00      46.62
     OUTFLOW: ID= 1 (5334)     33.000     1.849      6.25      46.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.65
                  TIME SHIFT OF PEAK FLOW       (min)= 15.00
                  MAXIMUM  STORAGE   USED      (ha.m.)=  0.6246

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   587.10   1.173    15.25    24.62
       + ID2= 2 (5334):    33.00   1.849     6.25    46.58
         ================================================
         ID = 3 (8314):   620.10   2.136     6.25    25.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.637 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  21.914
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   5.908 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  52.435
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.592

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   6.939 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.497
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.491

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   3.150 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  51.645
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.584

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   6.939     8.00    43.50
       + ID2= 2 (0284):    78.93   3.150     6.50    51.65
         ================================================
         ID = 3 (8388):   528.31   9.369     7.25    44.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31   220.01    .382E+04        0.8         0.57      82.89
      1.06   220.76    .525E+05       12.1         0.66      72.51
      1.81   221.51    .240E+06       88.6         1.05      45.21
      2.56   222.26    .510E+06      261.7         1.46      32.47
      3.31   223.01    .843E+06      533.8         1.81      26.34
      4.06   223.76    .124E+07      913.6         2.10      22.64
      4.81   224.51    .171E+07     1399.0         2.34      20.33
      5.56   225.26    .225E+07     2051.0         2.60      18.27
      6.31   226.01    .285E+07     2907.0         2.91      16.35
      7.06   226.76    .352E+07     3902.5         3.16      15.04
      7.82   227.52    .426E+07     5069.9         3.39      14.01
      8.57   228.27    .507E+07     6433.0         3.62      13.13
      9.32   229.02    .593E+07     8069.2         3.89      12.24
     10.07   229.77    .681E+07     9926.7         4.16      11.44
     10.82   230.52    .772E+07    11962.8         4.42      10.75
     11.57   231.27    .864E+07    14167.1         4.68      10.17
     12.32   232.02    .959E+07    16537.1         4.92       9.66
     13.07   232.77    .105E+08    19070.7         5.16       9.22
     13.82   233.52    .115E+08    21790.4         5.39       8.82

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8388)  528.31     9.37    7.25  44.71      0.88      0.63
     OUTFLOW: ID= 1 (6286)  528.31     7.94    9.00  44.71      0.78      0.62

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--------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0286):   260.51   5.908     7.50    52.44
       + ID2= 2 (6286):   528.31   7.939     9.00    44.71
         ================================================
         ID = 3 (8386):   788.82  13.331     8.25    47.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.864 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  25.946
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   2.593 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.167
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   2.236 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  17.571
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   2.236     8.00    17.57
       + ID2= 2 (0300):   258.93   2.593     7.50    22.17
         ================================================
         ID = 3 (8395):   589.44   4.798     7.75    19.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.883 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  44.801
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   5.447 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  44.529
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.503

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.883     9.25    44.80
       + ID2= 2 (0290):   269.18   5.447     7.25    44.53
         ================================================
         ID = 3 (8397):   610.01   9.010     8.00    44.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   5.388 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  42.226
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.477

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   8.591 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  34.153
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.559 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.026
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.283

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   8.591     8.00    34.15
       + ID2= 2 (0294):   274.15   3.559     7.00    25.03
         ================================================
         ID = 3 (8398):  1012.64  11.892     8.00    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
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```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
              Distance      Elevation       Manning
                 0.00         243.98        0.0400
                42.59         243.18        0.0400
                85.17         241.81        0.0400
               120.66         240.50        0.0400
               156.15         239.56        0.0400
               198.74         236.15        0.0400
               237.78         234.01        0.0400
               241.33         233.82        0.0400
               248.77         233.12    0.0400 /0.0400  Main Channel
               249.87         232.32        0.0400      Main Channel
               250.37         231.80        0.0400      Main Channel
               250.87         232.23        0.0400      Main Channel
               251.97         233.10    0.0400 /0.0400  Main Channel
               255.37         233.22        0.0400
               259.07         233.87        0.0400
               262.62         234.12        0.0400
               266.17         234.23        0.0400
               283.91         234.73        0.0400
               337.15         241.75        0.0400
               351.34         244.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   232.23    .510E+03         0.1          0.53       81.07
       0.87   232.67    .213E+04         0.7          0.83       51.49
       1.30   233.10    .501E+04         2.2          1.10       38.75
       1.98   233.78    .242E+05        12.6          1.34       31.93
       2.66   234.46    .738E+05        42.1          1.46       29.21
       3.34   235.14    .177E+06       127.9          1.84       23.13
       4.02   235.82    .314E+06       281.4          2.29       18.61
       4.70   236.50    .481E+06       509.4          2.71       15.73
       5.38   237.18    .672E+06       815.6          3.11       13.73
       6.06   237.86    .886E+06      1200.7          3.46       12.30
       6.74   238.54    .112E+07      1669.4          3.80       11.23
       7.42   239.22    .139E+07      2226.9          4.11       10.38
       8.10   239.90    .168E+07      2808.4          4.28        9.95
       8.78   240.58    .202E+07      3470.4          4.40        9.68
       9.46   241.26    .240E+07      4331.7          4.61        9.24
      10.14   241.94    .283E+07      5335.2          4.83        8.84
      10.82   242.62    .330E+07      6482.6          5.03        8.48
      11.50   243.30    .381E+07      7764.1          5.21        8.18
      12.18   243.98    .439E+07      9101.2          5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64    11.89    8.00  31.68      1.93      1.32
    OUTFLOW: ID= 1 (6296) 1012.64    11.62    8.25  31.68      1.91      1.31


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| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   5.388     7.50     42.23
      + ID2= 2 (6296):  1012.64  11.616     8.25     31.68
        ================================================
        ID = 3 (8396):  1306.29  16.780     8.00     34.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29  16.780     8.00     34.05
      + ID2= 2 (8397):   610.01   9.010     8.00     44.68
        ================================================
        ID = 3 (8394):  1916.30  25.790     8.00     37.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30  25.790     8.00     37.44
      + ID2= 2 (8395):   589.44   4.798     7.75     19.59
        ================================================
        ID = 3 (8392):  2505.74  30.563     8.00     33.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3021.0) ------>
              Distance      Elevation       Manning
                 0.00         228.10        0.0400
                18.47         227.12        0.0400
                36.95         226.12        0.0400
                46.18         225.84        0.0400
                55.42         225.58        0.0400
               272.47         222.88        0.0400
               277.09         222.76        0.0400
               281.71         222.58        0.0400
               288.54         222.18    0.0400 /0.0300  Main Channel
               288.64         221.00        0.0300      Main Channel
               290.94         221.00        0.0300      Main Channel
               291.04         221.00        0.0300      Main Channel
               291.54         222.75    0.0300 /0.0400  Main Channel
               300.18         222.83        0.0400
               304.80         223.04        0.0400
               309.42         223.25        0.0400
               318.65         223.69        0.0400
               360.22         225.57        0.0400
               397.16         227.60        0.0400
               457.20         228.35        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.29   221.29    .228E+04         0.2          0.32      165.63
       0.59   221.59    .465E+04         0.7          0.45      116.15
       0.88   221.88    .713E+04         1.2          0.54       96.87
       1.18   222.18    .971E+04         1.9          0.61       86.20
       1.57   222.57    .175E+05         3.3          0.59       88.86
       1.97   222.97    .427E+05         6.4          0.47      111.39
       2.36   223.36    .115E+06        16.1          0.44      119.14
       2.76   223.76    .237E+06        37.1          0.49      106.49
       3.15   224.15    .409E+06        72.9          0.56       93.40
       3.55   224.55    .631E+06       127.0          0.63       82.76
       3.94   224.94    .903E+06       202.4          0.70       74.37
       4.34   225.34    .123E+07       301.8          0.77       67.68
       4.73   225.73    .160E+07       433.5          0.85       61.37
       5.13   226.13    .200E+07       602.2          0.95       55.29
       5.52   226.52    .242E+07       804.7          1.05       50.13
       5.92   226.92    .286E+07      1034.2          1.14       46.11
       6.31   227.31    .332E+07      1290.5          1.22       42.88
       6.71   227.71    .380E+07      1560.9          1.29       40.55
       7.10   228.10    .432E+07      1835.6          1.34       39.19

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    30.56     8.00  33.24      2.64      0.47
    OUTFLOW: ID= 1 (6302) 2505.74    24.15    10.00  33.24      2.52      0.46

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| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   3.864     8.50     25.95
      + ID2= 2 (6302):  2505.74  24.155    10.00     33.24
        ================================================
        ID = 3 (8390):  2979.64  27.780    10.00     32.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  13.331     8.25     47.26
      + ID2= 2 (8390):  2979.64  27.780    10.00     32.08
        ================================================
        ID = 3 (8348):  3768.46  40.043     9.50     35.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

    Unit Hyd Qpeak  (cms)=   1.793

    PEAK FLOW       (cms)=   1.844 (i)
    TIME TO PEAK    (hrs)=  10.250
    RUNOFF VOLUME    (mm)=  29.899
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     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.338

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   8.228 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  49.420
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.558

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   8.411 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  49.794
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.563

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.744 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  45.323
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.512

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   7.225 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.085
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   7.225     7.25    41.09
       + ID2= 2 (0276):    90.89   2.744     6.75    45.32
         ================================================
         ID = 3 (8360):   483.38   9.821     7.00    41.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   8.411     8.00    49.79
       + ID2= 2 (8360):   483.38   9.821     7.00    41.88
         ================================================
         ID = 3 (8358):   968.87  17.878     7.50    45.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <----- DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.50   224.76    .263E+04        0.8         0.65       58.31
       1.36   225.62    .278E+05       13.4         1.10       34.54
       2.22   226.48    .855E+05       52.6         1.40       27.09
       3.09   227.35    .157E+06      120.4         1.74       21.78
       3.95   228.21    .242E+06      216.3         2.04       18.64
       4.81   229.07    .340E+06      341.8         2.29       16.56
       5.67   229.93    .450E+06      498.3         2.52       15.06
       6.53   230.79    .574E+06      688.3         2.73       13.90
       7.40   231.66    .711E+06      913.8         2.93       12.97
       8.26   232.52    .861E+06     1173.4         3.11       12.23
       9.12   233.38    .103E+07     1461.3         3.24       11.72
       9.98   234.24    .121E+07     1793.3         3.37       11.26
      10.85   235.11    .142E+07     2141.0         3.45       11.02
      11.71   235.97    .165E+07     2530.4         3.50       10.86
      12.57   236.83    .192E+07     2954.0         3.51       10.81
      13.43   237.69    .226E+07     3160.3         3.18       11.93
      14.29   238.55    .271E+07     3869.4         3.26       11.67
      15.16   239.42    .320E+07     4740.3         3.38       11.24
      16.02   240.28    .373E+07     5688.4         3.48       10.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    17.88    7.50  45.85      1.46      1.13
     OUTFLOW: ID= 1 (6280)  968.87    17.31    8.25  45.85      1.45      1.12

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| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   8.228     7.00    49.42
       + ID2= 2 (6280):   968.87  17.313     8.25    45.85
         ================================================
         ID = 3 (8354):  1268.73  24.661     7.75    46.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.876 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  41.090
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.722 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  48.074
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.543

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   4.211 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  40.714
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.460

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   3.548 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  35.001
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  30.617
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0264):   353.96   3.548     8.00    35.00
      + ID2= 2 (0266):   508.09   3.687     9.00    30.62
        ================================================
        ID = 3 (8380):   862.05   7.203     8.50    32.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2681.0) ------>
             Distance      Elevation       Manning
                0.00        274.03        0.0500
               10.55        272.73        0.0500
               21.10        271.28        0.0500
               50.12        266.83        0.0500
               87.04        260.36        0.0500
               92.32        260.06        0.0500
               94.95        259.93        0.0500
              101.00        256.87        0.0500
              103.00        256.58    0.0500 /0.0350  Main Channel
              104.00        256.32        0.0350      Main Channel
              106.00        256.05        0.0350      Main Channel
              108.00        256.25        0.0350      Main Channel
              110.78        256.65    0.0350 /0.0500  Main Channel
              113.42        256.81        0.0500
              116.06        257.00        0.0500
              155.62        260.24        0.0500
              187.27        263.35        0.0500
              211.01        267.22        0.0500
              224.20        269.60        0.0500
              261.13        272.68        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.53   256.58   .697E+04       2.1         0.97       55.64
      1.38   257.43   .477E+05      25.9         1.76       30.66
      2.22   258.27   .123E+06      84.3         2.22       24.26
      3.07   259.12   .231E+06     185.4         2.60       20.72
      3.92   259.97   .371E+06     335.8         2.92       18.42
      4.77   260.82   .560E+06     547.6         3.15       17.06
      5.61   261.66   .790E+06     845.6         3.46       15.57
      6.46   262.51   .106E+07    1225.0         3.75       14.37
      7.31   263.36   .136E+07    1693.3         4.02       13.37
      8.16   264.21   .169E+07    2283.2         4.35       12.36
      9.00   265.05   .206E+07    2969.1         4.66       11.54
      9.85   265.90   .245E+07    3754.4         4.96       10.86
     10.70   266.75   .286E+07    4643.0         5.24       10.28
     11.55   267.60   .331E+07    5636.1         5.50        9.78
     12.39   268.44   .378E+07    6746.2         5.76        9.34
     13.24   269.29   .428E+07    7972.2         6.01        8.96
     14.09   270.14   .482E+07    9218.9         6.18        8.71
     14.94   270.99   .539E+07   10550.5         6.32        8.52
     15.78   271.83   .601E+07   12024.7         6.46        8.33

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     7.20    8.50  32.42      0.71      1.07
     OUTFLOW: ID= 1 (6268)  862.05     7.01    9.75  32.42      0.70      1.07

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| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   4.211     7.00    40.71
      + ID2= 2 (6268):   862.05   7.011     9.75    32.42
        ================================================
        ID = 3 (8382):  1077.81  10.204     8.50    34.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2701.0) ------>
             Distance      Elevation       Manning
                0.00        245.98        0.0500
                8.14        245.66        0.0500
               16.28        245.16        0.0500
               20.35        244.84        0.0500
               38.66        242.98        0.0500
               48.83        240.65        0.0500
               63.07        235.91        0.0500
               65.11        235.18        0.0500
               68.43        234.34    0.0500 /0.0300  Main Channel
               68.68        233.95        0.0300      Main Channel
               69.18        233.89        0.0300      Main Channel
               69.68        233.95        0.0300      Main Channel
               71.21        234.48    0.0300 /0.0500  Main Channel
               81.38        236.44        0.0500
               95.63        236.66        0.0500
              120.04        237.00        0.0500
              148.53        241.77        0.0500
              158.70        242.34        0.0500
              187.18        244.03        0.0500
              201.42        244.36        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.45   234.34   .217E+04       0.7         0.99       52.83
      0.98   234.87   .966E+04       4.6         1.49       35.20
      1.50   235.39   .250E+05      13.7         1.73       30.41
      2.03   235.92   .475E+05      29.5         1.95       26.87
      2.56   236.45   .772E+05      52.5         2.14       24.50
      3.09   236.98   .142E+06      82.4         1.83       28.73
      3.61   237.50   .246E+06     158.1         2.03       25.91
      4.14   238.03   .357E+06     262.0         2.31       22.73
      4.67   238.56   .477E+06     392.1         2.59       20.27
      5.20   239.09   .604E+06     547.8         2.86       18.38
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   5.72   239.61    .739E+06     729.2          3.11      16.90
   6.25   240.14    .882E+06     936.5          3.34      15.70
   6.78   240.67    .103E+07    1169.7          3.57      14.72
   7.31   241.20    .119E+07    1425.9          3.77      13.94
   7.83   241.72    .136E+07    1710.4          3.96      13.26
   8.36   242.25    .154E+07    1967.9          4.02      13.07
   8.89   242.78    .174E+07    2264.9          4.09      12.83
   9.42   243.31    .196E+07    2589.3          4.15      12.65
   9.94   243.83    .221E+07    2953.5          4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8382) 1077.81    10.20    8.50  34.08      1.30      1.63
OUTFLOW: ID= 1 (6270) 1077.81    10.06    9.25  34.08      1.29      1.62


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| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   4.722     7.25    48.07
      + ID2= 2 (6270):  1077.81  10.057     9.25    34.08
        ================================================
        ID = 3 (8384):  1321.42  14.172     8.75    36.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

    Unit Hyd Qpeak  (cms)=   4.094

    PEAK FLOW       (cms)=   5.995 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  49.519
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.560

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

    Unit Hyd Qpeak  (cms)=   4.360

    PEAK FLOW       (cms)=   6.777 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  49.681
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.561

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

    Unit Hyd Qpeak  (cms)=   1.881

    PEAK FLOW       (cms)=   2.620 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  45.751
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.517

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

    Unit Hyd Qpeak  (cms)=   3.761

    PEAK FLOW       (cms)=   4.280 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  38.873
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.439

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

    Unit Hyd Qpeak  (cms)=   1.707

    PEAK FLOW       (cms)=   1.643 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  33.068
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.374

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

    Unit Hyd Qpeak  (cms)=   4.028

    PEAK FLOW       (cms)=   2.850 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  23.726
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.268

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2561.0) ------>
              Distance      Elevation        Manning
                 0.00         276.07         0.0400
                11.68         273.71         0.0400
                23.36         271.35         0.0400
                29.19         270.30         0.0400
                35.03         269.44         0.0400
                55.47         267.90         0.0400
                78.82         266.24         0.0400
                90.50         265.63         0.0400
               102.18         265.40         0.0400
               105.10         264.95    0.0400 /0.0350  Main Channel
               108.02         264.39         0.0350      Main Channel
               110.94         264.72         0.0350      Main Channel
               113.86         265.19    0.0350 /0.0400  Main Channel
               116.78         265.49         0.0400
               143.05         268.24         0.0400
               172.25         270.53         0.0400
               207.28         271.95         0.0400
               233.55         273.72         0.0400
               256.91         274.98         0.0400
               289.02         275.97         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90      62.51
       1.14   265.53    .307E+05      13.5         1.49      37.92
       1.72   266.11    .951E+05      48.6         1.73      32.62
       2.30   266.69    .191E+06     117.8         2.09      27.03
       2.88   267.27    .314E+06     225.2         2.43      23.24
       3.46   267.85    .464E+06     375.5         2.74      20.59
       4.04   268.43    .641E+06     573.2         3.03      18.62
       4.62   269.01    .846E+06     821.9         3.29      17.15
       5.20   269.59    .108E+07    1135.0         3.56      15.87
       5.78   270.17    .134E+07    1525.1         3.86      14.64
       6.36   270.75    .162E+07    1971.1         4.12      13.71
       6.94   271.33    .194E+07    2474.0         4.33      13.04
       7.52   271.91    .228E+07    3065.0         4.55      12.42
       8.10   272.49    .266E+07    3773.4         4.80      11.75
       8.68   273.07    .306E+07    4566.3         5.05      11.17
       9.26   273.65    .348E+07    5443.7         5.30      10.66
       9.84   274.23    .393E+07    6389.6         5.51      10.25
      10.42   274.81    .440E+07    7426.2         5.72       9.88
      11.00   275.39    .490E+07    8490.1         5.86       9.63

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0254)  403.00     2.85    8.00  23.73      0.61      0.93
OUTFLOW: ID= 1 (6256)  403.00     2.68    9.75  23.73      0.60      0.93
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| ADD HYD   (8370) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.643     8.00    33.07
       + ID2= 2 (6256):   403.00   2.683     9.75    23.73
         ================================================
         ID = 3 (8370):   548.79   4.183     9.00    26.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

    Unit Hyd Qpeak  (cms)=   1.930

    PEAK FLOW       (cms)=   2.099 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  35.932
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.406

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

    Unit Hyd Qpeak  (cms)=   5.121

    PEAK FLOW       (cms)=   3.958 (i)
    TIME TO PEAK    (hrs)=  10.000
    RUNOFF VOLUME    (mm)=  23.809
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.269

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

    Unit Hyd Qpeak  (cms)=   2.271

    PEAK FLOW       (cms)=   1.874 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  30.328
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.343

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   3.958    10.00    23.81
       + ID2= 2 (0248):   146.04   1.874     7.25    30.33
         ================================================
         ID = 3 (8364):   905.65   5.601     8.25    24.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                0.00         269.96        0.0500
                8.56         268.55        0.0500
               17.13         266.91        0.0500
               21.41         266.13        0.0500
               40.68         263.15        0.0500
               62.09         260.75        0.0500
               85.64         258.02        0.0500
               88.20         257.69        0.0500
               93.20         257.05    0.0500 /0.0350  Main Channel
               93.45         256.88        0.0350      Main Channel
               94.20         256.56        0.0350      Main Channel
               94.95         256.83        0.0350      Main Channel
               95.20         257.08    0.0350 /0.0500  Main Channel
              100.62         257.45        0.0500
              115.61         258.57        0.0500
              139.16         260.43        0.0500
              152.01         261.95        0.0500
              171.27         264.63        0.0500
              188.40         267.90        0.0500
              211.95         274.18        0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.49   257.05    .205E+04       0.4          0.68       89.65
           1.17   257.73    .248E+05       5.7          0.85       72.16
           1.85   258.41    .841E+05      25.2          1.10       55.60
           2.53   259.09    .180E+06      66.5          1.36       45.14
           3.21   259.77    .312E+06     135.7          1.60       38.36
           3.89   260.45    .481E+06     238.3          1.82       33.61
           4.57   261.13    .681E+06     383.5          2.07       29.60
           5.25   261.81    .911E+06     568.9          2.29       26.70
           5.93   262.49    .117E+07     800.5          2.51       24.36
           6.61   263.17    .146E+07    1079.0          2.72       22.49
           7.28   263.84    .177E+07    1413.4          2.94       20.85
           7.96   264.52    .210E+07    1797.0          3.14       19.50
           8.64   265.20    .246E+07    2241.6          3.35       18.28
           9.32   265.88    .283E+07    2739.9          3.55       17.25
          10.00   266.56    .323E+07    3295.7          3.75       16.34
          10.68   267.24    .364E+07    3908.9          3.94       15.54
          11.36   267.92    .408E+07    4578.5          4.12       14.84
          12.04   268.60    .453E+07    5320.1          4.32       14.18
          12.72   269.28    .499E+07    6109.1          4.50       13.61

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
          INFLOW : ID= 2 (8364)  905.65     5.60    8.25  24.86      1.15      0.84
          OUTFLOW: ID= 1 (6250)  905.65     5.25   10.25  24.86      1.11      0.83

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   2.099     8.00    35.93
       + ID2= 2 (6250):   905.65   5.247    10.25    24.86
         ================================================
         ID = 3 (8366):  1098.53   7.167     9.75    26.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   7.167     9.75    26.80
       + ID2= 2 (8370):   548.79   4.183     9.00    26.21
         ================================================
         ID = 3 (8368):  1647.32  11.318     9.50    26.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0252):   319.99   4.280     8.00    38.87
       + ID2= 2 (8368):  1647.32  11.318     9.50    26.61
         ================================================
         ID = 3 (8372):  1967.31  15.243     9.00    28.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2581.0) ------>
             Distance      Elevation       Manning
                0.00         252.88        0.0500
               15.47         251.89        0.0500
               46.41         248.45        0.0500
               73.48         245.81        0.0500
               88.95         243.75        0.0500
              112.15         242.00        0.0500
              135.35         240.23        0.0500
              162.42         239.76        0.0500
              170.97         239.52    0.0500 /0.0350  Main Channel
```

171.58	239.03	0.0350		Main Channel
174.02	239.03	0.0350		Main Channel
176.46	239.03	0.0350		Main Channel
177.07	239.52	0.0350 /0.0500		Main Channel
185.63	239.67	0.0500		
208.83	239.87	0.0500		
239.77	240.14	0.0500		
274.57	244.93	0.0500		
336.45	249.51	0.0500		
363.52	249.77	0.0500		
382.85	251.78	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8372)	1967.31	15.24	9.00	28.60	0.85	0.81
OUTFLOW:	ID= 1 (6258)	1967.31	13.61	11.25	28.60	0.80	0.82

ADD HYD (8374)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0258):	181.99	2.620	8.00	45.75
	+ ID2= 2 (6258):	1967.31	13.612	11.25	28.60
	ID = 3 (8374):	2149.30	15.662	11.00	30.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0260):	476.24	6.777	8.00	49.68
	+ ID2= 2 (8374):	2149.30	15.662	11.00	30.05
	ID = 3 (8376):	2625.54	21.578	10.25	33.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0262):	341.31	5.995	7.50	49.52
	+ ID2= 2 (8376):	2625.54	21.578	10.25	33.61
	ID = 3 (8378):	2966.85	26.472	10.00	35.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8378):	2966.85	26.472	10.00	35.44
	+ ID2= 2 (8384):	1321.42	14.172	8.75	36.66
	ID = 3 (8362):	4288.27	40.199	9.25	35.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8362)	4288.27	40.20	9.25	35.82	1.90	0.81
OUTFLOW:	ID= 1 (6272)	4288.27	39.68	10.00	35.82	1.90	0.81

ADD HYD (8356)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0272):	157.38	2.876	7.50	41.09
	+ ID2= 2 (6272):	4288.27	39.678	10.00	35.82
	ID = 3 (8356):	4445.65	41.748	10.00	36.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8354):	1268.73	24.661	7.75	46.69
	+ ID2= 2 (8356):	4445.65	41.748	10.00	36.00
	ID = 3 (8352):	5714.38	62.779	9.00	38.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning
0.00	232.08	0.0500
19.00	231.87	0.0500
38.00	231.33	0.0500
66.51	230.44	0.0500
104.51	228.25	0.0500

```
                118.76        225.17        0.0500
                128.26        219.86        0.0500
                175.77        219.17        0.0500
                185.27        218.90    0.0500 /0.0300  Main Channel
                185.52        218.65        0.0300      Main Channel
                190.02        218.37        0.0300      Main Channel
                194.52        218.60        0.0300      Main Channel
                194.77        218.85    0.0300 /0.0500  Main Channel
                204.27        219.60        0.0500
                299.28        220.91        0.0500
                327.78        222.36        0.0500
                375.28        225.71        0.0500
                403.79        229.37        0.0500
                432.29        230.43        0.0500
                470.29        232.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.48    218.85    .121E+05        1.2         0.36     173.94
       1.17    219.54    .839E+05        9.8         0.44     142.60
       1.86    220.23    .323E+06       41.0         0.47     131.43
       2.56    220.93    .708E+06      109.5         0.58     107.67
       3.25    221.62    .118E+07      224.3         0.71      87.36
       3.94    222.31    .168E+07      376.5         0.84      74.48
       4.63    223.00    .222E+07      567.9         0.96      65.26
       5.32    223.69    .279E+07      794.7         1.07      58.58
       6.02    224.39    .339E+07     1056.2         1.17      53.52
       6.71    225.08    .402E+07     1352.4         1.26      49.52
       7.40    225.77    .468E+07     1677.3         1.34      46.46
       8.09    226.46    .536E+07     2050.0         1.43      43.58
       8.79    227.16    .607E+07     2457.9         1.52      41.14
       9.48    227.85    .680E+07     2901.0         1.60      39.05
      10.17    228.54    .755E+07     3352.7         1.66      37.53
      10.86    229.23    .834E+07     3812.5         1.71      36.48
      11.55    229.92    .919E+07     4241.8         1.73      36.13
      12.25    230.62    .101E+08     4697.0         1.74      35.93
      12.94    231.31    .111E+08     5186.3         1.74      35.83

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.38    62.78    9.00  38.38      2.08      0.50
     OUTFLOW: ID= 1 (6304) 5714.38    52.13   11.25  38.38      1.98      0.49


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| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.844    10.25    29.90
      + ID2= 2 (6304):  5714.38  52.127    11.25    38.38
        ================================================
        ID = 3 (8350):  6006.75  53.944    11.25    37.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  40.043     9.50    35.26
      + ID2= 2 (8350):  6006.75  53.944    11.25    37.96
        ================================================
        ID = 3 (8346):  9775.21  91.832    10.50    36.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.637    13.75    21.91
      + ID2= 2 (8346):  9775.21  91.832    10.50    36.92
        ================================================
        ID = 3 (8344): 10059.18  92.399    10.50    36.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK      R.V.
                                   (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8344)   ********     92.399     10.50     36.50
     OUTFLOW: ID= 1 (5509)   ********     55.794     15.75     36.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.38
                  TIME SHIFT OF PEAK FLOW         (min)=315.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=119.7052

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------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.974 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  41.340
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   9.926 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  47.004
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.531

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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            <------ DATA FOR SECTION (3321.0) ------>
            Distance      Elevation        Manning
               0.00         234.00         0.0380
              25.85         227.20         0.0380
              96.94         226.44         0.0380
             168.03         227.38         0.0380
             219.73         225.62         0.0380
             342.52         221.57         0.0380
             368.37         221.42         0.0380
             374.83         221.23         0.0380
             379.79         220.98    0.0380 /0.0300  Main Channel
             380.29         220.47         0.0300      Main Channel
             381.29         220.47         0.0300      Main Channel
             382.79         220.47         0.0300      Main Channel
             383.29         220.98    0.0300 /0.0380  Main Channel
             394.22         221.22         0.0380
             400.68         221.33         0.0380
             407.14         221.44         0.0380
             491.16         225.70         0.0380
             568.71         227.55         0.0380
             607.49         230.14         0.0380
             639.80         234.08         0.0380

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.51    220.98    .554E+04        0.9         0.56     107.27
       1.20    221.67    .885E+05       12.1         0.49     122.32
       1.88    222.35    .309E+06       64.7         0.76      79.70
       2.57    223.04    .615E+06      165.4         0.97      61.99
       3.25    223.72    .101E+07      322.1         1.16      52.06
       3.94    224.41    .148E+07      542.9         1.33      45.51
       4.62    225.09    .204E+07      835.4         1.48      40.77
       5.31    225.78    .269E+07     1202.8         1.62      37.27
       5.99    226.46    .344E+07     1618.0         1.70      35.46
       6.68    227.15    .447E+07     1932.0         1.56      38.56
       7.36    227.83    .580E+07     2763.9         1.72      34.96
       8.05    228.52    .718E+07     3861.9         1.95      30.97
       8.73    229.20    .859E+07     5115.4         2.16      27.98
       9.42    229.89    .100E+08     6519.2         2.35      25.64
      10.10    230.57    .115E+08     8092.3         2.55      23.69
      10.79    231.26    .130E+08     9821.5         2.73      22.05
      11.47    231.94    .145E+08    11690.0         2.92      20.68
      12.16    232.63    .160E+08    13694.9         3.09      19.52
      12.84    233.31    .176E+08    15833.9         3.26      18.52
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                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     9.93    7.25  47.00      1.06      0.50
     OUTFLOW: ID= 1 (6332)  468.30     7.46    9.50  47.00      0.91      0.52


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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   393.44   3.974     9.50     41.34
      + ID2= 2 (6332):   468.30   7.455     9.50     47.00
        ================================================
        ID = 3 (8322):   861.74  11.429     9.50     44.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   6.150 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  43.578
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.492

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   9.054 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  47.251
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   8.170 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  45.986
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.520

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   5.113 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  48.415
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.547

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   7.201 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  44.687
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.505

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          21.06          4.94
     Dep. Storage     (mm)=           2.00          5.00
     Average Slope     (%)=           0.50          0.50
     Length            (m)=         416.33         40.00
     Mannings n           =          0.013         0.250

     Max.Eff.Inten.(mm/hr)=         116.82         67.96
           over (min)              15.00         30.00
     Storage Coeff.  (min)=          6.96 (ii)     19.44 (ii)
     Unit Hyd. Tpeak (min)=         15.00         30.00
     Unit Hyd. peak  (cms)=          0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=          6.31          0.48          6.617 (iii)
     TIME TO PEAK    (hrs)=          6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=         86.50         43.75         78.38
     TOTAL RAINFALL   (mm)=         88.50         88.50         88.50
     RUNOFF COEFFICIENT   =          0.98          0.49          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800     0.7654
                         0.0510     0.4423   |   4.1500     0.8231
                         0.8700     0.5378   |   4.8750     0.8778
                         1.9590     0.6105   |   5.2750     0.8878
                         2.5620     0.6796   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    26.000     6.617      6.00       78.38
     OUTFLOW: ID= 1 (5318)    26.000     3.934      6.25       78.29

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.45
               TIME SHIFT OF PEAK FLOW          (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.8924

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| ADD HYD   (8334) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3182):   457.40   7.201     8.00     44.69
      + ID2= 2 (5318):    26.00   3.934     6.25     78.29
        ================================================
        ID = 3 (8334):   483.40   8.715     6.25     46.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation        Manning
                  0.00         249.00         0.0380
                 22.92         245.86         0.0380
                 45.83         244.87         0.0380
                 91.66         243.11         0.0380
                126.03         239.53         0.0380
                160.41         237.17         0.0380
                166.14         237.06         0.0380
                177.59         237.13         0.0380
                183.32         237.20         0.0380
                189.05         236.70    0.0380 /0.0350  Main Channel
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              193.05        235.89         0.0350      Main Channel
              197.05        236.64    0.0350 /0.0380   Main Channel
              200.51        236.74         0.0380
              206.24        237.03         0.0380
              246.34        238.82         0.0380
              263.53        243.87         0.0380
              389.56        247.64         0.0380
              452.58        247.74         0.0380
              498.41        248.60         0.0380
              567.16        249.84         0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   236.26    .270E+04        0.4         0.58     107.96
       0.75   236.64    .108E+05        2.6         0.92      68.01
       1.48   237.37    .877E+05       27.4         1.17      53.35
       2.20   238.09    .277E+06      122.1         1.65      37.83
       2.93   238.82    .540E+06      299.7         2.08      30.01
       3.66   239.55    .857E+06      587.8         2.57      24.29
       4.39   240.28    .120E+07      977.8         3.04      20.52
       5.11   241.00    .158E+07     1458.1         3.46      18.02
       5.84   241.73    .198E+07     2028.6         3.84      16.23
       6.57   242.46    .240E+07     2690.5         4.19      14.86
       7.29   243.18    .285E+07     3431.8         4.50      13.84
       8.02   243.91    .335E+07     4149.1         4.64      13.44
       8.75   244.64    .393E+07     4746.6         4.51      13.80
       9.47   245.36    .463E+07     5618.6         4.53      13.75
      10.20   246.09    .545E+07     6781.8         4.66      13.39
      10.93   246.82    .635E+07     8274.5         4.87      12.79
      11.66   247.55    .733E+07     9988.0         5.10      12.23
      12.38   248.27    .853E+07    11422.0         5.01      12.45
      13.11   249.00    .989E+07    13749.7         5.20      11.98

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (8334)  483.40     8.72    6.25  46.49      0.93      0.97
OUTFLOW: ID= 1 (6320)  483.40     7.07    9.00  46.49      0.88      0.95


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| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0320):   278.74   5.113     8.00     48.41
      + ID2= 2 (6320):   483.40   7.067     9.00     46.49
        ================================================
        ID = 3 (8332):   762.14  11.950     8.50     47.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   4.656 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  44.178
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.499

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3161.0) ------>
              Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
               207.98         235.25        0.0310      Main Channel
               209.98         235.53        0.0310      Main Channel
               210.48         236.00    0.0310 /0.0350  Main Channel
               216.42         236.73        0.0350
               258.31         239.09        0.0350
               328.12         239.84        0.0350
               439.83         241.47        0.0350
               530.58         242.08        0.0350
               586.43         242.93        0.0350
               691.16         248.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   235.62    .215E+04        0.7         0.77      53.88
       0.75   236.00    .634E+04        3.5         1.36      30.45
       1.46   236.71    .297E+05       19.3         1.62      25.66
       2.16   237.41    .103E+06       75.8         1.84      22.60
       2.87   238.12    .229E+06      202.8         2.21      18.79
       3.57   238.82    .407E+06      423.3         2.59      16.03
       4.28   239.53    .654E+06      727.7         2.77      14.97
       4.99   240.24    .103E+07     1242.0         3.01      13.76
       5.69   240.94    .151E+07     2002.3         3.31      12.54
       6.40   241.65    .210E+07     2987.9         3.55      11.70
       7.10   242.35    .286E+07     4302.8         3.75      11.07
       7.81   243.06    .374E+07     6165.3         4.10      10.11
       8.51   243.76    .468E+07     8642.4         4.60       9.03
       9.22   244.47    .565E+07    11496.3         5.06       8.20
       9.93   245.18    .666E+07    14714.1         5.50       7.54
      10.63   245.88    .770E+07    18290.3         5.91       7.02
      11.34   246.59    .877E+07    22221.9         6.30       6.58
      12.04   247.29    .988E+07    26464.4         6.67       6.22
      12.75   248.00    .110E+08    31061.3         7.01       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (0314)  165.20     4.66    6.75  44.18      0.80      1.38
OUTFLOW: ID= 1 (6316)  165.20     4.38    7.25  44.18      0.79      1.37


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-------------------
| CALIB             |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.923

     PEAK FLOW       (cms)=   5.548 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  49.565
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.560

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0316):   232.34   5.548     7.25     49.57
      + ID2= 2 (6316):   165.20   4.376     7.25     44.18
        ================================================
        ID = 3 (8338):   397.54   9.924     7.25     47.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   6.425 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  47.122
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   4.939 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  29.006
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.328
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 65.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.76				

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 2.521 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 31.169
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	4.939	8.25	29.01
+ ID2= 2 (0310):	138.28	2.521	7.00	31.17
ID = 3 (8342):	667.58	7.113	7.75	29.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8342)	667.58	7.11	7.75	29.45	0.56	1.85
OUTFLOW: ID= 1 (6312)	667.58	7.11	7.75	29.45	0.55	1.85

ADD HYD (8340)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0312):	359.44	6.425	8.00	47.12
+ ID2= 2 (6312):	667.58	7.109	7.75	29.45
ID = 3 (8340):	1027.02	13.531	8.00	35.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8336)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8338):	397.54	9.924	7.25	47.33
+ ID2= 2 (8340):	1027.02	13.531	8.00	35.64
ID = 3 (8336):	1424.56	23.290	7.50	38.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8330)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8332):	762.14	11.950	8.50	47.20
+ ID2= 2 (8336):	1424.56	23.290	7.50	38.90
ID = 3 (8330):	2186.70	34.722	7.75	41.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6324) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3241.0) ------>

Distance	Elevation	Manning	
0.00	234.38	0.0360	
33.57	232.48	0.0360	
67.14	230.14	0.0360	
83.93	228.80	0.0360	
134.29	227.62	0.0360	
209.82	225.10	0.0360	
218.21	224.86	0.0360	
226.61	224.47	0.0360	
234.00	223.86	0.0360 /0.0300	Main Channel
234.10	223.66	0.0300	Main Channel
235.00	223.66	0.0300	Main Channel
235.90	223.66	0.0300	Main Channel
236.00	223.86	0.0300 /0.0360	Main Channel
243.39	224.92	0.0360	
251.78	224.89	0.0360	
335.71	225.64	0.0360	
562.32	226.53	0.0360	
637.85	228.36	0.0360	
705.00	229.80	0.0360	
830.89	234.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	223.86	.145E+04	0.2	0.43	147.27
0.73	224.39	.159E+05	2.8	0.68	93.11
1.27	224.93	.561E+05	11.0	0.75	85.19
1.80	225.46	.217E+06	45.6	0.80	79.20
2.33	225.99	.566E+06	134.4	0.91	70.20
2.87	226.53	.122E+07	338.1	1.06	59.97
3.40	227.06	.206E+07	744.3	1.38	46.16
3.94	227.60	.298E+07	1295.9	1.66	38.38
4.47	228.13	.399E+07	1979.9	1.90	33.59
5.00	228.66	.509E+07	2807.5	2.11	30.21
5.54	229.20	.627E+07	3815.1	2.32	27.41
6.07	229.73	.753E+07	4984.1	2.53	25.17
6.60	230.26	.884E+07	6346.3	2.74	23.20
7.14	230.80	.102E+08	7861.2	2.95	21.61
7.67	231.33	.116E+08	9526.4	3.14	20.29
8.21	231.87	.131E+08	11342.2	3.32	19.18
8.74	232.40	.146E+08	13309.6	3.49	18.22
9.27	232.93	.161E+08	15414.0	3.66	17.41
9.81	233.47	.177E+08	17671.0	3.81	16.70

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8330)	2186.70	34.72	7.75	41.79	1.63	0.79
OUTFLOW: ID= 1 (6324)	2186.70	29.73	9.50	41.79	1.56	0.78

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| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0324):   615.64   8.170     8.50    45.99
       + ID2= 2 (6324):  2186.70  29.727     9.50    41.79
         ================================================
         ID = 3 (8328):  2802.34  37.743     9.25    42.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number    (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=   7.498 (i)
    TIME TO PEAK    (hrs)=   8.250
    RUNOFF VOLUME    (mm)=  47.219
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.534

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   7.498     8.25    47.22
       + ID2= 2 (8328):  2802.34  37.743     9.25    42.71
         ================================================
         ID = 3 (8326):  3315.47  45.039     9.25    43.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   9.054     8.75    47.25
       + ID2= 2 (8326):  3315.47  45.039     9.25    43.41
         ================================================
         ID = 3 (8324):  3994.38  54.016     9.25    44.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.50   218.64    .373E+05       3.2          0.33      192.37
       1.00   219.14    .752E+05      10.1          0.51      124.71
       1.52   219.66    .149E+06      22.2          0.57      112.06
       2.04   220.18    .279E+06      43.4          0.59      107.06
       2.56   220.70    .464E+06      77.0          0.63      100.52
       3.08   221.22    .705E+06     125.7          0.68       93.56
       3.61   221.75    .100E+07     192.7          0.73       86.62
       4.13   222.27    .135E+07     278.1          0.79       80.92
       4.65   222.79    .176E+07     385.9          0.84       75.86
       5.17   223.31    .222E+07     514.9          0.89       71.82
       5.69   223.83    .280E+07     662.7          0.90       70.40
       6.21   224.35    .345E+07     867.7          0.96       66.35
       6.73   224.87    .417E+07    1107.0          1.01       62.81
       7.25   225.39    .494E+07    1400.0          1.08       58.80
       7.78   225.92    .573E+07    1732.2          1.15       55.17
       8.30   226.44    .655E+07    2099.9          1.22       52.02
       8.82   226.96    .740E+07    2502.8          1.29       49.29
       9.34   227.48    .828E+07    2940.9          1.36       46.90
       9.86   228.00    .918E+07    3414.3          1.42       44.79

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.38    54.02    9.25  44.06      2.21      0.61
    OUTFLOW: ID= 1 (6328) 3994.38    46.11   11.00  44.06      2.08      0.60

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   6.150     8.75    43.58
       + ID2= 2 (6328):  3994.38  46.106    11.00    44.06
         ================================================
         ID = 3 (8320):  4487.30  51.569    11.00    44.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  51.569    11.00    44.01
       + ID2= 2 (8322):   861.74  11.429     9.50    44.42
         ================================================
         ID = 3 (8318):  5349.04  62.499    10.75    44.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  55.794    15.75    36.50
       + ID2= 2 (8318):  5349.04  62.499    10.75    44.08
         ================================================
         ID = 3 (8316): 15408.22 109.731    11.75    39.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   2.136     6.25    25.79
       + ID2= 2 (8316): 15408.22 109.731    11.75    39.13
         ================================================
         ID = 3 (8312): 16028.32 110.987    11.75    38.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  44.535     6.25    47.72
       + ID2= 2 (8312): 16028.32 110.987    11.75    38.61
         ================================================
         ID = 3 (8308): 16627.22 113.364    11.75    38.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  *******    74.0090
                        66.5450    18.5023    |  *******    ********
                        98.5430    37.0045    |  *******    ********

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********   113.364     11.75      38.94
```

```
     OUTFLOW: ID= 1 (5510)   ********    105.320     13.75      38.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.90
                   TIME SHIFT OF PEAK FLOW          (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 44.9262

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   4.639    22.25    38.20
       + ID2= 2 (5510): 16627.22 105.320    13.75    38.94
         ================================================
         ID = 3 (8240): 19412.22 109.428    14.00    38.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  56.167    11.75    25.09
       + ID2= 2 (8240): 19412.22 109.428    14.00    38.84
         ================================================
         ID = 3 (8238): 28936.45 163.719    13.00    34.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   5.230    10.00    23.19
       + ID2= 2 (8238): 28936.45 163.719    13.00    34.32
         ================================================
         ID = 3 (8236): 29941.03 168.365    12.75    33.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80  10.972     6.50    32.52
       + ID2= 2 (8236): 29941.03 168.365    12.75    33.94
         ================================================
         ID = 3 (8234): 30226.83 168.774    12.50    33.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.771     7.00    26.48
       + ID2= 2 (8234): 30226.83 168.774    12.50    33.93
         ================================================
         ID = 3 (8230): 30570.83 170.215    12.50    33.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  15.927     8.75    22.21
       + ID2= 2 (8230): 30570.83 170.215    12.50    33.84
         ================================================
         ID = 3 (8228): 32522.89 180.663    12.00    33.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   6.685     8.00    18.15
       + ID2= 2 (8228): 32522.89 180.663    12.00    33.15
         ================================================
         ID = 3 (8190): 33538.11 185.041    12.00    32.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  11 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\9255d239
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
               0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
               0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
               1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
               1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
               1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
               1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
               2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
               2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
               2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
               2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
               3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   5.609 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.056 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.232
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.018 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.394
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   5.278 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.777
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.381
```

EXISTING
WEST HOLLAND RIVER REGIONAL STORM (RF1000 – RF927)

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO               Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\96b8d007-9cc9-4be4-b3c8-096f6a228b82\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\96b8d007-9cc9-4be4-b3c8-096f6a228b82\Scenario.sum


DATE: 08/22/2012                          TIME: 01:35:05

USER:


COMMENTS: _____________________________________________________

--------------------------------------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              96b8d007-9cc9-4be4-b3c8-096f6a228b82\487f093f
| Ptotal=212.00 mm |    Comments: 12-Hour Hurricane Hazel
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
               0.25     6.00 |  3.25   13.00 |  6.25   23.00 |  9.25   53.00
               0.50     6.00 |  3.50   13.00 |  6.50   23.00 |  9.50   53.00
               0.75     6.00 |  3.75   13.00 |  6.75   23.00 |  9.75   53.00
               1.00     6.00 |  4.00   13.00 |  7.00   23.00 | 10.00   53.00
               1.25     4.00 |  4.25   17.00 |  7.25   13.00 | 10.25   38.00
               1.50     4.00 |  4.50   17.00 |  7.50   13.00 | 10.50   38.00
               1.75     4.00 |  4.75   17.00 |  7.75   13.00 | 10.75   38.00
               2.00     4.00 |  5.00   17.00 |  8.00   13.00 | 11.00   38.00
               2.25     6.00 |  5.25   13.00 |  8.25   13.00 | 11.25   13.00
               2.50     6.00 |  5.50   13.00 |  8.50   13.00 | 11.50   13.00
               2.75     6.00 |  5.75   13.00 |  8.75   13.00 | 11.75   13.00
               3.00     6.00 |  6.00   13.00 |  9.00   13.00 | 12.00   13.00

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 66.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=  47.576 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 126.889
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.599

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=  10.497 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 106.815
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 72.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=  26.072 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 140.195
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.661

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 85.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=  25.363 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 169.245
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.798

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 69.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=  20.648 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 132.873
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.627

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=  22.856 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 130.716
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.617

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3501.0) ------>
               Distance      Elevation       Manning
                  0.00        287.00        0.0500
                 23.66        283.72        0.0500
                 70.98        280.94        0.0500
                112.38        280.23        0.0500
                171.52        276.80        0.0500
                260.24        274.46        0.0500
                266.16        274.26        0.0500
                272.07        274.12        0.0500
                276.49        274.12    0.0500 /0.0300  Main Channel
                276.99        273.82        0.0300      Main Channel
                277.99        273.82        0.0300      Main Channel
                279.49        273.82        0.0300      Main Channel
                280.49        274.27    0.0300 /0.0500  Main Channel
                283.90        274.27        0.0500
                289.81        274.57        0.0500
```

325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	22.86	12.00	130.72	1.00	1.06
OUTFLOW: ID= 1 (6350)	590.18	21.81	12.75	130.72	0.99	1.06

ADD HYD (8220) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0350):	366.84	20.648	11.25	132.87
+ ID2= 2 (6350):	590.18	21.810	12.75	130.72
ID = 3 (8220):	957.02	40.682	12.00	131.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):	350.93	25.363	11.00	169.25
+ ID2= 2 (8220):	957.02	40.682	12.00	131.54
ID = 3 (8222):	1307.95	64.525	11.75	141.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning		
0.00	257.95	0.0500		
7.83	257.34	0.0500		
15.66	256.19	0.0500		
21.53	254.01	0.0500		
41.11	244.06	0.0500		
76.35	241.38	0.0500		
111.58	239.74	0.0500		
113.54	239.61	0.0500		
113.75	239.41	0.0500 /0.0300	Main Channel	
113.85	238.81	0.0300	Main Channel	
115.50	238.81	0.0300	Main Channel	
116.15	238.81	0.0300	Main Channel	
116.25	239.41	0.0300	Main Channel	
117.46	239.52	0.0500		
119.41	239.72	0.0500		
121.37	240.04	0.0500		
131.16	241.84	0.0500		
156.61	247.03	0.0500		
176.19	251.46	0.0500		
193.80	258.79	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	64.52	11.75	141.66	2.10	1.78
OUTFLOW: ID= 1 (6352)	1307.95	64.34	12.00	141.66	2.10	1.78

ADD HYD (8224) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	26.072	11.00	140.20
+ ID2= 2 (6352):	1307.95	64.338	12.00	141.66
ID = 3 (8224):	1689.38	88.700	11.50	141.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning		
0.00	253.92	0.0500		
7.95	251.83	0.0500		
15.89	249.97	0.0500		
19.87	249.05	0.0500		
47.68	242.00	0.0500		
67.55	237.10	0.0500		
83.44	231.11	0.0500		
85.43	230.75	0.0500		
85.66	230.61	0.0500 /0.0300	Main Channel	
85.76	230.01	0.0300	Main Channel	
87.41	230.01	0.0300	Main Channel	
88.06	230.01	0.0300	Main Channel	
88.16	230.61	0.0300 /0.0500	Main Channel	
89.40	230.72	0.0500		
91.39	230.88	0.0500		
93.37	231.03	0.0500		
133.11	233.96	0.0500		
150.99	235.39	0.0500		
172.84	239.03	0.0500		
196.68	250.00	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	88.70	11.50	141.33	2.98	1.52
OUTFLOW: ID= 1 (6354)	1689.38	85.97	12.25	141.33	2.95	1.52

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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68  10.497    12.00   106.81
      + ID2= 2 (6354):  1689.38  85.967    12.25   141.33
        ==========================================================
        ID = 3 (8226):  1952.06  96.397    12.00   136.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 77.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=  24.075 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 150.243
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.709

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.69       168.91
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1250.60        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        54.11
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.46 (ii)   32.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.36        20.95        24.397 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.50        10.50
     RUNOFF VOLUME    (mm)=     210.00       141.46       150.37
     TOTAL RAINFALL   (mm)=     212.00       212.00       212.00
     RUNOFF COEFFICIENT   =       0.99         0.67         0.71

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  68.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.55        27.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     584.24        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        68.14
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.69 (ii)   24.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.58         4.63         6.187 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25        10.00
     RUNOFF VOLUME    (mm)=     210.00       150.46       162.96
     TOTAL RAINFALL   (mm)=     212.00       212.00       212.00
     RUNOFF COEFFICIENT   =       0.99         0.71         0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  68.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3401):    51.20   6.187    10.00   162.96
      + ID2= 2 (3402):   234.60  24.397    10.50   150.37
        ==========================================================
        ID = 3 (8232):   285.80  30.260    10.25   152.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 73.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=  33.547 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)= 142.700
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.673

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=  32.113 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 141.843
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.669

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 68.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=  26.726 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 132.000
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.623

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 76.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=  18.415 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 147.127
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.694

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 87.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=  32.317 (i)
     TIME TO PEAK    (hrs)=  11.250
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     RUNOFF VOLUME    (mm)= 174.746
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.824

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=  28.262 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 152.931
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.721

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 57.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   5.467 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 107.173
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 80.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=  15.542 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 156.193
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.737

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 66.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   8.386 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 126.385
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.596

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 79.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=  29.747 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 154.856
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.730

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 73.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=  11.501 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 141.255
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.666

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0364):   155.27  11.501    11.00   141.25
        + ID2= 2 (0366):   462.62  29.747    11.25   154.86
          ==========================================================
          ID = 3 (8302):   617.89  41.038    11.00   151.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         50.34
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.05 (ii)    29.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.38         11.05          12.195 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25          10.25
     RUNOFF VOLUME    (mm)=     210.00        132.29         138.51
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.62           0.65

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  64.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 55.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=  19.682 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 102.916
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.485

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 66.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   9.965 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 124.697
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.588

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87  19.682    11.25   102.92
       + ID2= 2 (0360):   138.37   9.965    11.00   124.70
         ================================================
         ID = 3 (8306):   568.24  29.364    11.00   108.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                   0.00         261.46        0.0550
                  27.86         254.23        0.0550
                  51.07         251.96        0.0550
                  74.29         250.77        0.0550
                  97.50         249.91        0.0550
                 125.36         249.40        0.0550
                 150.93         247.40        0.0550
                 155.93         247.33    0.0550 /0.0350  Main Channel
                 157.93         246.85        0.0350      Main Channel
                 159.18         246.65        0.0350      Main Channel
                 160.18         246.63        0.0350      Main Channel
                 160.93         246.85        0.0350      Main Channel
                 161.93         247.18    0.0350 /0.0550  Main Channel
                 163.18         248.03        0.0550
                 168.18         248.58        0.0550
                 183.18         250.18        0.0550
                 201.97         252.59        0.0550
                 213.57         256.02        0.0550
                 225.18         260.31        0.0550
                 229.82         261.00        0.0550

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.55   247.18    .556E+04         1.9          1.03      49.95
        1.28   247.91    .336E+05        16.7          1.53      33.61
        2.00   248.63    .913E+05        53.6          1.81      28.40
        2.73   249.36    .185E+06       122.3          2.05      25.18
        3.46   250.09    .344E+06       224.6          2.02      25.52
        4.19   250.82    .574E+06       417.9          2.25      22.91
        4.91   251.54    .855E+06       699.1          2.53      20.38
        5.64   252.27    .118E+07      1075.3          2.82      18.26
        6.37   253.00    .153E+07      1559.9          3.15      16.38
        7.10   253.73    .191E+07      2137.6          3.46      14.89
        7.82   254.45    .231E+07      2815.2          3.77      13.67
        8.55   255.18    .272E+07      3608.5          4.10      12.58
        9.28   255.91    .315E+07      4488.2          4.41      11.69
       10.01   256.64    .358E+07      5458.0          4.71      10.95
       10.73   257.36    .403E+07      6512.4          4.99      10.32
       11.46   258.09    .449E+07      7649.8          5.27       9.78
       12.19   258.82    .496E+07      8869.5          5.53       9.32
       12.92   259.55    .544E+07     10171.2          5.78       8.91
       13.64   260.27    .593E+07     11554.8          6.02       8.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24    29.36   11.00 108.22      1.53      1.62
     OUTFLOW: ID= 1 (6362)  568.24    28.03   11.75 108.22      1.50      1.61
```

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--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78  12.195    10.25   138.51
       + ID2= 2 (6362):   568.24  28.029    11.75   108.22
         ================================================
         ID = 3 (8304):   687.02  36.680    11.00   113.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89  41.038    11.00   151.44
       + ID2= 2 (8304):   687.02  36.680    11.00   113.46
         ================================================
         ID = 3 (8300):  1304.91  77.718    11.00   131.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3681.0) ------>
               Distance      Elevation       Manning
                   0.00         230.00        0.0370
                  18.48         223.26        0.0370
                  36.96         223.05        0.0370
                  64.67         222.94        0.0370
                 110.87         222.86        0.0370
                 133.96         222.74        0.0370
                 147.82         222.65        0.0370
                 170.92         222.31        0.0370
                 174.79         222.26    0.0370 /0.0300  Main Channel
                 174.89         221.86        0.0300      Main Channel
                 175.54         221.86        0.0300      Main Channel
                 176.19         221.86        0.0300      Main Channel
                 176.29         222.26    0.0300 /0.0370  Main Channel
                 180.16         222.25        0.0370
                 184.78         222.28        0.0370
                 189.40         222.31        0.0370
                 332.60         222.37        0.0370
                 450.00         230.00        0.0370

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.40   222.26    .771E+03          0.3          0.52      41.74
        0.81   222.67    .784E+05         30.3          0.51      43.17
        1.21   223.07    .210E+06        123.2          0.77      28.42
        1.62   223.48    .384E+06        301.0          1.03      21.25
        2.03   223.89    .563E+06        550.2          1.28      17.06
        2.44   224.30    .747E+06        860.7          1.51      14.46
        2.84   224.70    .934E+06       1228.1          1.73      12.68
        3.25   225.11    .113E+07       1649.3          1.92      11.37
        3.66   225.52    .132E+07       2122.3          2.11      10.37
        4.07   225.93    .152E+07       2645.5          2.29       9.58
        4.47   226.33    .172E+07       3217.8          2.45       8.92
        4.88   226.74    .193E+07       3838.3          2.61       8.38
        5.29   227.15    .214E+07       4506.3          2.76       7.92
        5.70   227.56    .236E+07       5221.3          2.91       7.52
        6.10   227.96    .258E+07       5983.0          3.05       7.17
        6.51   228.37    .280E+07       6790.9          3.19       6.87
        6.92   228.78    .303E+07       7645.0          3.32       6.60
        7.33   229.19    .326E+07       8545.1          3.45       6.35
        7.73   229.59    .349E+07       9491.0          3.57       6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    77.72   11.00 131.44      1.02      0.61
     OUTFLOW: ID= 1 (6368) 1304.91    73.77   11.50 131.44      1.00      0.60
```

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--------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0368):   159.48   8.386    11.50   126.39
       + ID2= 2 (6368):  1304.91  73.772    11.50   131.44
         ================================================
         ID = 3 (8298):  1464.39  82.157    11.50   130.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0370):   191.85  15.542    11.00   156.19
       + ID2= 2 (8298):  1464.39  82.157    11.50   130.89
         ================================================
         ID = 3 (8296):  1656.24  96.562    11.50   133.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3721.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0390
                  30.80         219.38        0.0390
                  61.61         219.30        0.0390
                  77.01         219.27        0.0390
                 469.76         219.14        0.0390
```

```
                477.46        219.13        0.0390
                485.16        219.10        0.0390
                492.86        219.09        0.0390
                495.56        219.09    0.0390 /0.0310  Main Channel
                495.66        218.51        0.0310      Main Channel
                500.56        218.51        0.0310      Main Channel
                505.46        218.51        0.0310      Main Channel
                505.56        219.09    0.0310 /0.0390  Main Channel
                508.26        219.09        0.0390
                515.96        219.10        0.0390
                523.67        219.21        0.0390
                562.17        219.32        0.0390
                654.58        219.43        0.0390
                731.59        219.46        0.0390
                762.39        225.00        0.0390

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.29   218.80    .431E+04         1.7          0.58      43.48
        0.58   219.09    .867E+04         5.1          0.89      28.32
        0.93   219.44    .200E+06        58.2          0.44      57.35
        1.28   219.79    .568E+06       278.6          0.74      33.99
        1.62   220.13    .939E+06       630.2          1.01      24.84
        1.97   220.48    .131E+07      1090.4          1.25      20.05
        2.32   220.83    .169E+07      1647.7          1.47      17.06
        2.67   221.18    .206E+07      2294.6          1.68      14.99
        3.01   221.52    .244E+07      3025.6          1.87      13.46
        3.36   221.87    .282E+07      3836.5          2.05      12.27
        3.71   222.22    .321E+07      4723.7          2.22      11.31
        4.06   222.57    .359E+07      5684.6          2.39      10.53
        4.40   222.91    .398E+07      6716.6          2.55       9.87
        4.75   223.26    .437E+07      7817.7          2.70       9.31
        5.10   223.61    .476E+07      8986.2          2.85       8.83
        5.45   223.96    .515E+07     10220.4          2.99       8.40
        5.79   224.30    .555E+07     11519.1          3.13       8.03
        6.14   224.65    .594E+07     12880.8          3.27       7.69
        6.49   225.00    .634E+07     14304.5          3.40       7.39

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    96.56   11.50 133.82      0.99       0.47
     OUTFLOW: ID= 1 (6372) 1656.24    87.59   12.25 133.82      0.97       0.46


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--------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8372):   110.42   5.467    11.25   107.17
      + ID2= 2 (6372):  1656.24  87.590    12.25   133.82
        ================================================
        ID = 3 (8294):  1766.66  92.535    12.25   132.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70  28.262    11.75   152.93
      + ID2= 2 (8294):  1766.66  92.535    12.25   132.16
        ================================================
        ID = 3 (8292):  2312.36 120.216    12.25   137.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                              AREA      QPEAK      TPEAK       R.V.
                              (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360    120.216     12.25     137.06
     OUTFLOW: ID= 1 (5505)   2312.360     39.146     17.00     137.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.56
                TIME SHIFT OF PEAK FLOW       (min)=285.00
                MAXIMUM  STORAGE   USED       (ha.m.)=168.3679

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--------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85  32.317    11.25   174.75
      + ID2= 2 (5505):  2312.36  39.146    17.00   137.06
        ================================================
        ID = 3 (8272):  2776.21  60.930    11.75   143.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 84.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=  20.475 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 166.498
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.785

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=  20.454 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 137.415
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.648

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 73.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=  25.081 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 142.415
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.672

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 76.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=  14.258 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 148.317
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.700

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=  16.644 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 151.953
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.717

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27  16.644    11.00   151.95
       + ID2= 2 (0388):   220.77  14.258    11.25   148.32
         ================================================
         ID = 3 (8286):   462.04  30.850    11.00   150.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 64.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=  11.033 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 121.359
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.572

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 59.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=  12.262 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 110.871
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.523

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=  16.195 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 136.296
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.643

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01  12.262    11.00   110.87
       + ID2= 2 (0382):   216.59  16.195    11.00   136.30
         ================================================
         ID = 3 (8290):   398.60  28.457    11.00   124.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3841.0) ------>
                Distance      Elevation       Manning
                    0.00         294.40        0.0380
                   10.59         291.93        0.0380
                   21.17         289.19        0.0380
                   26.46         287.99        0.0380
                   31.76         286.79        0.0380
                   71.45         279.97        0.0380
                   74.10         279.79        0.0380
                   76.74         279.71        0.0380
                   78.99         279.64    0.0380 /0.0300  Main Channel
                   79.14         279.30        0.0300      Main Channel
                   79.39         279.30        0.0300      Main Channel
                   79.64         279.30        0.0300      Main Channel
                   79.79         279.64    0.0300 /0.0380  Main Channel
                   89.98         279.78        0.0380
                  119.09         281.86        0.0380
                  145.55         282.87        0.0380
                  198.48         284.85        0.0380
                  211.71         286.31        0.0380
                  230.23         287.59        0.0380
                  261.99         294.00        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.34   279.64    .715E+03       0.2         0.85       63.42
       1.10   280.40    .507E+05      21.9         1.40       38.54
       1.85   281.15    .141E+06      91.8         2.10       25.69
       2.61   281.91    .269E+06     218.9         2.63       20.46
       3.36   282.66    .445E+06     407.1         2.96       18.23
       4.12   283.42    .681E+06     698.3         3.31       16.26
       4.87   284.17    .977E+06    1111.8         3.68       14.65
       5.63   284.93    .133E+07    1674.3         4.06       13.27
       6.39   285.69    .173E+07    2457.8         4.59       11.73
       7.14   286.44    .215E+07    3378.8         5.07       10.63
       7.90   287.20    .261E+07    4418.4         5.47        9.85
       8.65   287.95    .310E+07    5676.3         5.92        9.11
       9.41   288.71    .361E+07    7150.5         6.40        8.42
      10.17   289.47    .414E+07    8783.1         6.86        7.86
      10.92   290.22    .469E+07   10575.1         7.30        7.38
      11.68   290.98    .525E+07   12520.4         7.72        6.98
      12.43   291.73    .582E+07   14619.0         8.12        6.64
      13.19   292.49    .642E+07   16863.2         8.50        6.34
      13.94   293.24    .703E+07   19259.8         8.86        6.08

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60   28.46   11.00 124.69      1.17      1.44
     OUTFLOW: ID= 1 (6384)  398.60   26.39   11.50 124.69      1.14      1.43

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0384):   199.07  11.033    11.25   121.36
       + ID2= 2 (6384):   398.60  26.395    11.50   124.69
         ================================================
         ID = 3 (8288):   597.67  37.357    11.25   123.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8286):   462.04  30.850    11.00   150.22
       + ID2= 2 (8288):   597.67  37.357    11.25   123.58
         ================================================
         ID = 3 (8284):  1059.71  68.206    11.25   135.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):   420.00  25.081    11.25   142.42
       + ID2= 2 (8284):  1059.71  68.206    11.25   135.19
         ================================================
         ID = 3 (8280):  1479.71  93.286    11.25   137.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 79.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=  12.849 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 154.075
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.727
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=  34.617 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 144.163
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.680

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72  34.617    11.50   144.16
       + ID2= 2 (0392):   167.22  12.849    11.00   154.08
         ================================================
         ID = 3 (8282):   773.94  47.183    11.25   146.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71  93.286    11.25   137.24
       + ID2= 2 (8282):   773.94  47.183    11.25   146.30
         ================================================
         ID = 3 (8278):  2253.65 140.470    11.25   140.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.54   251.74    .827E+04         4.5          1.51       30.71
       2.19   253.39    .758E+05        73.2          2.69       17.27
       3.83   255.03    .282E+06       331.8          3.27       14.17
       5.48   256.68    .633E+06       917.3          4.03       11.51
       7.12   258.32    .112E+07      1889.5          4.69        9.90
       8.77   259.97    .179E+07      3410.2          5.31        8.73
      10.41   261.61    .259E+07      5627.6          6.05        7.66
      12.06   263.26    .351E+07      8605.1          6.83        6.79
      13.70   264.90    .447E+07     12544.9          7.81        5.94
      15.35   266.55    .546E+07     17101.4          8.71        5.32
      16.99   268.19    .648E+07     22251.7          9.56        4.85
      18.64   269.84    .752E+07     27979.0         10.36        4.48
      20.28   271.48    .858E+07     34269.0         11.11        4.17
      21.93   273.13    .967E+07     41110.8         11.83        3.92
      23.57   274.77    .108E+08     48495.9         12.51        3.71
      25.22   276.42    .119E+08     56418.1         13.17        3.52
      26.86   278.06    .131E+08     64410.6         13.69        3.39
      28.51   279.71    .143E+08     73002.1         14.18        3.27
      30.15   281.35    .156E+08     81379.3         14.50        3.20

                                 <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65   140.47   11.25 140.35      2.61      2.82
     OUTFLOW: ID= 1 (6394) 2253.65   138.80   11.50 140.35      2.60      2.81

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| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9394):   325.45  20.454    11.25   137.41
       + ID2= 2 (6394):  2253.65 138.801    11.50   140.35
         ================================================
         ID = 3 (8276):  2579.10 158.950    11.50   139.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98       58.06
       2.54   230.74    .277E+06       145.1          1.78       31.76
       4.33   232.53    .786E+06       609.1          2.63       21.50
       6.13   234.33    .140E+07      1481.5          3.59       15.77
       7.92   236.12    .207E+07      2677.3          4.39       12.90
       9.71   237.91    .280E+07      4184.8          5.09       11.14
      11.50   239.70    .357E+07      6001.4          5.71        9.93
      13.29   241.49    .441E+07      8129.1          6.27        9.03
      15.09   243.29    .530E+07     10549.4          6.77        8.37
      16.88   245.08    .625E+07     13300.6          7.24        7.83
      18.67   246.87    .726E+07     16396.2          7.68        7.38
      20.46   248.66    .834E+07     19809.8          8.07        7.02
      22.26   250.46    .949E+07     23532.5          8.43        6.72
      24.05   252.25    .107E+08     27641.2          8.77        6.46
      25.84   254.04    .120E+08     32155.2          9.10        6.22
      27.63   255.83    .134E+08     36901.0          9.37        6.05
      29.42   257.62    .149E+08     42147.7          9.64        5.88
      31.22   259.42    .164E+08     48149.1          9.97        5.68
      33.01   261.21    .181E+08     54644.8         10.29        5.51

                                 <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10   158.95   11.50 139.98      2.60      1.80
     OUTFLOW: ID= 1 (6396) 2579.10   155.83   12.00 139.98      2.58      1.80

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| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21  20.475    11.25   166.50
       + ID2= 2 (6396):  2579.10 155.832    12.00   139.98
         ================================================
         ID = 3 (8274):  2884.31 175.498    11.75   142.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  60.930    11.75   143.36
       + ID2= 2 (8274):  2884.31 175.498    11.75   142.79
         ================================================
         ID = 3 (8270):  5660.52 236.428    11.75   143.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520   236.428     11.75     143.07
     OUTFLOW: ID= 1 (5506)   5660.520    70.731     18.00     143.07

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.92
                  TIME SHIFT OF PEAK FLOW         (min)=375.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=348.4974

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-------------------
| CALIB             |
| NASHYD    (0406)  |   Area    (ha)= 142.65   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=  12.335 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 159.436
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.752

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0404)  |   Area    (ha)= 246.46   Curve Number   (CN)= 66.6
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=  14.014 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 126.803
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.598

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0402)  |   Area    (ha)= 244.00   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=  15.381 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 152.367
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.719

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0400)  |   Area    (ha)=  93.97   Curve Number   (CN)= 71.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   7.874 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 133.418
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.629

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0398)  |   Area    (ha)= 328.19   Curve Number   (CN)= 73.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=  22.535 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 142.469
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.672

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19  22.535    11.00   142.47
       + ID2= 2 (0400):    93.97   7.874    11.00   133.42
         ================================================
         ID = 3 (8268):   422.16  30.408    11.00   140.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4021.0) ------>
               Distance      Elevation       Manning
                  0.00         238.50        0.0360
                 11.50         238.00        0.0360
                 23.00         237.93        0.0360
                 34.49         236.39        0.0360
                 63.24         233.98        0.0360
                 97.73         228.15        0.0360
                123.60         227.08        0.0360
                126.48         226.61        0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25        0.0330      Main Channel
                129.35         225.25        0.0330      Main Channel
                130.85         225.25        0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59        0.0360
                143.72         227.42        0.0360
                169.59         227.88        0.0360
                192.59         231.19        0.0360
                218.46         233.02        0.0360
                241.45         235.50        0.0360
                284.57         236.43        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36      38.31
      0.81   226.06    .804E+04        5.0         1.93      27.02
      1.22   226.47    .124E+05        9.1         2.30      22.61
      1.84   227.09    .308E+05       23.3         2.36      22.03
      2.46   227.71    .904E+05       62.0         2.14      24.31
      3.09   228.34    .223E+06      188.3         2.63      19.75
      3.71   228.96    .379E+06      410.2         3.38      15.39
      4.33   229.58    .550E+06      711.5         4.04      12.89
      4.95   230.20    .737E+06     1091.3         4.62      11.25
      5.58   230.83    .939E+06     1550.6         5.15      10.10
      6.20   231.45    .116E+07     2072.4         5.59       9.31
      6.82   232.07    .140E+07     2659.2         5.93       8.77
      7.44   232.69    .167E+07     3345.8         6.27       8.30
      8.07   233.32    .195E+07     4159.0         6.64       7.83
      8.69   233.94    .226E+07     5100.8         7.03       7.39
      9.31   234.56    .259E+07     6081.3         7.32       7.11
      9.93   235.18    .295E+07     7183.1         7.60       6.84
     10.56   235.81    .334E+07     8145.2         7.62       6.83
     11.18   236.43    .379E+07     9116.0         7.51       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16   30.41   11.00 140.45      1.96      2.32
     OUTFLOW: ID= 1 (6402)  422.16   28.99   11.50 140.45      1.93      2.33

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| ADD HYD   (8266) |
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|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00  15.381    11.25   152.37
      + ID2= 2 (6402):   422.16  28.995    11.50   140.45
        ================================================
        ID = 3 (8266):   666.16  44.353    11.25   144.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46  14.014    11.25   126.80
      + ID2= 2 (8266):   666.16  44.353    11.25   144.82
        ================================================
        ID = 3 (8264):   912.62  58.366    11.25   139.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65  12.335    11.00   159.44
      + ID2= 2 (8264):   912.62  58.366    11.25   139.95
        ================================================
        ID = 3 (8262):  1055.27  70.165    11.25   142.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  70.731    18.00   143.07
      + ID2= 2 (8262):  1055.27  70.165    11.25   142.59
        ================================================
        ID = 3 (8260):  6715.79 131.675    11.25   142.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62  18.415    11.00   147.13
      + ID2= 2 (8260):  6715.79 131.675    11.25   142.99
        ================================================
        ID = 3 (8258):  6947.41 149.479    11.25   143.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01  26.726    12.00   132.00
      + ID2= 2 (8258):  6947.41 149.479    11.25   143.13
        ================================================
        ID = 3 (8256):  7519.42 175.654    11.25   142.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8256)   7519.421    175.654     11.25     142.28
     OUTFLOW: ID= 1 (5507)   7519.421    118.016     14.25     142.28

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 67.19
                    TIME SHIFT OF PEAK FLOW         (min)=180.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=120.5190

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| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 71.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=  11.871 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 137.745
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.650

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 80.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=  11.988 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 158.060
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.746

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=  25.927 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 159.607
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.753

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 73.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=  16.572 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 141.253
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.666

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.73        27.97
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     539.75        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        65.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.15 (ii)   23.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.09         4.53          5.621 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     210.00       171.31        177.89
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.81          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.4     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00         56.49
           over (min)      =    15.00         30.00
     Storage Coeff.  (min)=    15.95 (ii)    29.40 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     2.09         15.44      17.281 (iii)
     TIME TO PEAK    (hrs)=    10.00         10.25       10.00
     RUNOFF VOLUME    (mm)=   210.00        166.70      171.03
     TOTAL RAINFALL   (mm)=   212.00        212.00      212.00
     RUNOFF COEFFICIENT   =     0.99          0.79        0.81

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.4     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4141):    43.70   5.621    10.00   177.89
      + ID2= 2 (4142):   144.30  17.281    10.00   171.03
        ================================================
        ID = 3 (8254):   188.00  22.901    10.00   172.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70  16.572    11.00   141.25
      + ID2= 2 (8254):   188.00  22.901    10.00   172.63
        ================================================
        ID = 3 (8252):   426.70  36.423    10.25   155.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
            Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75       0.0300       Main Channel
              242.89         245.75       0.0300       Main Channel
              244.14         245.75       0.0300       Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

          <---------- TRAVEL TIME TABLE ---------->
  DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
    (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
   0.27    246.02    .295E+04       0.6         0.75      88.26
   1.53    247.28    .168E+06      69.7         1.65      40.13
   2.79    248.54    .490E+06     299.5         2.42      27.28
   4.06    249.81    .962E+06     740.1         3.05      21.67
   5.32    251.07    .158E+07    1440.0         3.61      18.33
   6.58    252.33    .235E+07    2443.8         4.12      16.06
   7.84    253.59    .327E+07    3811.2         4.63      14.30
   9.10    254.85    .432E+07    5565.1         5.11      12.94
  10.37    256.12    .550E+07    7721.3         5.57      11.88
  11.63    257.38    .682E+07   10309.9         6.00      11.02
  12.89    258.64    .827E+07   13360.6         6.42      10.31
  14.15    259.90    .985E+07   16884.5         6.81       9.72
  15.42    261.17    .116E+08   20818.4         7.14       9.26
  16.68    262.43    .134E+08   25510.4         7.53       8.78
  17.94    263.69    .154E+08   30958.0         7.97       8.30
  19.20    264.95    .175E+08   36988.3         8.38       7.89
  20.46    266.21    .197E+08   43617.1         8.78       7.53
  21.73    267.48    .220E+08   50868.1         9.17       7.22
  22.99    268.74    .244E+08   58854.0         9.56       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70    36.42  10.25 155.08      0.92      1.05
    OUTFLOW: ID= 1 (6416)  426.70    31.82  11.25 155.08      0.84      0.99

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30  25.927    11.50   159.61
      + ID2= 2 (6416):   426.70  31.818    11.25   155.08
        ================================================
        ID = 3 (8250):   866.00  57.651    11.25   157.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79  11.988    11.25   158.06
      + ID2= 2 (8250):   866.00  57.651    11.25   157.37
        ================================================
        ID = 3 (8248):  1048.79  69.639    11.25   157.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82  11.871    11.00   137.75
      + ID2= 2 (8248):  1048.79  69.639    11.25   157.49
        ================================================
        ID = 3 (8246):  1224.61  81.403    11.25   154.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42 118.016    14.25   142.28
      + ID2= 2 (8246):  1224.61  81.403    11.25   154.66
        ================================================
        ID = 3 (8244):  8744.03 181.100    12.00   144.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20  32.113    12.00   141.84
      + ID2= 2 (8244):  8744.03 181.100    12.00   144.02
        ================================================
        ID = 3 (8242):  9524.23 213.214    12.00   143.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                         76.4550    30.8371  |  *******    394.7148
                         *******    61.6742  |  *******    394.7248
                         *******    *******  |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231   213.214     12.00     143.84
     OUTFLOW: ID= 1 (5508)   9524.231   162.331     15.50     143.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 76.14
                    TIME SHIFT OF PEAK FLOW         (min)=210.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=142.1958

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--------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 86.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=  20.993 (i)
     TIME TO PEAK    (hrs)=  24.000
     RUNOFF VOLUME    (mm)= 173.232
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.817

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    194.58       331.32
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1872.43        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        66.50
               over (min)       30.00        45.00
     Storage Coeff.  (min)=     23.52 (ii)   36.11 (ii)
     Unit Hyd. Tpeak (min)=     30.00        45.00
     Unit Hyd. peak  (cms)=      0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     11.98        49.95        61.079 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.50         10.25
     RUNOFF VOLUME    (mm)=    210.00       173.23        179.48
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.82          0.85

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        76.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.00 (ii)   24.88 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.45         7.09          9.539 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       177.49        184.97
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.84          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3381):    73.00   9.539    10.00   184.97
        + ID2= 2 (3382):   525.90  61.079    10.25   179.48
          ================================================
          ID = 3 (8310):   598.90  70.136    10.25   180.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   6.972 (i)
     TIME TO PEAK    (hrs)=  17.250
     RUNOFF VOLUME    (mm)= 146.846
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.693

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        66.54
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.25 (ii)   22.84 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.50         2.67          4.174 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       153.82        171.23
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.73          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3341):    33.00   4.174    10.00   171.23
        + ID2= 2 (3342):   587.10   6.972    17.25   146.85
          ================================================
          ID = 3 (8314):   620.10   7.956    11.00   148.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 71.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   4.007 (i)
```

```
     TIME TO PEAK    (hrs)=  15.750
     RUNOFF VOLUME    (mm)= 138.250
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.652

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 93.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=  18.264 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 188.924
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.891

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 89.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=  26.730 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 178.945
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.844

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 93.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   7.418 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 185.839
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.877

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38  26.730    11.75   178.94
      + ID2= 2 (0284):    78.93   7.418    11.00   185.84
        ================================================
        ID = 3 (8388):   528.31  33.585    11.25   179.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31   220.01    .382E+04       0.8         0.57      82.89
      1.06   220.76    .525E+05      12.1         0.66      72.51
      1.81   221.51    .240E+06      88.6         1.05      45.21
      2.56   222.26    .510E+06     261.7         1.46      32.47
      3.31   223.01    .843E+06     533.8         1.81      26.34
      4.06   223.76    .124E+07     913.6         2.10      22.64
      4.81   224.51    .171E+07    1399.0         2.34      20.33
      5.56   225.26    .225E+07    2051.0         2.60      18.27
      6.31   226.01    .285E+07    2907.0         2.91      16.35
      7.06   226.76    .352E+07    3902.5         3.16      15.04
      7.82   227.52    .426E+07    5069.9         3.39      14.01
      8.57   228.27    .507E+07    6433.0         3.62      13.13
      9.32   229.02    .593E+07    8069.2         3.89      12.24
     10.07   229.77    .681E+07    9926.7         4.16      11.44
     10.82   230.52    .772E+07   11962.8         4.42      10.75
     11.57   231.27    .864E+07   14167.1         4.68      10.17
     12.32   232.02    .959E+07   16537.1         4.92       9.66
     13.07   232.77    .105E+08   19070.7         5.16       9.22
     13.82   233.52    .115E+08   21790.4         5.39       8.82

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31    33.59   11.25 179.97      1.27      0.73
     OUTFLOW: ID= 1 (6286)  528.31    30.63   12.25 179.97      1.24      0.72

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51  18.264    11.25   188.92
      + ID2= 2 (6286):   528.31  30.634    12.25   179.97
        ================================================
        ID = 3 (8386):   788.82  48.029    12.00   182.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 75.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=  22.555 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 147.792
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.697

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 70.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=  15.281 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 136.980
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.646

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 64.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=  15.779 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 122.883
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.580
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51  15.779    11.50   122.88
       + ID2= 2 (0300):   258.93  15.281    11.25   136.98
         ================================================
         ID = 3 (8395):   589.44  30.954    11.50   129.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 89.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21
```

Unit Hyd Qpeak (cms)= 2.629

PEAK FLOW (cms)= 15.781 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 181.352
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.855

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 90.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07
```

Unit Hyd Qpeak (cms)= 4.279

PEAK FLOW (cms)= 19.260 (i)
TIME TO PEAK (hrs)= 11.250
RUNOFF VOLUME (mm)= 182.662
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.862

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83  15.781    12.00   181.35
       + ID2= 2 (0290):   269.18  19.260    11.25   182.66
         ================================================
         ID = 3 (8397):   610.01  34.406    11.50   181.93
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 88.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13
```

Unit Hyd Qpeak (cms)= 4.437

PEAK FLOW (cms)= 20.151 (i)
TIME TO PEAK (hrs)= 11.250
RUNOFF VOLUME (mm)= 177.972
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.839

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 83.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52
```

Unit Hyd Qpeak (cms)= 8.289

PEAK FLOW (cms)= 40.850 (i)
TIME TO PEAK (hrs)= 11.750
RUNOFF VOLUME (mm)= 166.632
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.786

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87
```

Unit Hyd Qpeak (cms)= 5.367

PEAK FLOW (cms)= 18.657 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 145.749
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.687

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49  40.850    11.75   166.63
       + ID2= 2 (0294):   274.15  18.657    11.00   145.75
         ================================================
         ID = 3 (8398):  1012.64  58.892    11.50   160.98
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (2961.0) ------>

Distance	Elevation	Manning	
0.00	243.98	0.0400	
42.59	243.18	0.0400	
85.17	241.81	0.0400	
120.66	240.50	0.0400	
156.15	239.56	0.0400	
198.74	236.15	0.0400	
237.78	234.01	0.0400	
241.33	233.82	0.0400	
248.77	233.12	0.0400 /0.0400	Main Channel
249.87	232.32	0.0400	Main Channel
250.37	231.80	0.0400	Main Channel
250.87	232.23	0.0400	Main Channel
251.97	233.10	0.0400 /0.0400	Main Channel
255.37	233.22	0.0400	
259.07	233.87	0.0400	
262.62	234.12	0.0400	
266.17	234.23	0.0400	
283.91	234.73	0.0400	
337.15	241.75	0.0400	
351.34	244.00	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	232.23	.510E+03	0.1	0.53	81.07
0.87	232.67	.213E+04	0.7	0.83	51.49
1.30	233.10	.501E+04	2.2	1.10	38.75
1.98	233.78	.242E+05	12.6	1.34	31.93
2.66	234.46	.738E+05	42.1	1.46	29.21
3.34	235.14	.177E+06	127.9	1.84	23.13
4.02	235.82	.314E+06	281.4	2.29	18.61
4.70	236.50	.481E+06	509.4	2.71	15.73
5.38	237.18	.672E+06	815.6	3.11	13.73
6.06	237.86	.886E+06	1200.7	3.46	12.30
6.74	238.54	.112E+07	1669.4	3.80	11.23
7.42	239.22	.139E+07	2226.9	4.11	10.38
8.10	239.90	.168E+07	2808.4	4.28	9.95
8.78	240.58	.202E+07	3470.4	4.40	9.68
9.46	241.26	.240E+07	4331.7	4.61	9.24
10.14	241.94	.283E+07	5335.2	4.83	8.84
10.82	242.62	.330E+07	6482.6	5.03	8.48
11.50	243.30	.381E+07	7764.1	5.21	8.18
12.18	243.98	.439E+07	9101.2	5.31	8.04

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8398)	1012.64	58.89	11.50	160.98	2.79	1.52
OUTFLOW:	ID= 1 (6296)	1012.64	57.83	12.00	160.98	2.78	1.52

```
--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65  20.151    11.25   177.97
      + ID2= 2 (6296):  1012.64  57.830    12.00   160.98
        ================================================
        ID = 3 (8396):  1306.29  77.347    11.75   164.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------

-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29  77.347    11.75   164.80
      + ID2= 2 (8397):   610.01  34.406    11.50   181.93
        ================================================
        ID = 3 (8394):  1916.30 111.656    11.75   170.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30 111.656    11.75   170.25
      + ID2= 2 (8395):   589.44  30.954    11.50   129.08
        ================================================
        ID = 3 (8392):  2505.74 142.366    11.75   160.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.29    221.29    .228E+04         0.2         0.32     165.63
       0.59    221.59    .465E+04         0.7         0.45     116.15
       0.88    221.88    .713E+04         1.2         0.54      96.87
       1.18    222.18    .971E+04         1.9         0.61      86.20
       1.57    222.57    .175E+05         3.3         0.59      88.86
       1.97    222.97    .427E+05         6.4         0.47     111.39
       2.36    223.36    .115E+06        16.1         0.44     119.14
       2.76    223.76    .237E+06        37.1         0.49     106.49
       3.15    224.15    .409E+06        72.9         0.56      93.40
       3.55    224.55    .631E+06       127.0         0.63      82.76
       3.94    224.94    .903E+06       202.4         0.70      74.37
       4.34    225.34    .123E+07       301.8         0.77      67.68
       4.73    225.73    .160E+07       433.5         0.85      61.37
       5.13    226.13    .200E+07       602.2         0.95      55.29
       5.52    226.52    .242E+07       804.7         1.05      50.13
       5.92    226.92    .286E+07      1034.2         1.14      46.11
       6.31    227.31    .332E+07      1290.5         1.22      42.88
       6.71    227.71    .380E+07      1560.9         1.29      40.55
       7.10    228.10    .432E+07      1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74   142.37   11.75 160.57      3.63      0.65
    OUTFLOW: ID= 1 (6302) 2505.74   125.22   12.50 160.57      3.53      0.63


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```
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90  22.555    12.00   147.79
      + ID2= 2 (6302):  2505.74 125.217    12.50   160.57
        ================================================
        ID = 3 (8390):  2979.64 146.953    12.50   158.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  48.029    12.00   182.93
      + ID2= 2 (8390):  2979.64 146.953    12.50   158.53
        ================================================
        ID = 3 (8348):  3768.46 194.008    12.25   163.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 80.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=  10.078 (i)
     TIME TO PEAK    (hrs)=  12.500
     RUNOFF VOLUME    (mm)= 158.751
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.749

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=  24.229 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 185.349
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.874

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=  29.133 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 186.750
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.881

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 90.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   8.011 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 180.981
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.854

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 88.3
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```
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=  27.372 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 176.439
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.832

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49  27.372    11.25   176.44
       + ID2= 2 (0276):    90.89   8.011    11.00   180.98
         ==========================================
         ID = 3 (8360):   483.38  35.253    11.00   177.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49  29.133    11.75   186.75
       + ID2= 2 (8360):   483.38  35.253    11.00   177.29
         ==========================================
         ID = 3 (8358):   968.87  64.013    11.25   182.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.50   224.76    .263E+04         0.8         0.65      58.31
       1.36   225.62    .278E+05        13.4         1.10      34.54
       2.22   226.48    .855E+05        52.6         1.40      27.09
       3.09   227.35    .157E+06       120.4         1.74      21.78
       3.95   228.21    .242E+06       216.3         2.04      18.64
       4.81   229.07    .340E+06       341.8         2.29      16.56
       5.67   229.93    .450E+06       498.3         2.52      15.06
       6.53   230.79    .574E+06       688.3         2.73      13.90
       7.40   231.66    .711E+06       913.8         2.93      12.97
       8.26   232.52    .861E+06      1173.4         3.11      12.23
       9.12   233.38    .103E+07      1461.3         3.24      11.72
       9.98   234.24    .121E+07      1793.3         3.37      11.26
      10.85   235.11    .142E+07      2141.0         3.45      11.02
      11.71   235.97    .165E+07      2530.4         3.50      10.86
      12.57   236.83    .192E+07      2954.0         3.51      10.81
      13.43   237.69    .226E+07      3160.3         3.18      11.93
      14.29   238.55    .271E+07      3869.4         3.26      11.67
      15.16   239.42    .320E+07      4740.3         3.38      11.24
      16.02   240.28    .373E+07      5688.4         3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    64.01   11.25 182.03      2.37      1.45
     OUTFLOW: ID= 1 (6280)  968.87    62.71   11.75 182.03      2.35      1.44

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| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86  24.229    11.00   185.35
       + ID2= 2 (6280):   968.87  62.714    11.75   182.03
         ==========================================
         ID = 3 (8354):  1268.73  85.722    11.50   182.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 88.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=  10.925 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 176.461
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.832

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 91.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=  16.128 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 183.560
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.866

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 88.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=  15.631 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 174.848
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.825

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 84.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=  17.065 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 166.685
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.786

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=  20.326 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 160.016
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     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.755

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0264):   353.96  17.065    11.75   166.69
       + ID2= 2 (0266):   508.09  20.326    12.00   160.02
         ================================================
         ID = 3 (8380):   862.05  37.389    12.00   162.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2681.0) ------>
              Distance      Elevation       Manning
                 0.00         274.03        0.0500
                10.55         272.73        0.0500
                21.10         271.28        0.0500
                50.12         266.83        0.0500
                87.04         260.36        0.0500
                92.32         260.06        0.0500
                94.95         259.93        0.0500
               101.00         256.87        0.0500
               103.00         256.58   0.0500 /0.0350  Main Channel
               104.00         256.32        0.0350      Main Channel
               106.00         256.05        0.0350      Main Channel
               108.00         256.25        0.0350      Main Channel
               110.78         256.65    0.0350 /0.0500  Main Channel
               113.42         256.81        0.0500
               116.06         257.00        0.0500
               155.62         260.24        0.0500
               187.27         263.35        0.0500
               211.01         267.22        0.0500
               224.20         269.60        0.0500
               261.13         272.68        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.53  256.58    .697E+04         2.1         0.97      55.64
       1.38  257.43    .477E+05        25.9         1.76      30.66
       2.22  258.27    .123E+06        84.3         2.22      24.26
       3.07  259.12    .231E+06       185.4         2.60      20.72
       3.92  259.97    .371E+06       335.8         2.92      18.42
       4.77  260.82    .560E+06       547.6         3.15      17.06
       5.61  261.66    .790E+06       845.6         3.46      15.57
       6.46  262.51    .106E+07      1225.0         3.75      14.37
       7.31  263.36    .136E+07      1693.3         4.02      13.37
       8.16  264.21    .169E+07      2283.2         4.35      12.36
       9.00  265.05    .206E+07      2969.1         4.66      11.54
       9.85  265.90    .245E+07      3754.4         4.96      10.86
      10.70  266.75    .286E+07      4643.0         5.24      10.28
      11.55  267.60    .331E+07      5636.1         5.50       9.78
      12.39  268.44    .378E+07      6746.2         5.76       9.34
      13.24  269.29    .428E+07      7972.2         6.01       8.96
      14.09  270.14    .482E+07      9218.9         6.18       8.71
      14.94  270.99    .539E+07     10550.5         6.32       8.52
      15.78  271.83    .601E+07     12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05    37.39   12.00 162.75      1.54      1.83
     OUTFLOW: ID= 1 (6268)  862.05    36.80   12.25 162.75      1.53      1.82


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| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6268):   215.76  15.631    11.00   174.85
       + ID2= 2 (6268):   862.05  36.804    12.25   162.75
         ================================================
         ID = 3 (8382):  1077.81  50.727    12.00   165.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2701.0) ------>
              Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.45  234.34    .217E+04         0.7         0.99      52.83
       0.98  234.87    .966E+04         4.6         1.49      35.20
       1.50  235.39    .250E+05        13.7         1.73      30.41
       2.03  235.92    .475E+05        29.5         1.95      26.87
       2.56  236.45    .772E+05        52.5         2.14      24.50
       3.09  236.98    .142E+06        82.4         1.83      28.73
       3.61  237.50    .246E+06       158.1         2.03      25.91
       4.14  238.03    .357E+06       262.0         2.31      22.73
       4.67  238.56    .477E+06       392.1         2.59      20.27
       5.20  239.09    .604E+06       547.8         2.86      18.38
       5.72  239.61    .739E+06       729.2         3.11      16.90
       6.25  240.14    .882E+06       936.5         3.34      15.70
       6.78  240.67    .103E+07      1169.7         3.57      14.72
       7.31  241.20    .119E+07      1425.9         3.77      13.94
       7.83  241.72    .136E+07      1710.4         3.96      13.26
       8.36  242.25    .154E+07      1967.9         4.02      13.07
       8.89  242.78    .174E+07      2264.9         4.09      12.83
       9.42  243.31    .196E+07      2589.3         4.15      12.65
       9.94  243.83    .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81    50.73   12.00 165.18      2.52      2.13
     OUTFLOW: ID= 1 (6270) 1077.81    50.21   12.25 165.18      2.50      2.12


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--------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6270):   243.61  16.128    11.00   183.56
       + ID2= 2 (6270):  1077.81  50.214    12.25   165.18
         ================================================
         ID = 3 (8384):  1321.42  65.392    12.00   168.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=  20.776 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 185.722
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT    =   0.876

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=  24.646 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 186.327
     TOTAL RAINFALL   (mm)= 212.000
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     RUNOFF COEFFICIENT   =   0.879

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0258)  |   Area    (ha)= 181.99   Curve Number   (CN)= 91.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=  10.024 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 182.929
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.863

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0252)  |   Area    (ha)= 319.99   Curve Number   (CN)= 86.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=  18.292 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 172.824
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.815

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0256)  |   Area    (ha)= 145.79   Curve Number   (CN)= 82.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   7.959 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 163.436
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.771

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0254)  |   Area    (ha)= 403.00   Curve Number   (CN)= 74.4
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=  17.953 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 144.288
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.681

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2561.0) ------>
              Distance     Elevation      Manning
                  0.00        276.07        0.0400
                 11.68        273.71        0.0400
                 23.36        271.35        0.0400
                 29.19        270.30        0.0400
                 35.03        269.44        0.0400
                 55.47        267.90        0.0400
                 78.82        266.24        0.0400
                 90.50        265.63        0.0400
                102.18        265.40        0.0400
                105.10        264.95    0.0400 /0.0350  Main Channel
                108.02        264.39       0.0350       Main Channel
                110.94        264.72       0.0350       Main Channel
                113.86        265.19    0.0350 /0.0400  Main Channel
                116.78        265.49        0.0400
                143.05        268.24        0.0400
                172.25        270.53        0.0400
                207.28        271.95        0.0400
                233.55        273.72        0.0400
                256.91        274.98        0.0400
                289.02        275.97        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90      62.51
       1.14   265.53    .307E+05      13.5         1.49      37.92
       1.72   266.11    .951E+05      48.6         1.73      32.62
       2.30   266.69    .191E+06     117.8         2.09      27.03
       2.88   267.27    .314E+06     225.2         2.43      23.24
       3.46   267.85    .464E+06     375.5         2.74      20.59
       4.04   268.43    .641E+06     573.2         3.03      18.62
       4.62   269.01    .846E+06     821.9         3.29      17.15
       5.20   269.59    .108E+07    1135.0         3.56      15.87
       5.78   270.17    .134E+07    1525.1         3.86      14.64
       6.36   270.75    .162E+07    1971.1         4.12      13.71
       6.94   271.33    .194E+07    2474.0         4.33      13.04
       7.52   271.91    .228E+07    3065.0         4.55      12.42
       8.10   272.49    .266E+07    3773.4         4.80      11.75
       8.68   273.07    .306E+07    4566.3         5.05      11.17
       9.26   273.65    .348E+07    5443.7         5.30      10.66
       9.84   274.23    .393E+07    6389.6         5.51      10.25
      10.42   274.81    .440E+07    7426.2         5.72       9.88
      11.00   275.39    .490E+07    8490.1         5.86       9.63

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00    17.95   11.75 144.29      1.21      1.52
     OUTFLOW: ID= 1 (6256)  403.00    17.53   12.25 144.29      1.20      1.51

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0256):   145.79   7.959    11.25   163.44
        + ID2= 2 (6256):   403.00  17.527    12.25   144.29
          ================================================
          ID = 3 (8370):   548.79  25.263    12.00   149.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0250)  |   Area    (ha)= 192.88   Curve Number   (CN)= 85.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   9.790 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 168.680
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.796

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0246)  |   Area    (ha)= 759.61   Curve Number   (CN)= 74.2
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=  25.684 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 144.339
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.681

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0248)  |   Area    (ha)= 146.04   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   9.220 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 158.507
     TOTAL RAINFALL   (mm)= 212.000
```

RUNOFF COEFFICIENT = 0.748

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0246):		759.61	25.684	12.00	144.34
+ ID2= 2 (0248):		146.04	9.220	11.00	158.51
ID = 3 (8364):		905.65	34.343	12.00	146.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	34.34	12.00	146.62	2.00	1.15
OUTFLOW: ID= 1 (6250)	905.65	32.61	12.50	146.62	1.97	1.14

ADD HYD (8366)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0250):		192.88	9.790	11.75	168.68
+ ID2= 2 (6250):		905.65	32.614	12.50	146.62
ID = 3 (8366):		1098.53	41.960	12.25	150.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8366):		1098.53	41.960	12.25	150.50
+ ID2= 2 (8370):		548.79	25.263	12.00	149.37
ID = 3 (8368):		1647.32	67.068	12.25	150.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0252):		319.90	18.292	11.25	172.82
+ ID2= 2 (8368):		1647.32	67.068	12.25	150.12
ID = 3 (8372):		1967.31	84.865	12.00	153.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	84.87	12.00	153.82	1.53	0.95
OUTFLOW: ID= 1 (6258)	1967.31	75.75	13.25	153.82	1.46	0.90

ADD HYD (8374)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0258):		181.99	10.024	11.50	182.93
+ ID2= 2 (6258):		1967.31	75.748	13.25	153.82
ID = 3 (8374):		2149.30	84.408	13.00	156.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA	QPEAK	TPEAK	R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0260):   476.24  24.646    11.75   186.33
      + ID2= 2 (8374):  2149.30  84.408    13.00   156.28
        ==============================================
        ID = 3 (8376):  2625.54 106.930    12.75   161.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0262):   341.31  20.776    11.25   185.72
      + ID2= 2 (8376):  2625.54 106.930    12.75   161.73
        ==============================================
        ID = 3 (8378):  2966.85 125.359    12.50   164.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85 125.350    12.50   164.49
      + ID2= 2 (8384):  1321.42  65.392    12.00   168.56
        ==============================================
        ID = 3 (8362):  4288.27 189.854    12.25   165.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2721.0) ------>
             Distance      Elevation       Manning
                0.00         231.01        0.0450
               23.01         223.65        0.0450
               34.51         222.46        0.0450
               51.77         222.11        0.0450
               69.02         221.87        0.0450
              161.06         221.92        0.0450
              166.81         221.91        0.0450
              172.56         221.89        0.0450
              180.57         221.40    0.0450 /0.0300  Main Channel
              181.57         220.60        0.0300      Main Channel
              184.07         220.16        0.0300      Main Channel
              195.57         221.85    0.0300 /0.0450  Main Channel
              201.32         221.82        0.0450
              207.07         221.77        0.0450
              212.83         221.72        0.0450
              253.09         222.52        0.0450
              408.40         222.65        0.0450
              460.17         223.20        0.0450
              517.69         224.84        0.0450
              569.46         232.57        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.41   220.57    .189E+04         0.5        0.49      60.18
       0.83   220.99    .697E+04         3.2        0.82      35.79
       1.24   221.40    .145E+05         8.8        1.07      27.45
       1.84   222.00    .643E+05        29.3        0.81      36.61
       2.44   222.60    .282E+06       132.9        0.83      35.41
       3.04   223.20    .707E+06       413.7        1.04      28.50
       3.64   223.80    .118E+07       876.8        1.31      22.46
       4.24   224.40    .168E+07      1494.8        1.57      18.75
       4.84   225.00    .221E+07      2264.1        1.82      16.23
       5.44   225.60    .274E+07      3196.3        2.06      14.29
       6.04   226.20    .328E+07      4258.6        2.30      12.84
       6.65   226.81    .383E+07      5444.7        2.52      11.72
       7.25   227.41    .438E+07      6749.7        2.73      10.82
       7.85   228.01    .494E+07      8169.4        2.93      10.08
       8.45   228.61    .551E+07      9700.7        3.12       9.46
       9.05   229.21    .608E+07     11340.8        3.30       8.94
       9.65   229.81    .666E+07     13087.4        3.48       8.48
      10.25   230.41    .724E+07     14938.5        3.65       8.08
      10.85   231.01    .783E+07     16892.4        3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27   189.85   12.25 165.75      2.56      0.87
    OUTFLOW: ID= 1 (6272) 4288.27   185.57   12.75 165.75      2.55      0.86
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```
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38  10.925    11.25   176.46
      + ID2= 2 (6272):  4288.27 185.571    12.75   165.75
        ==============================================
        ID = 3 (8356):  4445.65 194.398    12.75   166.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  85.722    11.50   182.82
      + ID2= 2 (8356):  4445.65 194.398    12.75   166.12
        ==============================================
        ID = 3 (8352):  5714.38 272.950    12.25   169.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.48   218.85    .121E+05         1.2        0.36     173.94
       1.17   219.54    .839E+05         9.8        0.44     142.60
       1.86   220.23    .323E+06        41.0        0.47     131.43
       2.56   220.93    .708E+06       109.5        0.58     107.67
       3.25   221.62    .118E+07       224.3        0.71      87.36
       3.94   222.31    .168E+07       376.5        0.84      74.48
       4.63   223.00    .222E+07       567.9        0.96      65.26
       5.32   223.69    .279E+07       794.7        1.07      58.58
       6.02   224.39    .339E+07      1056.2        1.17      53.52
       6.71   225.08    .402E+07      1352.4        1.26      49.52
       7.40   225.77    .468E+07      1677.3        1.34      46.46
       8.09   226.46    .536E+07      2050.0        1.43      43.58
       8.79   227.16    .607E+07      2457.9        1.52      41.14
       9.48   227.85    .680E+07      2901.0        1.60      39.05
      10.17   228.54    .755E+07      3352.7        1.66      37.53
      10.86   229.23    .834E+07      3812.5        1.71      36.48
      11.55   229.92    .919E+07      4241.8        1.73      36.13
      12.25   230.62    .101E+08      4697.0        1.74      35.93
      12.94   231.31    .111E+08      5186.3        1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38   272.95   12.25 169.83      3.47      0.75
    OUTFLOW: ID= 1 (6304) 5714.38   244.13   13.25 169.83      3.33      0.73
```

```
-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37  10.078    12.50   158.75
      + ID2= 2 (6304):  5714.38 244.133    13.25   169.83
        ==============================================
        ID = 3 (8350):  6006.75 254.018    13.25   169.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46 194.008    12.25   163.64
       + ID2= 2 (8350):  6006.75 254.018    13.25   169.29
         ================================================
         ID = 3 (8346):  9775.21 442.837    12.75   167.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   4.007    15.75   138.25
       + ID2= 2 (8346):  9775.21 442.837    12.75   167.11
         ================================================
         ID = 3 (8344): 10059.18 446.536    12.75   166.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  *******    370.0451
                         41.0590    56.7403   |  *******    863.4386
                         48.1390    86.3439   |  *******    ********
                         56.6340    ********  |  *******    ********
                         67.9600    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********   446.536     12.75     166.30
     OUTFLOW: ID= 1 (5509)   ********   122.099     21.25     166.30

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.34
                    TIME SHIFT OF PEAK FLOW         (min)=510.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=909.2796

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 88.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=  17.291 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 177.773
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.839

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 91.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=  33.391 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 183.908
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.867

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (3321.0) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.0380
               25.85         227.20        0.0380
               96.94         226.44        0.0380
              168.03         227.38        0.0380
              219.73         225.62        0.0380
              342.52         221.57        0.0380
              368.37         221.42        0.0380
              374.83         221.23        0.0380
              379.79         220.98    0.0380 /0.0300  Main Channel
              380.29         220.47        0.0300      Main Channel
              381.29         220.47        0.0300      Main Channel
              382.79         220.47        0.0300      Main Channel
              383.29         220.98    0.0300 /0.0380  Main Channel
              394.22         221.22        0.0380
              400.68         221.33        0.0380
              407.14         221.44        0.0380
              491.16         225.70        0.0380
              568.71         227.55        0.0380
              607.49         230.14        0.0380
              639.80         234.08        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.51   220.98   .554E+04       0.9          0.56     107.27
       1.20   221.67   .885E+05      12.1          0.49     122.32
       1.88   222.35   .309E+06      64.7          0.76      79.70
       2.57   223.04   .615E+06     165.4          0.97      61.99
       3.25   223.72   .101E+07     322.1          1.16      52.06
       3.94   224.41   .148E+07     542.9          1.33      45.51
       4.62   225.09   .204E+07     835.4          1.48      40.77
       5.31   225.78   .269E+07    1202.8          1.62      37.27
       5.99   226.46   .344E+07    1618.0          1.70      35.46
       6.68   227.15   .447E+07    1932.0          1.56      38.56
       7.36   227.83   .580E+07    2763.9          1.72      34.96
       8.05   228.52   .718E+07    3861.9          1.95      30.97
       8.73   229.20   .859E+07    5115.4          2.16      27.98
       9.42   229.89   .100E+08    6519.2          2.35      25.64
      10.10   230.57   .115E+08    8092.3          2.55      23.69
      10.79   231.26   .130E+08    9821.5          2.73      22.05
      11.47   231.94   .145E+08   11690.0          2.92      20.68
      12.16   232.63   .160E+08   13694.9          3.09      19.52
      12.84   233.31   .176E+08   15833.9          3.26      18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30    33.39  11.25 183.91      1.47      0.57
     OUTFLOW: ID= 1 (6332)  468.30    27.64  12.50 183.91      1.40      0.55

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0332):   393.44  17.291    12.00   177.77
       + ID2= 2 (6332):   468.30  27.640    12.50   183.91
         ================================================
         ID = 3 (8322):   861.74  44.899    12.25   181.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 89.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=  25.084 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 179.281
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.846

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 91.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=  34.798 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 184.631
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.871

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 91.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
--------------------  U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=  32.052 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 183.871
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.867

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 92.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=  17.763 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 185.834
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.877

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 90.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=  27.258 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 181.131
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.854

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06         4.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     416.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        51.40
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.54 (ii)   23.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.10         0.64          3.733 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00       179.74         204.25
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.85           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  89.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3181):    26.00   3.733    10.00   204.25
       + ID2= 2 (3182):   457.40  27.258    11.75   181.13
         ================================================
         ID = 3 (8334):   483.40  29.279    11.00   182.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation        Manning
                  0.00         249.00         0.0380
                 22.92         245.86         0.0380
                 45.83         244.87         0.0380
                 91.66         243.11         0.0380
                126.03         239.53         0.0380
                160.41         237.17         0.0380
                166.14         237.06         0.0380
                177.59         237.13         0.0380
                183.32         237.20         0.0380
                189.05         236.70    0.0380 /0.0350  Main Channel
                193.05         235.89       0.0350       Main Channel
                197.05         236.64    0.0350 /0.0380  Main Channel
                200.51         236.74         0.0380
                206.24         237.03         0.0380
                246.34         238.82         0.0380
                263.53         243.87         0.0380
                389.56         247.64         0.0380
                452.58         247.74         0.0380
                498.41         248.60         0.0380
                567.16         249.84         0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.37   236.26    .270E+04         0.4         0.58     107.96
        0.75   236.64    .108E+05         2.6         0.92      68.01
        1.48   237.37    .877E+05        27.4         1.17      53.35
        2.20   238.09    .277E+06       122.1         1.65      37.83
        2.93   238.82    .540E+06       299.7         2.08      30.01
        3.66   239.55    .857E+06       587.8         2.57      24.29
        4.39   240.28    .120E+07       977.8         3.04      20.52
        5.11   241.00    .158E+07      1458.1         3.46      18.02
        5.84   241.73    .198E+07      2028.6         3.84      16.23
        6.57   242.46    .240E+07      2690.5         4.19      14.86
        7.29   243.18    .285E+07      3431.8         4.50      13.84
        8.02   243.91    .335E+07      4149.1         4.64      13.44
        8.75   244.64    .393E+07      4746.6         4.51      13.80
        9.47   245.36    .463E+07      5618.6         4.53      13.75
       10.20   246.09    .545E+07      6781.8         4.66      13.39
       10.93   246.82    .635E+07      8274.5         4.87      12.79
       11.66   247.55    .733E+07      9988.0         5.10      12.23
       12.38   248.27    .853E+07     11422.0         5.01      12.45
       13.11   249.00    .989E+07     13749.7         5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40    29.28   11.00 182.37      1.49      1.17
     OUTFLOW: ID= 1 (6320)  483.40    27.43   12.00 182.37      1.48      1.17

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0320):   278.74  17.763    11.50   185.83
       + ID2= 2 (6320):   483.40  27.435    12.00   182.37
         ================================================
         ID = 3 (8332):   762.14  44.940    12.00   183.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 89.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=  14.198 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 178.832
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.844

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3161.0) ------>
               Distance      Elevation        Manning
                  0.00         248.54         0.0350
                 27.93         248.34         0.0350
                 41.89         246.61         0.0350
```

62.83	243.09	0.0350	
132.65	239.00	0.0350	
188.50	236.74	0.0350	
195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0314)	165.20	14.20	11.00	178.83	1.23	1.52
OUTFLOW: ID= 1 (6316)	165.20	13.54	11.25	178.83	1.20	1.51

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 92.3	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 17.290 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 185.893
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.877

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0316):	232.34	17.290	11.00	185.89
+ ID2= 2 (6316):	165.20	13.544	11.25	178.83
ID = 3 (8338):	397.54	30.818	11.25	182.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 91.1	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 22.783 (i)
TIME TO PEAK (hrs)= 11.500
RUNOFF VOLUME (mm)= 183.641
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.866

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 79.2	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 26.714 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 155.772
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.735

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 81.9	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 10.810 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 160.351
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.756

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	26.714	12.00	155.77
+ ID2= 2 (0310):	138.28	10.810	11.00	160.35
ID = 3 (8342):	667.58	36.681	11.50	156.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68

```
  18.63   263.80    .310E+07   81118.8         16.94       0.64
  19.70   264.87    .344E+07   93603.2         17.66       0.61

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8342)  667.58    36.68   11.50 156.72      1.18      2.60
OUTFLOW: ID= 1 (6312)  667.58    36.77   11.25 156.72      1.18      2.60


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44  22.783    11.50   183.64
      + ID2= 2 (6312):   667.58  36.772    11.25   156.72
        ================================================
        ID = 3 (8340):  1027.02  59.491    11.25   166.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54  30.818    11.25   182.96
      + ID2= 2 (8340):  1027.02  59.491    11.25   166.14
        ================================================
        ID = 3 (8336):  1424.56  90.309    11.25   170.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14  44.940    12.00   183.64
      + ID2= 2 (8336):  1424.56  90.309    11.25   170.84
        ================================================
        ID = 3 (8330):  2186.70 134.425    11.50   175.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   223.86    .145E+04       0.2          0.43     147.27
      0.73   224.39    .159E+05       2.8          0.68      93.11
      1.27   224.93    .561E+05      11.0          0.75      85.19
      1.80   225.46    .217E+06      45.6          0.80      79.20
      2.33   225.99    .566E+06     134.4          0.91      70.20
      2.87   226.53    .122E+07     338.1          1.06      59.97
      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8330) 2186.70   134.42   11.50 175.30      2.33      0.91
OUTFLOW: ID= 1 (6324) 2186.70   121.79   12.50 175.30      2.26      0.89


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-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0324):   615.64  32.052    12.00   183.87
      + ID2= 2 (6324):  2186.70 121.791    12.50   175.30
        ================================================
        ID = 3 (8328):  2802.34 153.169    12.25   177.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 91.4
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=  28.218 (i)
    TIME TO PEAK    (hrs)=  12.000
    RUNOFF VOLUME    (mm)= 184.747
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.871

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13  28.218    12.00   184.75
      + ID2= 2 (8328):  2802.34 153.169    12.25   177.18
        ================================================
        ID = 3 (8326):  3315.47 180.979    12.25   178.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91  34.798    12.00   184.63
      + ID2= 2 (8326):  3315.47 180.979    12.25   178.35
        ================================================
        ID = 3 (8324):  3994.38 215.469    12.25   179.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	218.64	.373E+05	3.2	0.33	192.37
1.00	219.14	.752E+05	10.1	0.51	124.71
1.52	219.66	.149E+06	22.2	0.57	112.06
2.04	220.18	.279E+06	43.4	0.59	107.06
2.56	220.70	.464E+06	77.0	0.63	100.52
3.08	221.22	.705E+06	125.7	0.68	93.56
3.61	221.75	.100E+07	192.7	0.73	86.62
4.13	222.27	.135E+07	278.1	0.79	80.92
4.65	222.79	.176E+07	385.9	0.84	75.86
5.17	223.31	.222E+07	514.9	0.89	71.82
5.69	223.83	.280E+07	662.7	0.90	70.40
6.21	224.35	.345E+07	867.7	0.96	66.35
6.73	224.87	.417E+07	1107.0	1.01	62.81
7.25	225.39	.494E+07	1400.0	1.08	58.80
7.78	225.92	.573E+07	1732.2	1.15	55.17
8.30	226.44	.655E+07	2099.9	1.22	52.02
8.82	226.96	.740E+07	2502.8	1.29	49.29
9.34	227.48	.828E+07	2940.9	1.36	46.90
9.86	228.00	.918E+07	3414.3	1.42	44.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8324)	3994.38	215.47	12.25	179.42	3.74	0.75
OUTFLOW: ID= 1 (6328)	3994.38	189.16	13.25	179.42	3.57	0.73

ADD HYD (8320)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0328):	492.92	25.084	12.00	179.28
	+ ID2= 2 (6328):	3994.38	189.161	13.25	179.42
	ID = 3 (8320):	4487.30	212.288	13.00	179.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8318)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8320):	4487.30	212.288	13.00	179.40
	+ ID2= 2 (8322):	861.74	44.899	12.25	181.11
	ID = 3 (8318):	5349.04	255.943	13.00	179.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8316)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (5509):	10059.18	122.099	21.25	166.30
	+ ID2= 2 (8318):	5349.04	255.943	13.00	179.68
	ID = 3 (8316):	15408.22	361.763	13.00	170.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8312)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8314):	620.10	7.956	11.00	148.14
	+ ID2= 2 (8316):	15408.22	361.763	13.00	170.94
	ID = 3 (8312):	16028.32	368.090	13.00	170.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8308)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8310):	598.90	70.136	10.25	180.15
	+ ID2= 2 (8312):	16028.32	368.090	13.00	170.06
	ID = 3 (8308):	16627.22	385.156	12.25	170.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5510) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	74.0000
	66.5450	18.5023	*******	********
	98.5430	37.0045	*******	********

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8308)	********	385.156	12.25	170.42
OUTFLOW: ID= 1 (5510)	********	136.187	28.75	170.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.36
TIME SHIFT OF PEAK FLOW (min)=990.00
MAXIMUM STORAGE USED (ha.m.)=858.5957

ADD HYD (8240)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0336):	2785.00	20.993	24.00	173.23
	+ ID2= 2 (5510):	16627.22	136.187	28.75	170.42
	ID = 3 (8240):	19412.22	157.058	25.25	170.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8238)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (5508):	9524.23	162.331	15.50	143.84
	+ ID2= 2 (8240):	19412.22	157.058	25.25	170.86
	ID = 3 (8238):	28936.45	314.841	16.00	161.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8236)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0342):	1004.58	33.547	12.25	142.70
	+ ID2= 2 (8238):	28936.45	314.841	16.00	161.97
	ID = 3 (8236):	29941.03	341.954	14.75	161.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8234)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8232):	285.80	30.260	10.25	152.63
	+ ID2= 2 (8236):	29941.03	341.954	14.75	161.32
	ID = 3 (8234):	30226.83	342.050	14.75	161.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8230)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0344):	344.00	24.075	11.00	150.24
	+ ID2= 2 (8234):	30226.83	342.050	14.75	161.24
	ID = 3 (8230):	30570.83	357.917	12.25	161.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8228)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8226):	1952.06	96.397	12.00	136.68
	+ ID2= 2 (8230):	30570.83	357.917	12.25	161.11
	ID = 3 (8228):	32522.89	454.139	12.25	159.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8190) |
|   1 +   2 =   3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22  47.576    11.75   126.89
       + ID2= 2 (8228): 32522.89 454.139    12.25   159.65
         ================================================
         ID = 3 (8190): 33538.11 501.128    12.00   158.66
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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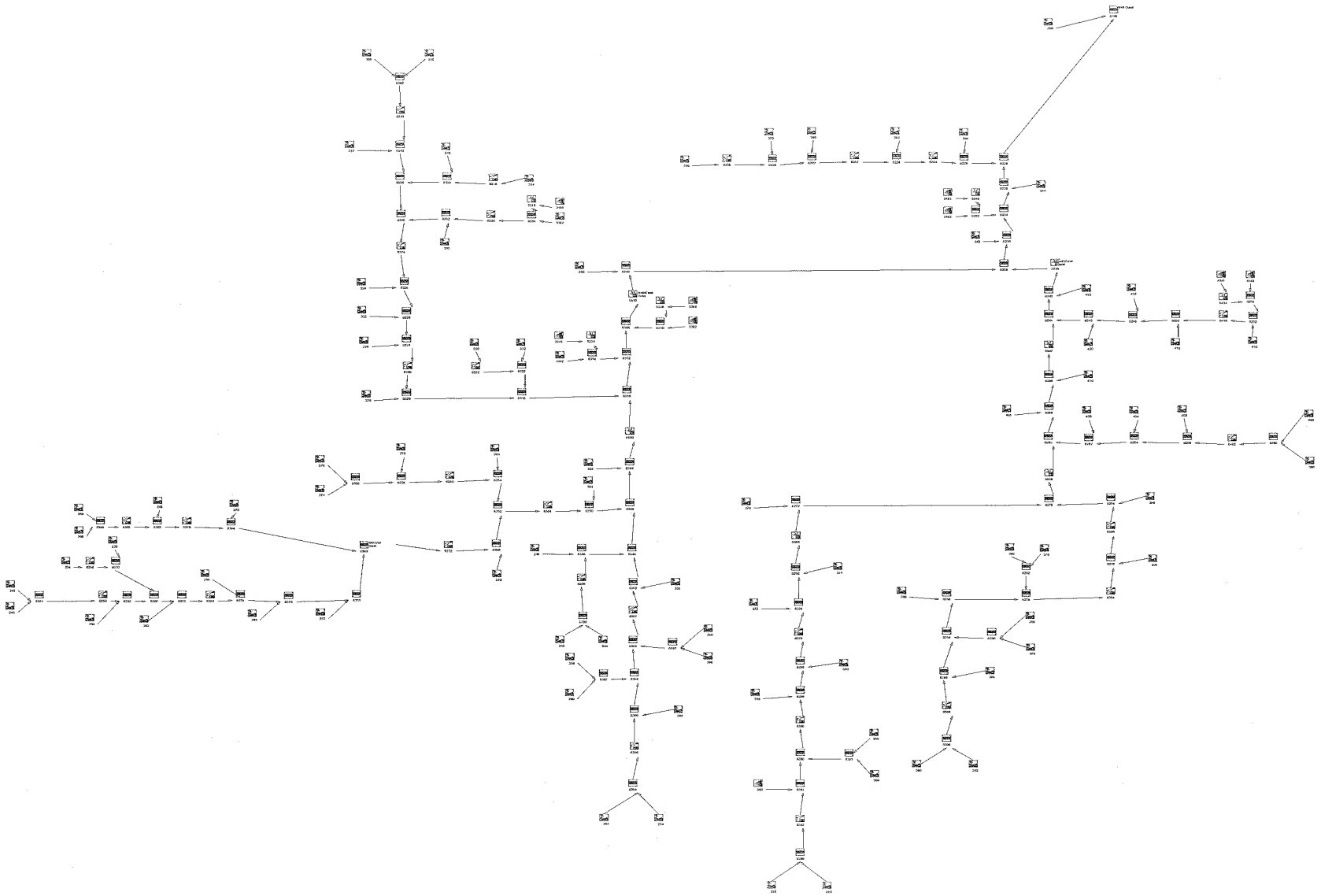
WEST HOLLAND RIVER SUBWATERSHED



EXISTING
WEST HOLLAND RIVER 2-100 YEAR STORMS

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****

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  Summary filename: C:\Users\jscott\AppData\Local\Temp\3e280798-92ee-4282-809c-79f5caed0add\Scenario.sum

DATE: 08/22/2012                          TIME: 01:32:16

USER:

COMMENTS: _____

--------------------------------------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************

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|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\5cad6041
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.25     1.05 |  3.25     1.68 |  6.25     7.56 |  9.25     1.47
                0.50     1.05 |  3.50     1.68 |  6.50     7.56 |  9.50     1.47
                0.75     1.05 |  3.75     1.68 |  6.75     3.36 |  9.75     1.47
                1.00     1.05 |  4.00     1.68 |  7.00     3.36 | 10.00     1.47
                1.25     1.05 |  4.25     2.52 |  7.25     2.52 | 10.25     0.84
                1.50     1.05 |  4.50     2.52 |  7.50     2.52 | 10.50     0.84
                1.75     1.05 |  4.75     3.36 |  7.75     2.52 | 10.75     0.84
                2.00     1.05 |  5.00     3.36 |  8.00     2.52 | 11.00     0.84
                2.25     1.26 |  5.25     5.04 |  8.25     1.47 | 11.25     0.84
                2.50     1.26 |  5.50     5.04 |  8.50     1.47 | 11.50     0.84
                2.75     1.26 |  5.75    20.16 |  8.75     1.47 | 11.75     0.84
                3.00     1.26 |  6.00    55.44 |  9.00     1.47 | 12.00     0.84

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area     (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   1.461 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.058
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area     (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   0.268 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   2.897
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area     (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   1.066 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.329
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0346) |   Area     (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   1.534 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.284
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area     (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   0.676 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   4.345
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.103

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0348) |   Area     (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   0.711 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   4.368
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (3501.0) ------>
               Distance      Elevation       Manning
                  0.00         287.00        0.0500
                 23.66         283.72        0.0500
                 70.98         280.94        0.0500
                112.38         280.23        0.0500
                171.52         276.80        0.0500
                260.24         274.46        0.0500
                266.16         274.26        0.0500
                272.07         274.12        0.0500
                276.49         274.12     0.0500 /0.0300  Main Channel
                276.99         273.82        0.0300       Main Channel
                277.99         273.82        0.0300       Main Channel
                279.49         273.82        0.0300       Main Channel
                280.49         274.27     0.0300 /0.0500  Main Channel
                283.90         274.27        0.0500
                289.81         274.57        0.0500
```

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            325.30        275.75        0.0500
            396.28        278.98        0.0500
            449.51        280.97        0.0500
            496.83        283.90        0.0500
            585.54        287.92        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   274.12    .273E+04       0.9         0.99       49.81
        0.98   274.80    .583E+05      20.8         1.05       46.71
        1.66   275.48    .203E+06      95.2         1.38       35.53
        2.33   276.15    .438E+06     256.0         1.73       28.50
        3.01   276.83    .755E+06     524.8         2.05       23.97
        3.69   277.51    .114E+07     935.8         2.43       20.26
        4.37   278.19    .157E+07    1472.0         2.76       17.82
        5.05   278.87    .206E+07    2140.7         3.06       16.06
        5.72   279.54    .261E+07    2938.6         3.33       14.79
        6.40   280.22    .321E+07    3887.6         3.57       13.77
        7.08   280.90    .390E+07    4795.4         3.63       13.56
        7.76   281.58    .468E+07    6196.2         3.91       12.58
        8.43   282.25    .550E+07    7803.9         4.19       11.74
        9.11   282.93    .637E+07    9601.9         4.45       11.05
        9.79   283.61    .728E+07   11594.8         4.70       10.46
       10.47   284.29    .823E+07   13845.3         4.96        9.91
       11.15   284.97    .922E+07   16293.4         5.21        9.43
       11.82   285.64    .103E+08   18952.0         5.45        9.02
       12.50   286.32    .113E+08   21824.3         5.69        8.65

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     0.71    9.25   4.37      0.23      0.99
     OUTFLOW: ID= 1 (6350)  590.18     0.70   10.25   4.37      0.23      0.99


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--------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0350):   366.84   0.676     7.75     4.35
       + ID2= 2 (6350):   590.18   0.695    10.25     4.37
         ================================================
         ID = 3 (8220):   957.02   1.262     8.75     4.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8222) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):   350.93   1.534     7.25     9.28
       + ID2= 2 (8220):   957.02   1.262     8.75     4.36
         ================================================
         ID = 3 (8222):  1307.95   2.712     8.00     5.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3521.0) ------>
            Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.60   239.41    .224E+04       2.2         1.52       17.12
        1.58   240.39    .216E+05      22.3         1.61       16.16
        2.55   241.36    .804E+05     101.0         1.96       13.27
        3.53   242.34    .173E+06     275.6         2.48       10.46
        4.50   243.31    .293E+06     553.9         2.95        8.80
        5.48   244.29    .438E+06     961.8         3.42        7.60
        6.45   245.26    .599E+06    1534.4         3.99        6.51
        7.43   246.24    .770E+06    2228.4         4.51        5.76
        8.41   247.22    .951E+06    3043.6         4.98        5.21
        9.38   248.19    .114E+07    3982.1         5.43        4.78
       10.36   249.17    .134E+07    5040.1         5.85        4.44
       11.33   250.14    .155E+07    6218.5         6.24        4.16
       12.31   251.12    .177E+07    7518.6         6.61        3.93
       13.29   252.10    .200E+07    8969.0         6.98        3.72
       14.26   253.07    .224E+07   10554.1         7.35        3.53
       15.24   254.05    .248E+07   12257.1         7.71        3.37
       16.21   255.02    .272E+07   14045.1         8.03        3.23
       17.19   256.00    .298E+07   15954.8         8.34        3.11
       18.16   256.97    .325E+07   17780.4         8.53        3.04

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     2.71    8.00   5.68      0.63      1.52
     OUTFLOW: ID= 1 (6352) 1307.95     2.69    8.25   5.68      0.62      1.52


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| ADD HYD   (8224) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):   381.43   1.066     7.00     5.33
       + ID2= 2 (6352):  1307.95   2.690     8.25     5.68
         ================================================
         ID = 3 (8224):  1689.38   3.668     8.00     5.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3541.0) ------>
            Distance      Elevation       Manning
                0.00         253.92        0.0500
                7.95         251.83        0.0500
               15.89         249.97        0.0500
               19.87         249.05        0.0500
               47.68         242.00        0.0500
               67.55         237.10        0.0500
               83.44         231.11        0.0500
               85.43         230.75        0.0500
               85.66         230.61    0.0500 /0.0300  Main Channel
               85.76         230.01        0.0300      Main Channel
               87.41         230.01        0.0300      Main Channel
               88.06         230.01        0.0300      Main Channel
               88.16         230.61    0.0300 /0.0500  Main Channel
               89.40         230.72        0.0500
               91.39         230.88        0.0500
               93.37         231.03        0.0500
              133.11         233.96        0.0500
              150.99         235.39        0.0500
              172.84         239.03        0.0500
              196.68         250.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.60   230.61    .451E+04       1.5         1.06       49.40
        1.62   231.63    .394E+05      14.6         1.16       45.13
        2.64   232.65    .128E+06      58.8         1.44       36.30
        3.66   233.67    .269E+06     149.7         1.74       30.00
        4.68   234.69    .463E+06     301.5         2.04       25.58
        5.70   235.71    .705E+06     530.5         2.36       22.14
        6.72   236.73    .980E+06     848.4         2.71       19.25
        7.74   237.75    .128E+07    1237.9         3.02       17.29
        8.76   238.77    .162E+07    1706.7         3.30       15.83
        9.78   239.79    .199E+07    2291.9         3.61       14.45
       10.81   240.82    .237E+07    2973.7         3.92       13.30
       11.83   241.84    .278E+07    3742.2         4.21       12.38
       12.85   242.86    .321E+07    4599.1         4.49       11.62
       13.87   243.88    .365E+07    5544.6         4.75       10.98
       14.89   244.90    .412E+07    6579.7         5.00       10.44
       15.91   245.92    .461E+07    7705.9         5.23        9.97
       16.93   246.94    .512E+07    8924.6         5.46        9.55
       17.95   247.96    .564E+07   10237.5         5.68        9.19
       18.97   248.98    .619E+07   11646.2         5.89        8.86

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8224) 1689.38     3.67    8.00   5.60      0.77      1.07
     OUTFLOW: ID= 1 (6354) 1689.38     3.41    9.00   5.60      0.75      1.07
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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68   0.268     8.25     2.90
      + ID2= 2 (6354):  1689.38   3.413     9.00     5.60
        ==========================================================
        ID = 3 (8226):  1952.06   3.673     9.00     5.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   1.096 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.331
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         4.42
               over (min)       15.00        60.00
     Storage Coeff.  (min)=   18.13 (ii)   55.39 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.14         1.13       3.461 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.75        6.00
     RUNOFF VOLUME    (mm)=     40.00         5.40        9.90
     TOTAL RAINFALL   (mm)=     42.00        42.00       42.00
     RUNOFF COEFFICIENT   =      0.95         0.13        0.24

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         8.48
               over (min)       15.00        45.00
     Storage Coeff.  (min)=   11.48 (ii)   40.19 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.34         0.35       1.474 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     40.00         6.57       13.59
     TOTAL RAINFALL   (mm)=     42.00        42.00       42.00
     RUNOFF COEFFICIENT   =      0.95         0.16        0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360     1.7877
                         0.1730     0.6348   |   7.2780     2.2185
                         1.8360     0.8250   |   9.1880     2.6486
                         2.1540     1.1051   |   9.5880     2.6586
                         3.3950     1.3506   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3401)     51.200     1.474     6.00       13.59
    OUTFLOW: ID= 1 (5340)     51.200     0.126     8.75       13.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.58
                  TIME SHIFT OF PEAK FLOW          (min)=165.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.4644

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3402):   234.60   3.461     6.00     9.90
      + ID2= 2 (5340):    51.20   0.126     8.75    13.57
        ==========================================================
        ID = 3 (8232):   285.80   3.513     6.00    10.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   1.208 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   5.390
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   1.144 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   5.383
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   0.844 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.360
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64
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```
     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   0.897 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.074
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   2.165 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.744
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   1.234 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   6.828
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.145 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   2.885
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   0.850 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.266 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   4.049
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.096

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   1.407 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.039
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   0.504 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.495
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0364):   155.27   0.504     7.00     5.50
       + ID2= 2 (0366):   462.62   1.407     7.75     7.04
         ================================================
         ID = 3 (8302):   617.89   1.886     7.25     6.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          3.78
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      14.78 (ii)    54.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.07          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.07          0.54          1.224 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00          4.74          7.56
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.11          0.18

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.496 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   2.665
     TOTAL RAINFALL   (mm)=  42.000
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     RUNOFF COEFFICIENT   =   0.063

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD     (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.367 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.995
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8358):   429.87   0.496     7.75     2.66
     + ID2= 2 (8360):   138.37   0.367     6.75     4.00
       ================================================
       ID = 3 (8306):   568.24   0.839     7.00     2.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3621.0) ------>
            Distance      Elevation       Manning
               0.00         261.46        0.0550
              27.86         254.23        0.0550
              51.07         251.96        0.0550
              74.29         250.77        0.0550
              97.50         249.91        0.0550
             125.36         249.40        0.0550
             150.93         247.40        0.0550
             155.93         247.33    0.0550 /0.0350  Main Channel
             157.93         246.85        0.0350      Main Channel
             159.18         246.65        0.0350      Main Channel
             160.18         246.63        0.0350      Main Channel
             160.93         246.85        0.0350      Main Channel
             161.93         247.18    0.0350 /0.0550  Main Channel
             163.18         248.03        0.0550
             168.18         248.58        0.0550
             183.18         250.18        0.0550
             201.97         252.59        0.0550
             213.57         256.02        0.0550
             225.18         260.31        0.0550
             229.82         261.00        0.0550

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55   247.18   .556E+04       1.9         1.03      49.95
       1.28   247.91   .336E+05      16.7         1.53      33.61
       2.00   248.63   .913E+05      53.6         1.81      28.40
       2.73   249.36   .185E+06     122.3         2.05      25.18
       3.46   250.09   .344E+06     224.6         2.02      25.52
       4.19   250.82   .574E+06     417.9         2.25      22.91
       4.91   251.54   .855E+06     699.1         2.53      20.38
       5.64   252.27   .118E+07    1075.3         2.82      18.26
       6.37   253.00   .153E+07    1559.9         3.15      16.38
       7.10   253.73   .191E+07    2137.6         3.46      14.89
       7.82   254.45   .231E+07    2815.2         3.77      13.67
       8.55   255.18   .272E+07    3608.5         4.10      12.58
       9.28   255.91   .315E+07    4488.2         4.41      11.69
      10.01   256.64   .358E+07    5458.0         4.71      10.95
      10.73   257.36   .403E+07    6512.4         4.99      10.32
      11.46   258.09   .449E+07    7649.8         5.27       9.78
      12.19   258.82   .496E+07    8869.5         5.53       9.32
      12.92   259.55   .544E+07   10171.2         5.78       8.91
      13.64   260.27   .593E+07   11554.8         6.02       8.55

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     0.84    7.00   2.99      0.25      1.03
     OUTFLOW: ID= 1 (6362)  568.24     0.75    8.25   2.99      0.22      1.03


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| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8362):   118.78   1.224     6.00     7.56
     + ID2= 2 (6362):   568.24   0.746     8.25     2.99
       ================================================
       ID = 3 (8304):   687.02   1.321     6.00     3.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8302):   617.89   1.886     7.25     6.65
     + ID2= 2 (8304):   687.02   1.321     6.00     3.78
       ================================================
       ID = 3 (8300):  1304.91   3.036     7.25     5.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3681.0) ------>
            Distance      Elevation       Manning
               0.00         230.00        0.0370
              18.48         223.26        0.0370
              36.96         223.05        0.0370
              64.67         222.94        0.0370
             110.87         222.86        0.0370
             133.96         222.74        0.0370
             147.82         222.65        0.0370
             170.92         222.31        0.0370
             174.79         222.26    0.0370 /0.0300  Main Channel
             174.89         221.86        0.0300      Main Channel
             175.54         221.86        0.0300      Main Channel
             176.19         221.86        0.0300      Main Channel
             176.29         222.26    0.0300 /0.0370  Main Channel
             180.16         222.25        0.0370
             184.78         222.28        0.0370
             189.40         222.31        0.0370
             332.60         222.37        0.0370
             450.00         230.00        0.0370

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.40   222.26   .771E+03        0.3         0.52      41.74
       0.81   222.67   .784E+05       30.3         0.51      43.17
       1.21   223.07   .210E+06      123.2         0.77      28.42
       1.62   223.48   .384E+06      301.0         1.03      21.25
       2.03   223.89   .563E+06      550.2         1.28      17.06
       2.44   224.30   .747E+06      860.7         1.51      14.46
       2.84   224.70   .934E+06     1228.1         1.73      12.68
       3.25   225.11   .113E+07     1649.3         1.92      11.37
       3.66   225.52   .132E+07     2122.3         2.11      10.37
       4.07   225.93   .152E+07     2645.5         2.29       9.58
       4.47   226.33   .172E+07     3217.8         2.45       8.92
       4.88   226.74   .193E+07     3838.3         2.61       8.38
       5.29   227.15   .214E+07     4506.3         2.76       7.92
       5.70   227.56   .236E+07     5221.3         2.91       7.52
       6.10   227.96   .258E+07     5983.0         3.05       7.17
       6.51   228.37   .280E+07     6790.9         3.19       6.87
       6.92   228.78   .303E+07     7645.0         3.32       6.60
       7.33   229.19   .326E+07     8545.1         3.45       6.35
       7.73   229.59   .349E+07     9491.0         3.57       6.13

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91     3.04    7.25   5.14      0.44      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     2.84    8.25   5.14      0.43      0.52


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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0368):   159.48   0.266     8.00     4.05
     + ID2= 2 (6368):  1304.91   2.837     8.25     5.14
       ================================================
       ID = 3 (8298):  1464.39   3.099     8.25     5.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85   0.850     6.75     7.22
      + ID2= 2 (8298):  1464.39   3.099     8.25     5.02
        ================================================
        ID = 3 (8296):  1656.24   3.807     8.00     5.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3721.0) ------>
            Distance      Elevation       Manning
               0.00         225.00        0.0390
              30.80         219.38        0.0390
              61.61         219.30        0.0390
              77.01         219.27        0.0390
             469.76         219.14        0.0390
             477.46         219.13        0.0390
             485.16         219.10        0.0390
             492.86         219.09        0.0390
             495.56         219.09    0.0390 /0.0310  Main Channel
             495.66         218.51        0.0310      Main Channel
             500.56         218.51        0.0310      Main Channel
             505.46         218.51        0.0310      Main Channel
             505.56         219.09    0.0310 /0.0390  Main Channel
             508.26         219.09        0.0390
             515.96         219.10        0.0390
             523.67         219.21        0.0390
             562.17         219.32        0.0390
             654.58         219.43        0.0390
             731.59         219.46        0.0390
             762.39         225.00        0.0390

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   218.80    .431E+04       1.7         0.58      43.48
       0.58   219.09    .867E+04       5.1         0.89      28.32
       0.93   219.44    .200E+06      58.2         0.44      57.35
       1.28   219.79    .568E+06     278.6         0.74      33.99
       1.62   220.13    .939E+06     630.2         1.01      24.84
       1.97   220.48    .131E+07    1090.4         1.25      20.05
       2.32   220.83    .169E+07    1647.7         1.47      17.06
       2.67   221.18    .206E+07    2294.6         1.68      14.99
       3.01   221.52    .244E+07    3025.6         1.87      13.46
       3.36   221.87    .282E+07    3836.5         2.05      12.27
       3.71   222.22    .321E+07    4723.7         2.22      11.31
       4.06   222.57    .359E+07    5684.6         2.39      10.53
       4.40   222.91    .398E+07    6716.6         2.55       9.87
       4.75   223.26    .437E+07    7817.7         2.70       9.31
       5.10   223.61    .476E+07    8986.2         2.85       8.83
       5.45   223.96    .515E+07   10220.4         2.99       8.40
       5.79   224.30    .555E+07   11519.1         3.13       8.03
       6.14   224.65    .594E+07   12880.8         3.27       7.69
       6.49   225.00    .634E+07   14304.5         3.40       7.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24     3.81    8.00   5.27      0.47      0.74
    OUTFLOW: ID= 1 (6372) 1656.24     3.70    8.50   5.27      0.46      0.73
```

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-------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42   0.145     7.50     2.88
      + ID2= 2 (6372):  1656.24   3.698     8.50     5.27
        ================================================
        ID = 3 (8294):  1766.66   3.833     8.50     5.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   1.234     8.25     6.83
      + ID2= 2 (8294):  1766.66   3.833     8.50     5.13
        ================================================
        ID = 3 (8292):  2312.36   5.066     8.50     5.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8292)   2312.360     5.066      8.50       5.53
    OUTFLOW: ID= 1 (5505)   2312.360     3.659     11.25       5.53

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.23
                TIME SHIFT OF PEAK FLOW          (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.5421
```

```
-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85   2.165     7.50    10.74
      + ID2= 2 (5505):  2312.36   3.659    11.25     5.53
        ================================================
        ID = 3 (8272):  2776.21   5.098    10.25     6.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.977
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.214

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.160
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   0.992 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.541
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=   7.500
```

```
     RUNOFF VOLUME    (mm)=   6.132
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0386)  |   Area     (ha)= 241.27   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   0.799     7.25     6.78
       + ID2= 2 (0388):   220.77   0.615     7.50     6.13
         ================================================
         ID = 3 (8286):   462.04   1.411     7.25     6.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0384)  |   Area     (ha)= 199.07   Curve Number    (CN)= 44.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   3.759
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380)  |   Area     (ha)= 182.01   Curve Number    (CN)= 40.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.407 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.195
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.076

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382)  |   Area     (ha)= 216.59   Curve Number    (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   0.697 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.118
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.407     6.75     3.20
       + ID2= 2 (0382):   216.59   0.697     6.75     5.12
         ================================================
         ID = 3 (8290):   398.60   1.104     6.75     4.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3841.0) ------>
           Distance      Elevation       Manning
               0.00         294.40        0.0380
              10.59         291.93        0.0380
              21.17         289.19        0.0380
              26.46         287.99        0.0380
              31.76         286.79        0.0380
              71.45         279.97        0.0380
              74.10         279.79        0.0380
              76.74         279.71        0.0380
              78.99         279.64   0.0380 /0.0300  Main Channel
              79.14         279.30        0.0300     Main Channel
              79.39         279.30        0.0300     Main Channel
              79.64         279.30        0.0300     Main Channel
              79.79         279.64   0.0300 /0.0380  Main Channel
              89.98         279.78        0.0380
             119.09         281.86        0.0380
             145.55         282.87        0.0380
             198.48         284.85        0.0380
             211.71         286.31        0.0380
             230.23         287.59        0.0380
             261.99         294.00        0.0380

    <-------------------- TRAVEL TIME TABLE --------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.34    279.64    .715E+03        0.2         0.85      63.42
     1.10    280.40    .507E+05       21.9         1.40      38.54
     1.85    281.15    .141E+06       91.8         2.10      25.69
     2.61    281.91    .269E+06      218.9         2.63      20.46
     3.36    282.66    .445E+06      407.1         2.96      18.23
     4.12    283.42    .681E+06      698.3         3.31      16.26
     4.87    284.17    .977E+06     1111.8         3.68      14.65
     5.63    284.93    .133E+07     1674.3         4.06      13.27
     6.39    285.69    .173E+07     2457.8         4.59      11.73
     7.14    286.44    .215E+07     3378.8         5.07      10.63
     7.90    287.20    .261E+07     4418.4         5.47       9.85
     8.65    287.95    .310E+07     5676.3         5.92       9.11
     9.41    288.71    .361E+07     7150.5         6.40       8.42
    10.17    289.47    .414E+07     8783.1         6.86       7.86
    10.92    290.22    .469E+07    10575.1         7.30       7.38
    11.68    290.98    .525E+07    12520.4         7.72       6.98
    12.43    291.73    .582E+07    14619.0         8.12       6.64
    13.19    292.49    .642E+07    16863.2         8.50       6.34
    13.94    293.24    .703E+07    19259.8         8.86       6.08

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
    INFLOW : ID= 2 (8290)  398.60     1.10    6.75   4.24      0.37      0.86
    OUTFLOW: ID= 1 (6384)  398.60     0.87    8.00   4.24      0.36      0.86

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.343     7.50     3.76
       + ID2= 2 (6384):   398.60   0.866     8.00     4.24
         ================================================
         ID = 3 (8288):   597.67   1.204     8.00     4.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   1.411     7.25     6.47
       + ID2= 2 (8288):   597.67   1.204     8.00     4.08
         ================================================
         ID = 3 (8284):  1059.71   2.590     7.75     5.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
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```
          ID1= 1 (0390):   420.00   0.992     7.75     5.54
        + ID2= 2 (8284):  1059.71   2.590     7.75     5.12
          ================================================
          ID = 3 (8280):  1479.71   3.582     7.75     5.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   0.666 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   6.993
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   1.341 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.547
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0378):   606.72   1.341     8.00     5.55
        + ID2= 2 (0392):   167.22   0.666     7.00     6.99
          ================================================
          ID = 3 (8282):   773.94   1.958     7.50     5.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8278)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8280):  1479.71   3.582     7.75     5.24
        + ID2= 2 (8282):   773.94   1.958     7.50     5.86
          ================================================
          ID = 3 (8278):  2253.65   5.533     7.75     5.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6394)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                  0.00         283.00        0.0380
                 13.48         282.87        0.0380
                 53.92         280.08        0.0380
                 74.13         276.62        0.0380
                 97.72         265.45        0.0380
                114.57         256.93        0.0380
                131.42         253.04        0.0380
                134.79         252.58        0.0380
                138.53         251.74    0.0380 /0.0300  Main Channel
                139.03         251.20        0.0300      Main Channel
                141.53         251.20        0.0300      Main Channel
                144.03         251.20        0.0300      Main Channel
                144.53         251.74    0.0300 /0.0380  Main Channel
                148.27         252.69        0.0380
                151.64         252.97        0.0380
                185.34         255.08        0.0380
                219.03         257.54        0.0380
                262.84         259.43        0.0380
                310.02         262.80        0.0380
                333.60         283.00        0.0380

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.54   251.74    .827E+04        4.5         1.51       30.71
       2.19   253.39    .758E+05       73.2         2.69       17.27
       3.83   255.03    .282E+06      331.8         3.27       14.17
       5.48   256.68    .633E+06      917.3         4.03       11.51
       7.12   258.32    .112E+07     1889.5         4.69        9.90
       8.77   259.97    .179E+07     3410.2         5.31        8.73
      10.41   261.61    .259E+07     5627.6         6.05        7.66
      12.06   263.26    .351E+07     8605.1         6.83        6.79
      13.70   264.90    .447E+07    12544.9         7.81        5.94
      15.35   266.55    .546E+07    17101.4         8.71        5.32
      16.99   268.19    .648E+07    22251.7         9.56        4.85
      18.64   269.84    .752E+07    27979.0        10.36        4.48
      20.28   271.48    .858E+07    34269.0        11.11        4.17
      21.93   273.13    .967E+07    41110.8        11.83        3.92
      23.57   274.77    .108E+08    48495.9        12.51        3.71
      25.22   276.42    .119E+08    56418.1        13.17        3.52
      26.86   278.06    .131E+08    64410.6        13.69        3.39
      28.51   279.71    .143E+08    73002.1        14.18        3.27
      30.15   281.35    .156E+08    81379.3        14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65     5.53    7.75   5.45      0.57      1.52
     OUTFLOW: ID= 1 (6394) 2253.65     5.37    8.25   5.45      0.56      1.52

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-------------------
| ADD HYD   (8276)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0394):   325.45   0.799     7.25     5.16
        + ID2= 2 (6394):  2253.65   5.366     8.25     5.45
          ================================================
          ID = 3 (8276):  2579.10   6.118     8.25     5.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                  0.00         263.00        0.0410
                 11.75         257.14        0.0410
                 23.50         253.97        0.0410
                 41.13         247.83        0.0410
                 76.38         232.09        0.0410
                135.13         229.07        0.0410
                149.82         228.97        0.0410
                152.75         228.96    0.0410 /0.0300  Main Channel
                154.19         228.73        0.0300      Main Channel
                154.69         228.20        0.0300      Main Channel
                155.69         228.20        0.0300      Main Channel
                156.69         228.20        0.0300      Main Channel
                157.19         228.73        0.0300      Main Channel
                158.63         228.95    0.0300 /0.0410  Main Channel
                161.57         228.96        0.0410
                164.51         229.71        0.0410
                196.82         241.70        0.0410
                223.26         249.21        0.0410
                246.76         255.13        0.0410
                290.82         263.51        0.0410

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.75   228.95    .780E+04        2.2         0.98       58.06
       2.54   230.74    .277E+06      145.1         1.78       31.76
       4.33   232.53    .786E+06      609.1         2.63       21.50
       6.13   234.33    .140E+07     1481.5         3.59       15.77
       7.92   236.12    .207E+07     2677.3         4.39       12.90
       9.71   237.91    .280E+07     4184.8         5.09       11.14
      11.50   239.70    .357E+07     6001.4         5.71        9.93
      13.29   241.49    .441E+07     8129.1         6.27        9.03
      15.09   243.29    .530E+07    10549.4         6.77        8.37
      16.88   245.08    .625E+07    13300.6         7.24        7.83
      18.67   246.87    .726E+07    16396.2         7.68        7.38
      20.46   248.66    .834E+07    19809.8         8.07        7.02
      22.26   250.46    .949E+07    23532.5         8.43        6.72
      24.05   252.25    .107E+08    27641.2         8.77        6.46
      25.84   254.04    .120E+08    32155.2         9.10        6.22
      27.63   255.83    .134E+08    36901.0         9.37        6.05
      29.42   257.62    .149E+08    42147.7         9.64        5.88
      31.22   259.42    .164E+08    48149.1         9.97        5.68
      33.01   261.21    .181E+08    54644.8        10.29        5.51

                                  <---- hydrograph ---->   <-pipe / channel->
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```
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10     6.12    8.25  5.42     0.80      0.99
     OUTFLOW: ID= 1 (6396) 2579.10     5.54    9.25  5.42     0.79      0.99


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   1.174     7.75     8.98
       + ID2= 2 (6396):  2579.10   5.542     9.25     5.42
         ================================================
         ID = 3 (8274):  2884.31   6.553     9.25     5.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21   5.098    10.25     6.40
       + ID2= 2 (8274):  2884.31   6.553     9.25     5.79
         ================================================
         ID = 3 (8270):  5660.52  11.498     9.50     6.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520    11.498     9.50       6.09
     OUTFLOW: ID= 1 (5506)   5660.520     9.572    12.00       6.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 83.25
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.5866

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   0.781 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.974
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.467 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.188
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   0.710 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.803
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.390 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   4.872
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   0.938 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.517
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   0.938     7.00     5.52
       + ID2= 2 (0400):    93.97   0.390     6.50     4.87
         ================================================
         ID = 3 (8268):   422.16   1.286     7.00     5.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36       38.31
      0.81   226.06    .804E+04        5.0         1.93       27.02
      1.22   226.47    .124E+05        9.1         2.30       22.61
      1.84   227.09    .308E+05       23.3         2.36       22.03
      2.46   227.71    .904E+05       62.0         2.14       24.31
      3.09   228.34    .223E+06      188.3         2.63       19.75
      3.71   228.96    .379E+06      410.2         3.38       15.39
      4.33   229.58    .550E+06      711.5         4.04       12.89
      4.95   230.20    .737E+06     1091.3         4.62       11.25
```

```
      5.58   230.83    .939E+06    1550.6          5.15      10.10
      6.20   231.45    .116E+07    2072.4          5.59       9.31
      6.82   232.07    .140E+07    2659.2          5.93       8.77
      7.44   232.69    .167E+07    3345.8          6.27       8.30
      8.07   233.32    .195E+07    4159.0          6.64       7.83
      8.69   233.94    .226E+07    5100.8          7.03       7.39
      9.31   234.56    .259E+07    6081.3          7.32       7.11
      9.93   235.18    .295E+07    7183.1          7.60       6.84
     10.56   235.81    .334E+07    8145.2          7.62       6.83
     11.18   236.43    .379E+07    9116.0          7.51       6.92

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8268)  422.16     1.29    7.00   5.37      0.31      1.36
   OUTFLOW: ID= 1 (6402)  422.16     1.15    7.75   5.37      0.28      1.36


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--------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   0.710     7.75     6.80
       + ID2= 2 (6402):   422.16   1.155     7.75     5.37
         ================================================
         ID = 3 (8266):   666.16   1.865     7.75     5.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   0.467     7.50     4.19
       + ID2= 2 (8266):   666.16   1.865     7.75     5.90
         ================================================
         ID = 3 (8264):   912.62   2.329     7.75     5.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   0.781     6.75     7.97
       + ID2= 2 (8264):   912.62   2.329     7.75     5.44
         ================================================
         ID = 3 (8262):  1055.27   3.000     7.50     5.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52   9.572    12.00     6.09
       + ID2= 2 (8262):  1055.27   3.000     7.50     5.78
         ================================================
         ID = 3 (8260):  6715.79  10.967    11.25     6.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   0.897     6.75     6.07
       + ID2= 2 (8260):  6715.79  10.967    11.25     6.04
         ================================================
         ID = 3 (8258):  6947.41  11.251    11.25     6.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   0.844     8.25     4.36
       + ID2= 2 (8258):  6947.41  11.251    11.25     6.04
         ================================================
         ID = 3 (8256):  7519.42  11.941    11.00     5.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421    11.941     11.00       5.91
    OUTFLOW: ID= 1 (5507)   7519.421    11.702     12.00       5.91

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.00
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.6414

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--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   0.476 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.148
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   0.600 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.539
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   1.251 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.557
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   0.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.327
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          15.73          27.97
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         539.75          40.00
     Mannings n            =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44          11.49
               over (min)            15.00          45.00
     Storage Coeff.  (min)=       10.95 (ii)     36.37 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=           0.94           0.50          1.138 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=          40.00           9.81          14.94
     TOTAL RAINFALL   (mm)=          42.00          42.00          42.00
     RUNOFF COEFFICIENT   =           0.95           0.23           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720     1.9177
                         0.3820     0.3152   |   3.8720     1.9277
                         1.8280     0.4690   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700     1.138     6.00      14.94
     OUTFLOW: ID= 1 (5414)     43.700     0.329     7.25      14.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.91
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2718

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-------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          30.30         114.00
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         980.82          40.00
     Mannings n            =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44           8.83
               over (min)            15.00          45.00
     Storage Coeff.  (min)=       15.67 (ii)     43.91 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=           1.59           1.42          2.138 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=          40.00           8.68          11.81
     TOTAL RAINFALL   (mm)=          42.00          42.00          42.00
     RUNOFF COEFFICIENT   =           0.95           0.21           0.28

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4142):   144.30   2.138     6.00     11.81
      + ID2= 2 (5414):    43.70   0.329     7.25     14.94
        ================================================
        ID = 3 (8254):   188.00   2.278     6.00     12.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70   0.677     7.00      5.33
      + ID2= 2 (8254):   188.00   2.278     6.00     12.54
        ================================================
        ID = 3 (8252):   426.70   2.814     6.50      8.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4161.0) ------>
              Distance      Elevation        Manning
                 0.00         270.07         0.0340
                20.67         267.91         0.0340
                62.01         264.33         0.0340
               113.69         259.75         0.0340
               165.37         253.30         0.0340
               227.38         246.29         0.0340
               232.55         246.03         0.0340
               237.72         246.16         0.0340
               241.39         246.02    0.0340 /0.0300  Main Channel
               241.64         245.75         0.0300      Main Channel
               242.89         245.75         0.0300      Main Channel
               244.14         245.75         0.0300      Main Channel
               244.39         246.02    0.0300 /0.0340  Main Channel
               248.06         246.20         0.0340
               253.22         246.28         0.0340
               258.39         246.63         0.0340
               346.25         252.57         0.0340
               413.43         257.77         0.0340
               465.11         261.78         0.0340
               511.62         270.00         0.0340

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.27   246.02    .295E+04        0.6         0.75       88.26
      1.53   247.28    .168E+06       69.7         1.65       40.13
      2.79   248.54    .490E+06      299.5         2.42       27.28
      4.06   249.81    .962E+06      740.1         3.05       21.67
      5.32   251.07    .158E+07     1440.0         3.61       18.33
      6.58   252.33    .235E+07     2443.8         4.12       16.06
      7.84   253.59    .327E+07     3811.2         4.63       14.30
      9.10   254.85    .432E+07     5565.1         5.11       12.94
     10.37   256.12    .550E+07     7721.3         5.57       11.88
     11.63   257.38    .682E+07    10309.9         6.00       11.02
     12.89   258.64    .827E+07    13360.6         6.42       10.31
     14.15   259.90    .985E+07    16884.5         6.81        9.72
     15.42   261.17    .116E+08    20818.4         7.14        9.26
     16.68   262.43    .134E+08    25510.4         7.53        8.78
     17.94   263.69    .154E+08    30958.0         7.97        8.30
     19.20   264.95    .175E+08    36988.3         8.38        7.89
     20.46   266.21    .197E+08    43617.1         8.78        7.53
     21.73   267.48    .220E+08    50868.1         9.17        7.22
     22.99   268.74    .244E+08    58854.0         9.56        6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)       (m/s)
     INFLOW : ID= 2 (8252)  426.70     2.81    6.50   8.50      0.31      0.76
     OUTFLOW: ID= 1 (6416)  426.70     1.66    7.75   8.50      0.29      0.76

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   1.251     8.00      7.56
      + ID2= 2 (6416):   426.70   1.663     7.75      8.50
        ================================================
        ID = 3 (8250):   866.00   2.906     8.00      8.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   0.600     7.50      7.54
      + ID2= 2 (8250):   866.00   2.906     8.00      8.02
        ================================================
        ID = 3 (8248):  1048.79   3.503     8.00      7.94
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   0.476    7.00     5.15
      + ID2= 2 (8248):  1048.79   3.503    8.00     7.94
        ================================================
        ID = 3 (8246):  1224.61   3.958    7.75     7.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  11.702   12.00     5.91
      + ID2= 2 (8246):  1224.61   3.958    7.75     7.54
        ================================================
        ID = 3 (8244):  8744.03  13.941   11.25     6.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   1.144    9.50     5.38
      + ID2= 2 (8244):  8744.03  13.941   11.25     6.14
        ================================================
        ID = 3 (8242):  9524.23  15.007   11.00     6.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231    15.007     11.00       6.08
     OUTFLOW: ID= 1 (5508)   9524.231    14.571     12.25       6.08

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.09
                   TIME SHIFT OF PEAK FLOW       (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  5.8793

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area     (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   1.223 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  10.068
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area     (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     194.58       331.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1872.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        12.71
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      26.92 (ii)   51.33 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.48         5.14          9.230 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75           6.25
     RUNOFF VOLUME    (mm)=      40.00        10.61          15.61
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.25           0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area     (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.77        37.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     697.61        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        16.56
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.77 (ii)   34.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.01         0.99          2.410 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        11.94          18.39
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.28           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)   73.000     2.410      6.00       18.39
     OUTFLOW: ID= 1 (5338)   73.000     0.897      7.00       18.39

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.23
                   TIME SHIFT OF PEAK FLOW       (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5258

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90   9.230    6.25     15.61
      + ID2= 2 (5338):    73.00   0.897    7.00     18.39
        ================================================
        ID = 3 (8310):   598.90   9.798    6.25     15.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3342) |   Area     (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.275 (i)
     TIME TO PEAK    (hrs)=  15.500
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     RUNOFF VOLUME    (mm)=   5.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83        16.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     469.04        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.00
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     10.07 (ii)   38.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.33         0.22          1.415 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         7.21          17.38
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.17           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  52.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6540     0.4604
                         0.0390     0.1699   |   0.8330     0.5249
                         0.1860     0.2610   |   1.0130     0.5896
                         0.3750     0.3534   |   1.4130     0.5996
                         0.4340     0.3813   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     1.415     6.00      17.38
     OUTFLOW: ID= 1 (5334)     33.000     0.280     7.00      17.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.76
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3077

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| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3342):   587.10   0.275    15.50     5.78
        + ID2= 2 (5334):    33.00   0.280     7.00    17.34
          ================================================
          ID = 3 (8314):   620.10   0.389     7.25     6.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.146 (i)
     TIME TO PEAK    (hrs)=  14.000
     RUNOFF VOLUME    (mm)=   5.040
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.120

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   1.732 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  15.903
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.379

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   1.868 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.059
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   0.907 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  15.663
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0282):   449.38   1.868     8.25    12.06
        + ID2= 2 (0284):    78.93   0.907     6.50    15.66
          ================================================
          ID = 3 (8388):   528.31   2.560     7.50    12.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation         Manning
                  0.00         233.00         0.0450
                 20.58         228.51         0.0450
                 41.17         227.74         0.0450
                 51.46         227.41         0.0450
                 97.77         225.96         0.0450
                149.23         223.94         0.0450
                200.69         220.84         0.0450
                226.42         220.66         0.0450
                238.85         220.22         0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70         0.0350      Main Channel
                245.85         219.72         0.0350      Main Channel
                246.35         220.06         0.0350      Main Channel
                248.85         220.23         0.0350      Main Channel
                303.60         221.64         0.0350      Main Channel
                380.79         224.98         0.0450
                432.25         229.54         0.0450
                457.98         233.33         0.0450
                483.71         234.27         0.0450
                509.44         233.81         0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.31    220.01    .382E+04         0.8          0.57       82.89
      1.06    220.76    .525E+05        12.1          0.66       72.51
      1.81    221.51    .240E+06        88.6          1.05       45.21
      2.56    222.26    .510E+06       261.7          1.46       32.47
      3.31    223.01    .843E+06       533.8          1.81       26.34
```

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      4.06   223.76    .124E+07     913.6          2.10      22.64
      4.81   224.51    .171E+07    1399.0          2.34      20.33
      5.56   225.26    .225E+07    2051.0          2.60      18.27
      6.31   226.01    .285E+07    2907.0          2.91      16.35
      7.06   226.76    .352E+07    3902.5          3.16      15.04
      7.82   227.52    .426E+07    5069.9          3.39      14.01
      8.57   228.27    .507E+07    6433.0          3.62      13.13
      9.32   229.02    .593E+07    8069.2          3.89      12.24
     10.07   229.77    .681E+07    9926.7          4.16      11.44
     10.82   230.52    .772E+07   11962.8          4.42      10.75
     11.57   231.27    .864E+07   14167.1          4.68      10.17
     12.32   232.02    .959E+07   16537.1          4.92       9.66
     13.07   232.77    .105E+08   19070.7          5.16       9.22
     13.82   233.52    .115E+08   21790.4          5.39       8.82

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8388)  528.31     2.56    7.50  12.60      0.43      0.59
OUTFLOW: ID= 1 (6286)  528.31     2.18    9.25  12.60      0.40      0.58


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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0286):   260.51   1.732     7.75    15.90
       + ID2= 2 (6286):   528.31   2.176     9.25    12.60
         ==================================================
         ID = 3 (8386):   788.82   3.749     8.50    13.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   0.899 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=   6.167
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.147

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   0.599 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.248
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.488 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.912
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   0.488     8.00     3.91
       + ID2= 2 (0300):   258.93   0.599     7.50     5.25
         ==================================================
         ID = 3 (8395):   589.44   1.081     8.00     4.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   1.075 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  12.562
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   1.470 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.485
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.297

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   1.075     9.75    12.56
       + ID2= 2 (0290):   269.18   1.470     7.50    12.49
         ==================================================
         ID = 3 (8397):   610.01   2.456     8.00    12.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   1.427 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.580
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   2.131 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   8.698
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.207

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   0.809 (i)
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    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=   5.913
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.141

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0292):   738.49   2.131     8.25     8.70
      + ID2= 2 (0294):   274.15   0.809     7.25     5.91
        ================================================
        ID = 3 (8398):  1012.64   2.892     8.00     7.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12    0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400      Main Channel
              250.37         231.80        0.0400      Main Channel
              250.87         232.23        0.0400      Main Channel
              251.97         233.10    0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.43   232.23    .510E+03         0.1         0.53      81.07
       0.87   232.67    .213E+04         0.7         0.83      51.49
       1.30   233.10    .501E+04         2.2         1.10      38.75
       1.98   233.78    .242E+05        12.6         1.34      31.93
       2.66   234.46    .738E+05        42.1         1.46      29.21
       3.34   235.14    .177E+06       127.9         1.84      23.13
       4.02   235.82    .314E+06       281.4         2.29      18.61
       4.70   236.50    .481E+06       509.4         2.71      15.73
       5.38   237.18    .672E+06       815.6         3.11      13.73
       6.06   237.86    .886E+06      1200.7         3.46      12.30
       6.74   238.54    .112E+07      1669.4         3.80      11.23
       7.42   239.22    .139E+07      2226.9         4.11      10.38
       8.10   239.90    .168E+07      2808.4         4.28       9.95
       8.78   240.58    .202E+07      3470.4         4.40       9.68
       9.46   241.26    .240E+07      4331.7         4.61       9.24
      10.14   241.94    .283E+07      5335.2         4.83       8.84
      10.82   242.62    .330E+07      6482.6         5.03       8.48
      11.50   243.30    .381E+07      7764.1         5.21       8.18
      12.18   243.98    .439E+07      9101.2         5.31       8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64     2.89    8.00   7.94      1.35      1.11
    OUTFLOW: ID= 1 (6296) 1012.64     2.79    8.75   7.94      1.34      1.11
```

```
------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   1.427     7.75    11.58
      + ID2= 2 (6296):  1012.64   2.793     8.75     7.94
        ================================================
        ID = 3 (8396):  1306.29   4.146     8.50     8.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29   4.146     8.50     8.76
      + ID2= 2 (8397):   610.01   2.456     8.00    12.53
        ================================================
        ID = 3 (8394):  1916.30   6.591     8.25     9.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30   6.591     8.25     9.96
      + ID2= 2 (8395):   589.44   1.081     8.00     4.50
        ================================================
        ID = 3 (8392):  2505.74   7.655     8.25     8.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
              272.47         222.88        0.0400
              277.09         222.76        0.0400
              281.71         222.58        0.0400
              288.54         222.18    0.0400 /0.0300  Main Channel
              288.64         221.00        0.0300      Main Channel
              290.94         221.00        0.0300      Main Channel
              291.04         221.00        0.0300      Main Channel
              291.54         222.75    0.0300 /0.0400  Main Channel
              300.18         222.83        0.0400
              304.80         223.04        0.0400
              309.42         223.25        0.0400
              318.65         223.69        0.0400
              360.22         225.57        0.0400
              397.16         227.60        0.0400
              457.20         228.35        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.29   221.29    .228E+04         0.2         0.32     165.63
       0.59   221.59    .465E+04         0.7         0.45     116.15
       0.88   221.88    .713E+04         1.2         0.54      96.87
       1.18   222.18    .971E+04         1.9         0.61      86.20
       1.57   222.57    .175E+05         3.3         0.59      88.86
       1.97   222.97    .427E+05         6.4         0.47     111.39
       2.36   223.36    .115E+06        16.1         0.44     119.14
       2.76   223.76    .237E+06        37.1         0.49     106.49
       3.15   224.15    .409E+06        72.9         0.56      93.40
       3.55   224.55    .631E+06       127.0         0.63      82.76
       3.94   224.94    .903E+06       202.4         0.70      74.37
       4.34   225.34    .123E+07       301.8         0.77      67.68
       4.73   225.73    .160E+07       433.5         0.85      61.37
       5.13   226.13    .200E+07       602.2         0.95      55.29
       5.52   226.52    .242E+07       804.7         1.05      50.13
       5.92   226.92    .286E+07      1034.2         1.14      46.11
       6.31   227.31    .332E+07      1290.5         1.22      42.88
       6.71   227.71    .380E+07      1560.9         1.29      40.55
       7.10   228.10    .432E+07      1835.6         1.34      39.19

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74     7.66    8.25   8.68      2.02      0.47
    OUTFLOW: ID= 1 (6302) 2505.74     6.18   10.50   8.68      1.94      0.48
```

```
------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   0.899     8.75     6.17
      + ID2= 2 (6302):  2505.74   6.181    10.50     8.68
        ================================================
        ID = 3 (8390):  2979.64   7.014    10.50     8.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   3.749     8.50    13.69
       + ID2= 2 (8390):  2979.64   7.014    10.50     8.28
         ================================================
         ID = 3 (8348):  3768.46  10.463     9.75     9.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.78

    Unit Hyd Qpeak  (cms)=   1.793

    PEAK FLOW       (cms)=   0.450 (i)
    TIME TO PEAK    (hrs)=  10.500
    RUNOFF VOLUME    (mm)=   7.337
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.175

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

    Unit Hyd Qpeak  (cms)=   6.009

    PEAK FLOW       (cms)=   2.320 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  14.568
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.347

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

    Unit Hyd Qpeak  (cms)=   5.453

    PEAK FLOW       (cms)=   2.409 (i)
    TIME TO PEAK    (hrs)=   8.250
    RUNOFF VOLUME    (mm)=  14.678
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.349

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

    Unit Hyd Qpeak  (cms)=   2.302

    PEAK FLOW       (cms)=   0.742 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  12.858
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.306

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   6.182

    PEAK FLOW       (cms)=   1.889 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  11.150
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.265

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   1.889     7.50    11.15
       + ID2= 2 (0276):    90.89   0.742     6.75    12.86
         ================================================
         ID = 3 (8360):   483.38   2.585     7.25    11.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   2.409     8.25    14.68
       + ID2= 2 (8360):   483.38   2.585     7.25    11.47
         ================================================
         ID = 3 (8358):   968.87   4.901     7.75    13.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (2801.0) ------>
             Distance      Elevation        Manning
                 0.00         241.14         0.0500
                13.32         240.80         0.0500
                39.95         240.07         0.0500
                96.54         236.21         0.0500
               113.19         234.15         0.0500
               123.18         232.35         0.0500
               143.15         225.80         0.0500
               149.81         225.62         0.0500
               153.14         225.40         0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26         0.0300      Main Channel
               162.30         224.85         0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05         0.0500
               186.43         229.14         0.0500
               213.06         234.75         0.0500
               236.37         237.09         0.0500
               266.33         237.31         0.0500
               292.96         237.83         0.0500
               329.58         241.50         0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.50   224.76    .263E+04         0.8          0.65      58.31
       1.36   225.62    .278E+05        13.4          1.10      34.54
       2.22   226.48    .855E+05        52.6          1.40      27.09
       3.09   227.35    .157E+06       120.4          1.74      21.78
       3.95   228.21    .242E+06       216.3          2.04      18.64
       4.81   229.07    .340E+06       341.8          2.29      16.56
       5.67   229.93    .450E+06       498.3          2.52      15.06
       6.53   230.79    .574E+06       688.3          2.73      13.90
       7.40   231.66    .711E+06       913.8          2.93      12.97
       8.26   232.52    .861E+06      1173.4          3.11      12.23
       9.12   233.38    .103E+07      1461.3          3.24      11.72
       9.98   234.24    .121E+07      1793.3          3.37      11.26
      10.85   235.11    .142E+07      2141.0          3.45      11.02
      11.71   235.97    .165E+07      2530.4          3.50      10.86
      12.57   236.83    .192E+07      2954.0          3.51      10.81
      13.43   237.69    .226E+07      3160.3          3.18      11.93
      14.29   238.55    .271E+07      3869.4          3.26      11.67
      15.16   239.42    .320E+07      4740.3          3.38      11.24
      16.02   240.28    .373E+07      5688.4          3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8358)  968.87     4.90    7.75  13.08      0.78      0.75
    OUTFLOW: ID= 1 (6280)  968.87     4.56    8.75  13.08      0.76      0.74

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--------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   2.320     7.00    14.57
       + ID2= 2 (6280):   968.87   4.564     8.75    13.08
         ================================================
         ID = 3 (8354):  1268.73   6.519     8.25    13.43
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0272)	Area (ha)= 157.38	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.09				

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 0.753 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 11.152
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0270)	Area (ha)= 243.61	Curve Number (CN)= 81.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 0.87				

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 1.320 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 13.984
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.333

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0268)	Area (ha)= 215.76	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 0.69				

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 1.091 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 11.050
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.263

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0264)	Area (ha)= 353.96	Curve Number (CN)= 69.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.30				

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 0.888 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 8.987
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.214

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0266)	Area (ha)= 508.09	Curve Number (CN)= 64.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.63				

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 0.901 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 7.566
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0264):	353.96	0.888	8.50	8.99
+ ID2= 2 (0266):	508.09	0.901	9.75	7.57
ID = 3 (8380):	862.05	1.777	9.00	8.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning	
0.00	274.03	0.0500	
10.55	272.73	0.0500	
21.10	271.28	0.0500	
50.12	266.83	0.0500	
87.04	260.36	0.0500	
92.32	260.06	0.0500	
94.95	259.93	0.0500	
101.00	256.87	0.0500	
103.00	256.58	0.0500 /0.0350	Main Channel
104.00	256.32	0.0350	Main Channel
106.00	256.05	0.0350	Main Channel
108.00	256.25	0.0350	Main Channel
110.78	256.65	0.0350 /0.0500	Main Channel
113.42	256.81	0.0500	
116.06	257.00	0.0500	
155.62	260.24	0.0500	
187.27	263.35	0.0500	
211.01	267.22	0.0500	
224.20	269.60	0.0500	
261.13	272.68	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8380)	862.05	1.78	9.00	8.15	0.45	0.97
OUTFLOW:	ID= 1 (6268)	862.05	1.73	10.25	8.15	0.44	0.97

ADD HYD (8382)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0268):	215.76	1.091	7.00	11.05
+ ID2= 2 (6268):	862.05	1.731	10.25	8.15
ID = 3 (8382):	1077.81	2.539	9.00	8.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel

```
              69.68        233.95         0.0300      Main Channel
              71.21        234.48    0.0300 /0.0500   Main Channel
              81.38        236.44         0.0500
              95.63        236.66         0.0500
             120.04        237.00         0.0500
             148.53        241.77         0.0500
             158.70        242.34         0.0500
             187.18        244.03         0.0500
             201.42        244.36         0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.45   234.34    .217E+04         0.7          0.99       52.83
        0.98   234.87    .966E+04         4.6          1.49       35.20
        1.50   235.39    .250E+05        13.7          1.73       30.41
        2.03   235.92    .475E+05        29.5          1.95       26.87
        2.56   236.45    .772E+05        52.5          2.14       24.50
        3.09   236.98    .142E+06        82.4          1.83       28.73
        3.61   237.50    .246E+06       158.1          2.03       25.91
        4.14   238.03    .357E+06       262.0          2.31       22.73
        4.67   238.56    .477E+06       392.1          2.59       20.27
        5.20   239.09    .604E+06       547.8          2.86       18.38
        5.72   239.61    .739E+06       729.2          3.11       16.90
        6.25   240.14    .882E+06       936.5          3.34       15.70
        6.78   240.67    .103E+07      1169.7          3.57       14.72
        7.31   241.20    .119E+07      1425.9          3.77       13.94
        7.83   241.72    .136E+07      1710.4          3.96       13.26
        8.36   242.25    .154E+07      1967.9          4.02       13.07
        8.89   242.78    .174E+07      2264.9          4.09       12.83
        9.42   243.31    .196E+07      2589.3          4.15       12.65
        9.94   243.83    .221E+07      2953.5          4.22       12.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     2.54    9.00   8.73      0.70      1.18
     OUTFLOW: ID= 1 (6270) 1077.81     2.49    9.75   8.73      0.69      1.18


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6270):   243.61   1.320     7.50    13.98
     + ID2= 2 (6270):  1077.81   2.492     9.75     8.73
       ================================================
       ID = 3 (8384):  1321.42   3.620     9.25     9.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   1.720 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.597
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.348

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   1.943 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  14.645
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.349

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   0.722 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.980
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   1.110 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  10.343
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.405 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.355
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   0.650 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   5.543
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation        Manning
                 0.00         276.07         0.0400
                11.68         273.71         0.0400
                23.36         271.35         0.0400
                29.19         270.30         0.0400
                35.03         269.44         0.0400
                55.47         267.90         0.0400
                78.82         266.24         0.0400
                90.50         265.63         0.0400
               102.18         265.40         0.0400
               105.10         264.95    0.0400 /0.0350  Main Channel
               108.02         264.39         0.0350      Main Channel
               110.94         264.72         0.0350      Main Channel
               113.86         265.19    0.0350 /0.0400  Main Channel
               116.78         265.49         0.0400
               143.05         268.24         0.0400
               172.25         270.53         0.0400
               207.28         271.95         0.0400
               233.55         273.72         0.0400
               256.91         274.98         0.0400
               289.02         275.97         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.56   264.95    .723E+04         1.9          0.90       62.51
       1.14   265.53    .307E+05        13.5          1.49       37.92
       1.72   266.11    .951E+05        48.6          1.73       32.62
       2.30   266.69    .191E+06       117.8          2.09       27.03
```

2.88	267.27	.314E+06	225.2	2.43	23.24
3.46	267.85	.464E+06	375.5	2.74	20.59
4.04	268.43	.641E+06	573.2	3.03	18.62
4.62	269.01	.846E+06	821.9	3.29	17.15
5.20	269.59	.108E+07	1135.0	3.56	15.87
5.78	270.17	.134E+07	1525.1	3.86	14.64
6.36	270.75	.162E+07	1971.1	4.12	13.71
6.94	271.33	.194E+07	2474.0	4.33	13.04
7.52	271.91	.228E+07	3065.0	4.55	12.42
8.10	272.49	.266E+07	3773.4	4.80	11.75
8.68	273.07	.306E+07	4566.3	5.05	11.17
9.26	273.65	.348E+07	5443.7	5.30	10.66
9.84	274.23	.393E+07	6389.6	5.51	10.25
10.42	274.81	.440E+07	7426.2	5.72	9.88
11.00	275.39	.490E+07	8490.1	5.86	9.63

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0254)	403.00	0.65	8.25	5.54	0.19	0.90
OUTFLOW:	ID= 1 (0256)	403.00	0.62	10.00	5.54	0.18	0.90

ADD HYD (8370)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0256):	145.79	0.405	8.00	8.36
+	ID2= 2 (6256):	403.00	0.617	10.00	5.54
	ID = 3 (8370):	548.79	0.986	9.50	6.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0250)	Area	(ha)= 192.88	Curve Number	(CN)= 70.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 1.22				

Unit Hyd Qpeak (cms)= 1.930

PEAK FLOW (cms)= 0.529 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 9.304
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.222

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0246)	Area	(ha)= 759.61	Curve Number	(CN)= 55.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 1.81				

Unit Hyd Qpeak (cms)= 5.121

PEAK FLOW (cms)= 0.922 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 5.563
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.132

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0248)	Area	(ha)= 146.04	Curve Number	(CN)= 64.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.30	
	U.H. Tp(hrs)= 0.78				

Unit Hyd Qpeak (cms)= 2.271

PEAK FLOW (cms)= 0.446 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 7.494
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.178

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0246):	759.61	0.922	10.00	5.56
+	ID2= 2 (0248):	146.04	0.446	7.50	7.49
	ID = 3 (8364):	905.65	1.303	8.50	5.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8364)	905.65	1.30	8.50	5.87	0.61	0.71
OUTFLOW:	ID= 1 (6250)	905.65	1.21	10.75	5.87	0.59	0.70

ADD HYD (8366)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0250):	192.88	0.529	8.25	9.30
+	ID2= 2 (6250):	905.65	1.210	10.75	5.87
	ID = 3 (8366):	1098.53	1.691	10.25	6.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8366):	1098.53	1.691	10.25	6.48
+	ID2= 2 (8370):	548.79	0.986	9.50	6.29
	ID = 3 (8368):	1647.32	2.669	10.00	6.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
        ID1= 1 (0252):   319.99   1.110     8.00    10.34
      + ID2= 2 (8368):  1647.32   2.669    10.00     6.41
        ================================================
        ID = 3 (8372):  1967.31   3.671     9.50     7.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
            <------ DATA FOR SECTION (2581.0) ------>
           Distance      Elevation       Manning
              0.00         252.88        0.0500
             15.47         251.89        0.0500
             46.41         248.45        0.0500
             73.48         245.81        0.0500
             88.95         243.75        0.0500
            112.15         242.00        0.0500
            135.35         240.23        0.0500
            162.42         239.76        0.0500
            170.97         239.52    0.0500 /0.0350  Main Channel
            171.58         239.03        0.0350      Main Channel
            174.02         239.03        0.0350      Main Channel
            176.46         239.03        0.0350      Main Channel
            177.07         239.52    0.0350 /0.0500  Main Channel
            185.63         239.67        0.0500
            208.83         239.87        0.0500
            239.77         240.14        0.0500
            274.57         244.93        0.0500
            336.45         249.51        0.0500
            363.52         249.77        0.0500
            382.85         251.78        0.0500

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.49    239.52    .135E+05       2.5          0.92       91.32
     1.14    240.17    .175E+06      25.6          0.73      114.22
     1.78    240.81    .532E+06     123.5          1.17       71.85
     2.43    241.46    .932E+06     285.3          1.54       54.48
     3.07    242.10    .138E+07     506.5          1.85       45.25
     3.72    242.75    .186E+07     786.8          2.12       39.42
     4.36    243.39    .239E+07    1127.3          2.37       35.33
     5.01    244.04    .296E+07    1535.8          2.61       32.12
     5.65    244.68    .356E+07    2014.3          2.84       29.48
     6.30    245.33    .420E+07    2535.9          3.03       27.60
     6.94    245.97    .488E+07    3108.4          3.20       26.16
     7.59    246.62    .561E+07    3740.6          3.35       24.98
     8.23    247.26    .638E+07    4446.7          3.50       23.93
     8.88    247.91    .721E+07    5229.7          3.64       22.98
     9.52    248.55    .809E+07    6094.3          3.78       22.12
    10.17    249.20    .901E+07    7050.4          3.93       21.31
    10.81    249.84    .100E+08    7773.0          3.90       21.46
    11.46    250.49    .111E+08    8998.8          4.07       20.56
    12.10    251.13    .122E+08   10318.2          4.24       19.75

                                 <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8372) 1967.31    3.67    9.50   7.05      0.52      0.90
    OUTFLOW: ID= 1 (6258) 1967.31    3.39   11.25   7.05      0.52      0.91
```

```
------------------
| ADD HYD   (8374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0258):   181.99   0.722     8.00    12.98
      + ID2= 2 (6258):  1967.31   3.386    11.25     7.05
        ================================================
        ID = 3 (8374):  2149.30   3.981    11.00     7.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0260):   476.24   1.943     8.25    14.65
      + ID2= 2 (8374):  2149.30   3.981    11.00     7.56
        ================================================
        ID = 3 (8376):  2625.54   5.750    10.25     8.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0262):   341.31   1.720     8.00    14.60
      + ID2= 2 (8376):  2625.54   5.750    10.25     8.84
        ================================================
        ID = 3 (8378):  2966.85   7.221    10.00     9.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85   7.221    10.00     9.50
      + ID2= 2 (8384):  1321.42   3.620     9.25     9.70
        ================================================
        ID = 3 (8362):  4288.27  10.785     9.75     9.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
            <------ DATA FOR SECTION (2721.0) ------>
           Distance      Elevation       Manning
              0.00         231.01        0.0450
             23.01         223.65        0.0450
             34.51         222.46        0.0450
             51.77         222.11        0.0450
             69.02         221.87        0.0450
            161.06         221.92        0.0450
            166.81         221.91        0.0450
            172.56         221.89        0.0450
            180.57         221.40    0.0450 /0.0300  Main Channel
            181.57         220.60        0.0300      Main Channel
            184.07         220.16        0.0300      Main Channel
            195.57         221.85    0.0300 /0.0450  Main Channel
            201.32         221.82        0.0450
            207.07         221.77        0.0450
            212.83         221.72        0.0450
            253.09         222.52        0.0450
            408.40         222.65        0.0450
            460.17         223.20        0.0450
            517.69         224.84        0.0450
            569.46         232.57        0.0450

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.41    220.57    .189E+04       0.5          0.49       60.18
     0.83    220.99    .697E+04       3.2          0.82       35.79
     1.24    221.40    .145E+05       8.8          1.07       27.45
     1.84    222.00    .643E+05      29.3          0.81       36.61
     2.44    222.60    .282E+06     132.9          0.83       35.41
     3.04    223.20    .707E+06     413.7          1.04       28.50
     3.64    223.80    .118E+07     876.8          1.31       22.46
     4.24    224.40    .168E+07    1494.8          1.57       18.75
     4.84    225.00    .221E+07    2264.1          1.82       16.23
     5.44    225.60    .274E+07    3196.3          2.06       14.29
     6.04    226.20    .328E+07    4258.6          2.30       12.84
     6.65    226.81    .383E+07    5444.7          2.52       11.72
     7.25    227.41    .438E+07    6749.7          2.73       10.82
     7.85    228.01    .494E+07    8169.4          2.93       10.08
     8.45    228.61    .551E+07    9700.7          3.12        9.46
     9.05    229.21    .608E+07   11340.8          3.30        8.94
     9.65    229.81    .666E+07   13087.4          3.48        8.48
    10.25    230.41    .724E+07   14938.5          3.65        8.08
    10.85    231.01    .783E+07   16892.4          3.82        7.73

                                 <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27   10.79    9.75   9.56      1.30      1.04
    OUTFLOW: ID= 1 (6272) 4288.27   10.70   10.25   9.56      1.30      1.04
```

```
------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   0.753     7.75    11.15
      + ID2= 2 (6272):  4288.27  10.700    10.25     9.56
        ================================================
        ID = 3 (8356):  4445.65  11.269    10.00     9.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8354):  1268.73   6.519     8.25    13.43
       + ID2= 2 (8356):  4445.65  11.269    10.00     9.62
         ================================================
         ID = 3 (8352):  5714.38  17.204     9.25    10.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65       0.0300       Main Channel
              190.02         218.37       0.0300       Main Channel
              194.52         218.60       0.0300       Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60       0.0500
              299.28         220.91       0.0500
              327.78         222.36       0.0500
              375.28         225.71       0.0500
              403.79         229.37       0.0500
              432.29         230.43       0.0500
              470.29         232.00       0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.48   218.85    .121E+05         1.2          0.36      173.94
       1.17   219.54    .839E+05         9.8          0.44      142.60
       1.86   220.23    .323E+06        41.0          0.47      131.43
       2.56   220.93    .708E+06       109.5          0.58      107.67
       3.25   221.62    .118E+07       224.3          0.71       87.36
       3.94   222.31    .168E+07       376.5          0.84       74.48
       4.63   223.00    .222E+07       567.9          0.96       65.26
       5.32   223.69    .279E+07       794.7          1.07       58.58
       6.02   224.39    .339E+07      1056.2          1.17       53.52
       6.71   225.08    .402E+07      1352.4          1.26       49.52
       7.40   225.77    .468E+07      1677.3          1.34       46.46
       8.09   226.46    .536E+07      2050.0          1.43       43.58
       8.79   227.16    .607E+07      2457.9          1.52       41.14
       9.48   227.85    .680E+07      2901.0          1.60       39.05
      10.17   228.54    .755E+07      3352.7          1.66       37.53
      10.86   229.23    .834E+07      3812.5          1.71       36.48
      11.55   229.92    .919E+07      4241.8          1.73       36.13
      12.25   230.62    .101E+08      4697.0          1.74       35.93
      12.94   231.31    .111E+08      5186.3          1.74       35.83

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38    17.20    9.25  10.47      1.34      0.45
    OUTFLOW: ID= 1 (6304) 5714.38    14.25   12.00  10.47      1.27      0.44


-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   292.37   0.450    10.50     7.34
       + ID2= 2 (6304):  5714.38  14.247    12.00    10.47
         ================================================
         ID = 3 (8350):  6006.75  14.687    12.00    10.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46  10.463     9.75     9.41
       + ID2= 2 (8350):  6006.75  14.687    12.00    10.31
         ================================================
         ID = 3 (8346):  9775.21  24.489    11.00     9.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   0.146    14.00     5.04
       + ID2= 2 (8346):  9775.21  24.489    11.00     9.97
         ================================================
         ID = 3 (8344): 10059.18  24.623    11.00     9.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  *******    370.0451
                        41.0590     56.7403   |  *******    863.4386
                        48.1390     86.3439   |  *******    ********
                        56.6340     *******   |  *******    ********
                        67.9600     *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8344)   ********    24.623     11.00       9.83
    OUTFLOW: ID= 1 (5509)   ********    19.107     14.50       9.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.60
                TIME SHIFT OF PEAK FLOW          (min)=210.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 26.4092

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0332) |   Area     (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.069 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  11.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0330) |   Area     (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   2.745 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.500
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3321.0) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.0380
               25.85         227.20        0.0380
               96.94         226.44        0.0380
              168.03         227.38        0.0380
              219.73         225.62        0.0380
              342.52         221.57        0.0380
              368.37         221.42        0.0380
              374.83         221.23        0.0380
              379.79         220.98    0.0380 /0.0300  Main Channel
              380.29         220.47       0.0300       Main Channel
              381.29         220.47       0.0300       Main Channel
              382.79         220.47       0.0300       Main Channel
              383.29         220.98    0.0300 /0.0380  Main Channel
              394.22         221.22       0.0380
              400.68         221.33       0.0380
              407.14         221.44       0.0380
              491.16         225.70       0.0380
              568.71         227.55       0.0380
              607.49         230.14       0.0380
              639.80         234.08       0.0380
```

<----------------------- TRAVEL TIME TABLE ----------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.51	220.98	.554E+04	0.9	0.56	107.27
1.20	221.67	.885E+05	12.1	0.49	122.32
1.88	222.35	.309E+06	64.7	0.76	79.70
2.57	223.04	.615E+06	165.4	0.97	61.99
3.25	223.72	.101E+07	322.1	1.16	52.06
3.94	224.41	.148E+07	542.9	1.33	45.51
4.62	225.09	.204E+07	835.4	1.48	40.77
5.31	225.78	.269E+07	1202.8	1.62	37.27
5.99	226.46	.344E+07	1618.0	1.70	35.46
6.68	227.15	.447E+07	1932.0	1.56	38.56
7.36	227.83	.580E+07	2763.9	1.72	34.96
8.05	228.52	.718E+07	3861.9	1.95	30.97
8.73	229.20	.859E+07	5115.4	2.16	27.98
9.42	229.89	.100E+08	6519.2	2.35	25.64
10.10	230.57	.115E+08	8092.3	2.55	23.69
10.79	231.26	.130E+08	9821.5	2.73	22.05
11.47	231.94	.145E+08	11690.0	2.92	20.68
12.16	232.63	.160E+08	13694.9	3.09	19.52
12.84	233.31	.176E+08	15833.9	3.26	18.52

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0330)	468.30	2.74	7.50	13.50	0.63	0.55
OUTFLOW:	ID= 1 (6332)	468.30	2.16	9.75	13.50	0.59	0.55

ADD HYD (8322)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0332):	393.44	1.069	10.00	11.22
	+ ID2= 2 (6332):	468.30	2.156	9.75	13.50
	ID = 3 (8322):	861.74	3.223	9.75	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0328)	Area (ha)= 492.92 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 4.411

PEAK FLOW (cms)= 1.670 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 12.082
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.288

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0326)	Area (ha)= 678.91 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.95

Unit Hyd Qpeak (cms)= 5.941

PEAK FLOW (cms)= 2.547 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.570
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.323

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0324)	Area (ha)= 615.64 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.90

Unit Hyd Qpeak (cms)= 5.544

PEAK FLOW (cms)= 2.268 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.047
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.311

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0320)	Area (ha)= 278.74 Curve Number (CN)= 81.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.36

Unit Hyd Qpeak (cms)= 3.499

PEAK FLOW (cms)= 1.448 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 14.083
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.335

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (3182)	Area (ha)= 457.40 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.49

Unit Hyd Qpeak (cms)= 5.259

PEAK FLOW (cms)= 1.960 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 12.530
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.298

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3181)	Area (ha)= 26.00
ID= 1 DT=15.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)	*TOTALS*
Surface Area	(ha)=	21.06	4.94	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	416.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	55.44	11.13	
over (min)		15.00	45.00	
Storage Coeff. (min)	=	9.37 (ii)	35.11 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	45.00	
Unit Hyd. peak (cms)	=	0.09	0.03	
PEAK FLOW (cms)	=	2.79	0.09	2.825 (iii)
TIME TO PEAK (hrs)	=	6.00	6.50	6.00
RUNOFF VOLUME (mm)	=	40.00	12.13	34.70
TOTAL RAINFALL (mm)	=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.29	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5318)		OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1						
DT= 15.0 min		0.0000	0.0000		3.3800	0.7654
		0.0510	0.4423		4.1500	0.8231
		0.8700	0.5378		4.8750	0.8778
		1.9500	0.6105		5.2750	0.8878
		2.5620	0.6796		0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (3181)	26.000	2.825	6.00	34.70
OUTFLOW:	ID= 1 (5318)	26.000	0.751	6.50	34.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.57
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.5295

ADD HYD (8334)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3182):	457.40	1.960	8.25	12.53

```
       + ID2= 2 (5318):    26.00   0.751     6.50    34.62
         ================================================
         ID = 3 (8334):   483.40   2.212     6.75    13.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                0.00         249.00        0.0380
               22.92         245.86        0.0380
               45.83         244.87        0.0380
               91.66         243.11        0.0380
              126.03         239.53        0.0380
              160.41         237.17        0.0380
              166.14         237.06        0.0380
              177.59         237.13        0.0380
              183.32         237.20        0.0380
              189.05         236.70    0.0380 /0.0350  Main Channel
              193.05         235.89        0.0350      Main Channel
              197.05         236.64    0.0350 /0.0380  Main Channel
              200.51         236.74        0.0380
              206.24         237.03        0.0380
              246.34         238.82        0.0380
              263.53         243.87        0.0380
              389.56         247.64        0.0380
              452.58         247.74        0.0380
              498.41         248.60        0.0380
              567.16         249.84        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37  236.26    .270E+04        0.4         0.58     107.96
       0.75  236.64    .108E+05        2.6         0.92      68.01
       1.48  237.37    .877E+05       27.4         1.17      53.35
       2.20  238.09    .277E+06      122.1         1.65      37.83
       2.93  238.82    .540E+06      299.7         2.08      30.01
       3.66  239.55    .857E+06      587.8         2.57      24.29
       4.39  240.28    .120E+07      977.8         3.04      20.52
       5.11  241.00    .158E+07     1458.1         3.46      18.02
       5.84  241.73    .198E+07     2028.6         3.84      16.23
       6.57  242.46    .240E+07     2690.5         4.19      14.86
       7.29  243.18    .285E+07     3431.8         4.50      13.84
       8.02  243.91    .335E+07     4149.1         4.64      13.44
       8.75  244.64    .393E+07     4746.6         4.51      13.80
       9.47  245.36    .463E+07     5618.6         4.53      13.75
      10.20  246.09    .545E+07     6781.8         4.66      13.39
      10.93  246.82    .635E+07     8274.5         4.87      12.79
      11.66  247.55    .733E+07     9988.0         5.10      12.23
      12.38  248.27    .853E+07    11422.0         5.01      12.45
      13.11  249.00    .989E+07    13749.7         5.20      11.98

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     2.21    6.75  13.72      0.68      0.82
     OUTFLOW: ID= 1 (6320)  483.40     1.92    9.50  13.72      0.63      0.77


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):   278.74   1.448     8.00    14.08
       + ID2= 2 (6320):   483.40   1.921     9.50    13.72
         ================================================
         ID = 3 (8332):   762.14   3.286     8.75    13.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

    Unit Hyd Qpeak  (cms)=   3.978

    PEAK FLOW       (cms)=   1.241 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  12.387
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.295

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
              195.48         236.54        0.0350
              202.46         236.32        0.0350
              205.48         236.14    0.0350 /0.0310  Main Channel
              205.98         235.61        0.0310      Main Channel
              207.98         235.25        0.0310      Main Channel
              209.98         235.53        0.0310      Main Channel
              210.48         236.00    0.0310 /0.0350  Main Channel
              216.42         236.73        0.0350
              258.31         239.09        0.0350
              328.12         239.84        0.0350
              439.83         241.47        0.0350
              530.58         242.08        0.0350
              586.43         242.93        0.0350
              691.16         248.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37  235.62    .215E+04        0.7         0.77      53.88
       0.75  236.00    .634E+04        3.5         1.36      30.45
       1.46  236.71    .297E+05       19.3         1.62      25.66
       2.16  237.41    .103E+06       75.8         1.84      22.60
       2.87  238.12    .229E+06      202.8         2.21      18.79
       3.57  238.82    .407E+06      423.3         2.59      16.03
       4.28  239.53    .654E+06      727.7         2.77      14.97
       4.99  240.24    .103E+07     1242.0         3.01      13.76
       5.69  240.94    .151E+07     2002.3         3.31      12.54
       6.40  241.65    .210E+07     2987.9         3.55      11.70
       7.10  242.35    .286E+07     4302.8         3.75      11.07
       7.81  243.06    .374E+07     6165.3         4.10      10.11
       8.51  243.76    .468E+07     8642.4         4.60       9.03
       9.22  244.47    .565E+07    11496.3         5.06       8.20
       9.93  245.18    .666E+07    14714.1         5.50       7.54
      10.63  245.88    .770E+07    18290.3         5.91       7.02
      11.34  246.59    .877E+07    22221.9         6.30       6.58
      12.04  247.29    .988E+07    26464.4         6.67       6.22
      12.75  248.00    .110E+08    31061.3         7.01       5.91

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0314)  165.20     1.24    7.00  12.39      0.45      0.85
     OUTFLOW: ID= 1 (6316)  165.20     1.06    8.00  12.39      0.43      0.82


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.01

    Unit Hyd Qpeak  (cms)=   3.923

    PEAK FLOW       (cms)=   1.569 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  14.611
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.348

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0316):   232.34   1.569     7.25    14.61
       + ID2= 2 (6316):   165.20   1.059     8.00    12.39
         ================================================
         ID = 3 (8338):   397.54   2.608     7.75    13.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

    Unit Hyd Qpeak  (cms)=   4.529
```

```
     PEAK FLOW      (cms)=   1.796 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=  13.533
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW      (cms)=   1.176 (i)
     TIME TO PEAK   (hrs)=   8.500
     RUNOFF VOLUME   (mm)=   7.070
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW      (cms)=   0.603 (i)
     TIME TO PEAK   (hrs)=   7.000
     RUNOFF VOLUME   (mm)=   7.758
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   1.176     8.50     7.07
      + ID2= 2 (0310):   138.28   0.603     7.00     7.76
        ================================================
        ID = 3 (8342):   667.58   1.702     8.00     7.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3121.0) ------>
             Distance      Elevation       Manning
                0.00         265.94        0.0360
               38.07         265.43        0.0360
               59.82         263.98        0.0360
              103.32         254.59        0.0360
              157.70         252.16        0.0360
              217.52         250.45        0.0360
              233.84         247.69        0.0360
              234.71         247.27        0.0360
              239.71         246.38        0.0360
              244.71         246.12    0.0360 /0.0330  Main Channel
              247.71         245.17        0.0330      Main Channel
              249.71         245.19        0.0330      Main Channel
              251.71         245.64    0.0330 /0.0360  Main Channel
              259.71         246.67        0.0360
              282.78         247.12        0.0360
              315.41         251.60        0.0360
              424.17         256.13        0.0360
              478.55         257.04        0.0360
              516.62         259.37        0.0360
              538.37         266.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.47   245.64    .111E+04         3.1         1.78       6.07
       1.54   246.71    .103E+05        53.9         3.39       3.19
       2.61   247.78    .414E+05       281.3         4.40       2.45
       3.68   248.85    .839E+05       749.1         5.79       1.87
       4.74   249.91    .136E+06      1463.2         6.97       1.55
       5.81   250.98    .201E+06      2354.8         7.61       1.42
       6.88   252.05    .295E+06      3533.0         7.76       1.39
       7.95   253.12    .427E+06      5303.9         8.05       1.34
       9.02   254.19    .594E+06      7856.5         8.58       1.26
      10.09   255.26    .792E+06     11449.2         9.37       1.15
      11.15   256.32    .101E+07     15862.4        10.15       1.06
      12.22   257.39    .127E+07     21074.5        10.75       1.01
      13.29   258.46    .155E+07     28184.1        11.78       0.92
      14.36   259.53    .185E+07     36386.2        12.77       0.85
      15.43   260.60    .215E+07     46110.6        13.89       0.78
      16.50   261.67    .246E+07     56822.5        14.95       0.72
      17.56   262.73    .278E+07     68498.1        15.97       0.68
      18.63   263.80    .310E+07     81118.8        16.94       0.64
      19.70   264.87    .344E+07     93603.2        17.66       0.61

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     1.70    8.00   7.21      0.26      1.78
     OUTFLOW: ID= 1 (6312)  667.58     1.70    8.00   7.21      0.26      1.78

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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   1.796     8.00    13.53
      + ID2= 2 (6312):   667.58   1.699     8.00     7.21
        ================================================
        ID = 3 (8340):  1027.02   3.494     8.00     9.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   2.608     7.75    13.69
      + ID2= 2 (8340):  1027.02   3.494     8.00     9.42
        ================================================
        ID = 3 (8336):  1424.56   6.086     8.00    10.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   3.286     8.75    13.85
      + ID2= 2 (8336):  1424.56   6.086     8.00    10.61
        ================================================
        ID = 3 (8330):  2186.70   9.233     8.25    11.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.20   223.86    .145E+04         0.2         0.43     147.27
       0.73   224.39    .159E+05         2.8         0.68      93.11
       1.27   224.93    .561E+05        11.0         0.75      85.19
       1.80   225.46    .217E+06        45.6         0.80      79.20
       2.33   225.99    .566E+06       134.4         0.91      70.20
       2.87   226.53    .122E+07       338.1         1.06      59.97
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      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8330) 2186.70     9.23    8.25  11.74     1.15      0.73
   OUTFLOW: ID= 1 (6324) 2186.70     7.97   10.00  11.74     1.07      0.72


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-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8324):   615.64   2.268     9.00    13.05
      + ID2= 2 (6324):  2186.70   7.966    10.00    11.74
        ================================================
        ID = 3 (8328):  2802.34  10.191     9.75    12.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW      (cms)=   2.099 (i)
    TIME TO PEAK   (hrs)=   8.500
    RUNOFF VOLUME   (mm)=  13.561
    TOTAL RAINFALL  (mm)=  42.000
    RUNOFF COEFFICIENT  =   0.323

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8322):   513.13   2.099     8.50    13.56
      + ID2= 2 (8328):  2802.34  10.191     9.75    12.03
        ================================================
        ID = 3 (8326):  3315.47  12.230     9.75    12.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8326):   678.91   2.547     9.00    13.57
      + ID2= 2 (8326):  3315.47  12.230     9.75    12.27
        ================================================
        ID = 3 (8324):  3994.38  14.756     9.75    12.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3281.0) ------>
            Distance       Elevation       Manning
               0.00          228.00        0.0380
              18.58          224.97        0.0380
              78.98          223.52        0.0380
             125.44          223.28        0.0380
             171.90          221.71        0.0380
             213.72          219.65        0.0380
             218.36          219.40        0.0380
             223.01          219.19        0.0380
             225.95          219.14    0.0380 /0.0320  Main Channel
             226.45          218.14        0.0320      Main Channel
             236.95          218.14        0.0320      Main Channel
             245.85          218.14        0.0320      Main Channel
             245.95          219.14    0.0320 /0.0380  Main Channel
             246.24          219.16        0.0380
             250.88          219.24        0.0380
             255.53          219.39        0.0380
             325.22          221.47        0.0380
             367.03          223.14        0.0380
             404.20          225.17        0.0380
             459.95          228.04        0.0380

        <---------------------- TRAVEL TIME TABLE ---------------------->
         DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.50   218.64    .373E+05        3.2         0.33     192.37
         1.00   219.14    .752E+05       10.1         0.51     124.71
         1.52   219.66    .149E+06       22.2         0.57     112.06
         2.04   220.18    .279E+06       43.4         0.59     107.06
         2.56   220.70    .464E+06       77.0         0.63     100.52
         3.08   221.22    .705E+06      125.7         0.68      93.56
         3.61   221.75    .100E+07      192.7         0.73      86.62
         4.13   222.27    .135E+07      278.1         0.79      80.92
         4.65   222.79    .176E+07      385.9         0.84      75.86
         5.17   223.31    .222E+07      514.9         0.89      71.82
         5.69   223.83    .280E+07      662.7         0.90      70.40
         6.21   224.35    .345E+07      867.7         0.96      66.35
         6.73   224.87    .417E+07     1107.0         1.01      62.81
         7.25   225.39    .494E+07     1400.0         1.08      58.80
         7.78   225.92    .573E+07     1732.2         1.15      55.17
         8.30   226.44    .655E+07     2099.9         1.22      52.02
         8.82   226.96    .740E+07     2502.8         1.29      49.29
         9.34   227.48    .828E+07     2940.9         1.36      46.90
         9.86   228.00    .918E+07     3414.3         1.42      44.79

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
   INFLOW : ID= 2 (8324) 3994.38    14.76    9.75  12.49     1.20      0.53
   OUTFLOW: ID= 1 (6328) 3994.38    12.61   11.50  12.49     1.11      0.52


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-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8328):   492.92   1.670     9.00    12.08
      + ID2= 2 (6328):  3994.38  12.607    11.50    12.49
        ================================================
        ID = 3 (8320):  4487.30  14.097    11.25    12.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  14.097    11.25    12.44
      + ID2= 2 (8322):   861.74   3.223     9.75    12.46
        ================================================
        ID = 3 (8318):  5349.04  17.133    11.00    12.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  19.107    14.50     9.83
      + ID2= 2 (8318):  5349.04  17.133    11.00    12.45
        ================================================
        ID = 3 (8316): 15408.22  33.914    13.00    10.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   0.389     7.25     6.40
      + ID2= 2 (8316): 15408.22  33.914    13.00    10.74
        ================================================
        ID = 3 (8312): 16028.32  34.228    13.00    10.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90   9.798     6.25     15.95
      + ID2= 2 (8312): 16028.32  34.228    13.00     10.57
        ================================================
        ID = 3 (8308): 16627.22  34.888    12.50     10.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    74.0090
                         66.5450    18.5023   |  *******    ********
                         98.5430    37.0045   |  *******    ********

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     34.888     12.50      10.76
    OUTFLOW: ID= 1 (5510)   ********     34.412     13.25      10.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.64
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  9.5730
```

```
-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   1.223    22.50     10.07
      + ID2= 2 (5510): 16627.22  34.412    13.25     10.76
        ================================================
        ID = 3 (8240): 19412.22  35.468    13.50     10.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  14.571    12.25      6.08
      + ID2= 2 (8240): 19412.22  35.468    13.50     10.66
        ================================================
        ID = 3 (8238): 28936.45  49.761    13.00      9.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   1.208    10.25      5.39
      + ID2= 2 (8238): 28936.45  49.761    13.00      9.15
        ================================================
        ID = 3 (8236): 29941.03  50.838    13.00      9.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   3.513     6.00     10.55
      + ID2= 2 (8236): 29941.03  50.838    13.00      9.03
        ================================================
        ID = 3 (8234): 30226.83  51.024    13.00      9.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   1.096     7.25      6.33
      + ID2= 2 (8234): 30226.83  51.024    13.00      9.04
        ================================================
        ID = 3 (8230): 30570.83  51.336    12.75      9.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06   3.673     9.00      5.24
      + ID2= 2 (8230): 30570.83  51.336    12.75      9.01
        ================================================
        ID = 3 (8228): 32522.89  53.703    12.75      8.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   1.461     8.25      4.06
      + ID2= 2 (8228): 32522.89  53.703    12.75      8.79
        ================================================
        ID = 3 (8190): 33538.11  54.595    12.50      8.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
  ***************************
  ** SIMULATION NUMBER:   2 **
  ***************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\5a76734a
| Ptotal= 54.40 mm |    Comments: 5-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.36 |  3.25    2.18 |  6.25    9.79 |  9.25    1.90
                0.50    1.36 |  3.50    2.18 |  6.50    9.79 |  9.50    1.90
                0.75    1.36 |  3.75    2.18 |  6.75    4.35 |  9.75    1.90
                1.00    1.36 |  4.00    2.18 |  7.00    4.35 | 10.00    1.90
                1.25    1.36 |  4.25    3.26 |  7.25    3.26 | 10.25    1.09
                1.50    1.36 |  4.50    3.26 |  7.50    3.26 | 10.50    1.09
                1.75    1.36 |  4.75    4.35 |  7.75    3.26 | 10.75    1.09
                2.00    1.36 |  5.00    4.35 |  8.00    3.26 | 11.00    1.09
                2.25    1.63 |  5.25    6.53 |  8.25    1.90 | 11.25    1.09
                2.50    1.63 |  5.50    6.53 |  8.50    1.90 | 11.50    1.09
                2.75    1.63 |  5.75   26.11 |  8.75    1.90 | 11.75    1.09
                3.00    1.63 |  6.00   71.81 |  9.00    1.90 | 12.00    1.09
```

```
-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   2.534 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.976
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.128

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.468 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   5.032
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.093

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980
```

```
     PEAK FLOW       (cms)=   1.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.056
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   2.564 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.253
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   1.170 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.450
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   1.224 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation        Manning
                0.00         287.00         0.0500
               23.66         283.72         0.0500
               70.98         280.94         0.0500
              112.38         280.23         0.0500
              171.52         276.80         0.0500
              260.24         274.46         0.0500
              266.16         274.26         0.0500
              272.07         274.12         0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82         0.0300      Main Channel
              277.99         273.82         0.0300      Main Channel
              279.49         273.82         0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27         0.0500
              289.81         274.57         0.0500
              325.30         275.75         0.0500
              396.28         278.98         0.0500
              449.51         280.97         0.0500
              496.83         283.90         0.0500
              585.54         287.92         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.30   274.12    .273E+04        0.9          0.99       49.81
       0.98   274.80    .583E+05       20.8          1.05       46.71
       1.66   275.48    .203E+06       95.2          1.38       35.53
       2.33   276.15    .438E+06      256.0          1.73       28.50
       3.01   276.83    .755E+06      524.8          2.05       23.97
       3.69   277.51    .114E+07      935.8          2.43       20.26
       4.37   278.19    .157E+07     1472.0          2.76       17.82
       5.05   278.87    .206E+07     2140.7          3.06       16.06
       5.72   279.54    .261E+07     2938.6          3.33       14.79
       6.40   280.22    .321E+07     3887.6          3.57       13.77
       7.08   280.90    .390E+07     4795.4          3.63       13.56
       7.76   281.58    .468E+07     6196.2          3.91       12.58
       8.43   282.25    .550E+07     7803.9          4.19       11.74
       9.11   282.93    .637E+07     9601.9          4.45       11.05
       9.79   283.61    .728E+07    11594.8          4.70       10.46
      10.47   284.29    .823E+07    13845.3          4.96        9.91
      11.15   284.97    .922E+07    16293.4          5.21        9.43
      11.82   285.64    .103E+08    18952.0          5.45        9.02
      12.50   286.32    .113E+08    21824.3          5.69        8.65

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)     (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     1.22     9.25   7.49       0.31      0.99
     OUTFLOW: ID= 1 (6350)  590.18     1.20    10.25   7.49       0.31      0.99

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (0350):   366.84    1.170     7.75      7.45
        + ID2= 2 (6350):   590.18    1.197    10.25      7.49
          ================================================
          ID = 3 (8220):   957.02    2.179     8.75      7.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (0346):   350.93    2.564     7.25      15.25
        + ID2= 2 (8220):   957.02    2.179     8.75       7.47
          ================================================
          ID = 3 (8222):  1307.95    4.585     8.00       9.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation        Manning
                0.00         257.95         0.0500
                7.83         257.34         0.0500
               15.66         256.19         0.0500
               21.53         254.01         0.0500
               41.11         244.06         0.0500
               76.35         241.38         0.0500
              111.58         239.74         0.0500
              113.54         239.61         0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81         0.0300      Main Channel
              115.50         238.81         0.0300      Main Channel
              116.15         238.81         0.0300      Main Channel
              116.25         239.41         0.0300      Main Channel
              117.46         239.52         0.0500
              119.41         239.72         0.0500
              121.37         240.04         0.0500
              131.16         241.84         0.0500
              156.61         247.03         0.0500
              176.19         251.46         0.0500
              193.80         258.79         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.60   239.41    .224E+04        2.2          1.52       17.12
       1.58   240.39    .216E+05       22.3          1.61       16.16
       2.55   241.36    .804E+05      101.0          1.96       13.27
       3.53   242.34    .173E+06      275.6          2.48       10.46
       4.50   243.31    .293E+06      553.9          2.95        8.80
       5.48   244.29    .438E+06      961.8          3.42        7.60
       6.45   245.26    .599E+06     1534.4          3.99        6.51
       7.43   246.24    .770E+06     2228.4          4.51        5.76
       8.41   247.22    .951E+06     3043.6          4.98        5.21
       9.38   248.19    .114E+07     3982.1          5.43        4.78
      10.36   249.17    .134E+07     5040.1          5.85        4.44
      11.33   250.14    .155E+07     6218.5          6.24        4.16
      12.31   251.12    .177E+07     7518.6          6.61        3.93
      13.29   252.10    .200E+07     8969.0          6.98        3.72
      14.26   253.07    .224E+07    10554.1          7.35        3.53
```

15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	4.59	8.00	9.56	0.72	1.53
OUTFLOW: ID= 1 (6352)	1307.95	4.55	8.25	9.56	0.71	1.53

ADD HYD (8224)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	1.840	7.00	9.06
+ ID2= 2 (6352):	1307.95	4.551	8.25	9.56
ID = 3 (8224):	1689.38	6.228	8.00	9.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	6.23	8.00	9.45	0.97	1.09
OUTFLOW: ID= 1 (6354)	1689.38	5.80	9.00	9.45	0.93	1.09

ADD HYD (8226)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	0.468	8.00	5.03
+ ID2= 2 (6354):	1689.38	5.795	9.00	9.45
ID = 3 (8226):	1952.06	6.251	8.75	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0344)	Area (ha)= 344.00 Curve Number (CN)= 59.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 1.873 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 10.666
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.196

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3402)	Area (ha)= 234.60
ID= 1 DT=15.0 min	Total Imp(%)= 28.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.69	168.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1250.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	9.73
over (min)		15.00	45.00
Storage Coeff. (min)=		16.35 (ii)	43.52 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	4.27 2.34 5.191 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	52.40 9.09 14.72
TOTAL RAINFALL	(mm)=	54.40 54.40 54.40
RUNOFF COEFFICIENT	=	0.96 0.17 0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3401)	Area (ha)= 51.20
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.55	27.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	14.25
over (min)		15.00	45.00
Storage Coeff. (min)=		10.35 (ii)	33.67 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.03

		TOTALS
PEAK FLOW	(cms)=	1.79 0.64 2.052 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	52.40 10.87 19.59
TOTAL RAINFALL	(mm)=	54.40 54.40 54.40
RUNOFF COEFFICIENT	=	0.96 0.20 0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5340)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.3360	1.7877
	0.1730	0.6348	7.2780	2.2185
	1.8360	0.8250	9.1880	2.6486
	2.1540	1.1051	9.5880	2.6586

```
                          3.3950     1.3506   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      2.052      6.00      19.59
     OUTFLOW: ID= 1 (5340)     51.200      0.284      8.00      19.57

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.83
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6479

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   234.60   5.191     6.00    14.72
       + ID2= 2 (5340):    51.20   0.284     8.00    19.57
         ================================================
         ID = 3 (8232):   285.80   5.262     6.00    15.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   2.057 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   9.159
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   1.954 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   9.147
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.460 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   7.475
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   1.542 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  10.251
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.188

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   3.568 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.440
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.092 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  11.459
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.255 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.010
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   1.448 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.065
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.461 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.960
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   2.387 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.788
     TOTAL RAINFALL   (mm)=  54.400
```

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     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   0.868 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.324
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   0.868     7.00     9.32
      + ID2= 2 (0366):   462.62   2.387     7.50    11.79
        ================================================
        ID = 3 (8302):   617.89   3.218     7.25    11.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13        92.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     889.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         8.34
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.33 (ii)   42.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.45         1.12          1.889 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         8.03          11.58
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.15           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.870 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.638
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD     (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.641 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.867
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   0.870     7.50     4.64
      + ID2= 2 (0360):   138.37   0.641     6.75     6.87
        ================================================
        ID = 3 (8306):   568.24   1.473     7.00     5.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation        Manning
                 0.00         261.46         0.0550
                27.86         254.23         0.0550
                51.07         251.96         0.0550
                74.29         250.77         0.0550
                97.50         249.91         0.0550
               125.36         249.40         0.0550
               150.93         247.40         0.0550
               155.93         247.33    0.0550 /0.0350  Main Channel
               157.93         246.85         0.0350      Main Channel
               159.18         246.65         0.0350      Main Channel
               160.18         246.63         0.0350      Main Channel
               160.93         246.85         0.0350      Main Channel
               161.93         247.18    0.0350 /0.0550  Main Channel
               163.18         248.03         0.0550
               168.18         248.58         0.0550
               183.18         250.18         0.0550
               201.97         252.59         0.0550
               213.57         256.02         0.0550
               225.18         260.31         0.0550
               229.82         261.00         0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   247.18   .556E+04        1.9          1.03      49.95
       1.28   247.91   .336E+05       16.7          1.53      33.61
       2.00   248.63   .913E+05       53.6          1.81      28.40
       2.73   249.36   .185E+06      122.3          2.05      25.18
       3.46   250.09   .344E+06      224.6          2.02      25.52
       4.19   250.82   .574E+06      417.9          2.25      22.91
       4.91   251.54   .855E+06      699.1          2.53      20.38
       5.64   252.27   .118E+07     1075.3          2.82      18.26
       6.37   253.00   .153E+07     1559.9          3.15      16.38
       7.10   253.73   .191E+07     2137.6          3.46      14.89
       7.82   254.45   .231E+07     2815.2          3.77      13.67
       8.55   255.18   .272E+07     3608.5          4.10      12.58
       9.28   255.91   .315E+07     4488.2          4.41      11.69
      10.01   256.64   .358E+07     5458.0          4.71      10.95
      10.73   257.36   .403E+07     6512.4          4.99      10.32
      11.46   258.09   .449E+07     7649.8          5.27       9.78
      12.19   258.82   .496E+07     8869.5          5.53       9.32
      12.92   259.55   .544E+07    10171.2          5.78       8.91
      13.64   260.27   .593E+07    11554.8          6.02       8.55

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     1.47   7.00   5.18      0.44      1.03
     OUTFLOW: ID= 1 (6362)  568.24     1.30   8.25   5.18      0.38      1.03

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0362):   118.78   1.889     6.00    11.58
      + ID2= 2 (6362):   568.24   1.303     8.25     5.18
        ================================================
        ID = 3 (8304):   687.02   2.147     6.50     6.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8302):   617.89   3.218     7.25    11.17
      + ID2= 2 (8304):   687.02   2.147     6.50     6.29
        ================================================
        ID = 3 (8300):  1304.91   5.155     7.00     8.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation        Manning
                0.00         230.00         0.0370
               18.48         223.26         0.0370
               36.96         223.05         0.0370
               64.67         222.94         0.0370
              110.87         222.86         0.0370
              133.96         222.74         0.0370
              147.82         222.65         0.0370
              170.92         222.31         0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86         0.0300     Main Channel
              175.54         221.86         0.0300     Main Channel
              176.19         221.86         0.0300     Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25         0.0370
              184.78         222.28         0.0370
              189.40         222.31         0.0370
              332.60         222.37         0.0370
              450.00         230.00         0.0370

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.40   222.26    .771E+03         0.3        0.52       41.74
       0.81   222.67    .784E+05        30.3        0.51       43.17
       1.21   223.07    .210E+06       123.2        0.77       28.42
       1.62   223.48    .384E+06       301.0        1.03       21.25
       2.03   223.89    .563E+06       550.2        1.28       17.06
       2.44   224.30    .747E+06       860.7        1.51       14.46
       2.84   224.70    .934E+06      1228.1        1.73       12.68
       3.25   225.11    .113E+07      1649.3        1.92       11.37
       3.66   225.52    .132E+07      2122.3        2.11       10.37
       4.07   225.93    .152E+07      2645.5        2.29        9.58
       4.47   226.33    .172E+07      3217.8        2.45        8.92
       4.88   226.74    .193E+07      3838.3        2.61        8.38
       5.29   227.15    .214E+07      4506.3        2.76        7.92
       5.70   227.56    .236E+07      5221.3        2.91        7.52
       6.10   227.96    .258E+07      5983.0        3.05        7.17
       6.51   228.37    .280E+07      6790.9        3.19        6.87
       6.92   228.78    .303E+07      7645.0        3.32        6.60
       7.33   229.19    .326E+07      8545.1        3.45        6.35
       7.73   229.59    .349E+07      9491.0        3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8300) 1304.91     5.16     7.00   8.60       0.47       0.52
    OUTFLOW: ID= 1 (6368) 1304.91     4.77     8.25   8.60       0.46       0.52
```

```
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0368):   159.48   0.461     7.75     6.96
      + ID2= 2 (6368):  1304.91   4.771     8.25     8.60
        ================================================
        ID = 3 (8298):  1464.39   5.224     8.25     8.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85   1.448     6.75    12.06
      + ID2= 2 (8298):  1464.39   5.224     8.25     8.42
        ================================================
        ID = 3 (8296):  1656.24   6.423     8.00     8.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation        Manning
                0.00         225.00         0.0390
               30.80         219.38         0.0390
               61.61         219.30         0.0390
               77.01         219.27         0.0390
              469.76         219.14         0.0390
              477.46         219.13         0.0390
              485.16         219.10         0.0390
              492.86         219.09         0.0390
              495.56         219.09    0.0390 /0.0310  Main Channel
              495.66         218.51         0.0310     Main Channel
              500.56         218.51         0.0310     Main Channel
              505.46         218.51         0.0310     Main Channel
              505.56         219.09    0.0310 /0.0390  Main Channel
              508.26         219.09         0.0390
              515.96         219.10         0.0390
              523.67         219.21         0.0390
              562.17         219.32         0.0390
              654.58         219.43         0.0390
              731.59         219.46         0.0390
              762.39         225.00         0.0390

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.29   218.80    .431E+04         1.7        0.58       43.48
       0.58   219.09    .867E+04         5.1        0.89       28.32
       0.93   219.44    .200E+06        58.2        0.44       57.35
       1.28   219.79    .568E+06       278.6        0.74       33.99
       1.62   220.13    .939E+06       630.2        1.01       24.84
       1.97   220.48    .131E+07      1090.4        1.25       20.05
       2.32   220.83    .169E+07      1647.7        1.47       17.06
       2.67   221.18    .206E+07      2294.6        1.68       14.99
       3.01   221.52    .244E+07      3025.6        1.87       13.46
       3.36   221.87    .282E+07      3836.5        2.05       12.27
       3.71   222.22    .321E+07      4723.7        2.22       11.31
       4.06   222.57    .359E+07      5684.6        2.39       10.53
       4.40   222.91    .398E+07      6716.6        2.55        9.87
       4.75   223.26    .437E+07      7817.7        2.70        9.31
       5.10   223.61    .476E+07      8986.2        2.85        8.83
       5.45   223.96    .515E+07     10220.4        2.99        8.40
       5.79   224.30    .555E+07     11519.1        3.13        8.03
       6.14   224.65    .594E+07     12880.8        3.27        7.69
       6.49   225.00    .634E+07     14304.5        3.40        7.39

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24     6.42     8.00   8.84       0.59       0.87
    OUTFLOW: ID= 1 (6372) 1656.24     6.26     8.50   8.84       0.59       0.87
```

```
| ADD HYD   (8294) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42   0.255     7.50     5.01
      + ID2= 2 (6372):  1656.24   6.262     8.50     8.84
        ================================================
        ID = 3 (8294):  1766.66   6.496     8.50     8.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8292) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   2.092     8.25    11.46
      + ID2= 2 (8294):  1766.66   6.496     8.50     8.60
        ================================================
        ID = 3 (8292):  2312.36   8.581     8.50     9.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290   345.3754
                         25.4850    24.6697   |  84.9510   456.3890
                         31.1490    98.6787   |  *******   838.7689
                         39.6440    *******   |  *******   838.7789
                         48.1390    *******   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (8292)   2312.360      8.581      8.50       9.28
     OUTFLOW: ID= 1 (5505)   2312.360      6.211     11.00       9.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.38
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.0141

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):   463.85   3.568     7.50    17.44
       + ID2= 2 (5505):  2312.36   6.211    11.00     9.28
         ================================================
         ID = 3 (8272):  2776.21   8.592    10.25    10.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.961 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.789
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   1.379 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   8.784
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   1.700 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.400
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   1.051 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.350
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   1.360 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.386
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   1.360     7.25    11.39
       + ID2= 2 (0388):   220.77   1.051     7.50    10.35
         ================================================
         ID = 3 (8286):   462.04   2.411     7.25    10.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.598 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.477
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.119

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.715 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   5.531
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.102

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.712
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.715     6.50     5.53
       + ID2= 2 (0382):   216.59   1.207     6.75     8.71
         ================================================
         ID = 3 (8290):   398.60   1.920     6.75     7.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3841.0) ------>
               Distance      Elevation       Manning
                   0.00         294.40        0.0380
```

10.59	291.93	0.0380	
21.17	289.19	0.0380	
26.46	287.99	0.0380	
31.76	286.79	0.0380	
71.45	279.97	0.0380	
74.10	279.79	0.0380	
76.74	279.71	0.0380	
78.99	279.64	0.0380 /0.0300	Main Channel
79.14	279.30	0.0300	Main Channel
79.39	279.30	0.0300	Main Channel
79.64	279.30	0.0300	Main Channel
79.79	279.64	0.0300 /0.0380	Main Channel
89.98	279.78	0.0380	
119.09	281.86	0.0380	
145.55	282.87	0.0380	
198.48	284.85	0.0380	
211.71	286.31	0.0380	
230.23	287.59	0.0380	
261.99	294.00	0.0380	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	279.64	.715E+03	0.2	0.85	63.42
1.10	280.40	.507E+05	21.9	1.40	38.54
1.85	281.15	.141E+06	91.8	2.10	25.69
2.61	281.91	.269E+06	218.9	2.63	20.46
3.36	282.66	.445E+06	407.1	2.96	18.23
4.12	283.42	.681E+06	698.3	3.31	16.26
4.87	284.17	.977E+06	1111.8	3.68	14.65
5.63	284.93	.133E+07	1674.3	4.06	13.27
6.39	285.69	.173E+07	2457.8	4.59	11.73
7.14	286.44	.215E+07	3378.8	5.07	10.63
7.90	287.20	.261E+07	4418.4	5.47	9.85
8.65	287.95	.310E+07	5676.3	5.92	9.11
9.41	288.71	.361E+07	7150.5	6.40	8.42
10.17	289.47	.414E+07	8783.1	6.86	7.86
10.92	290.22	.469E+07	10575.1	7.30	7.38
11.68	290.98	.525E+07	12520.4	7.72	6.98
12.43	291.73	.582E+07	14619.0	8.12	6.64
13.19	292.49	.642E+07	16863.2	8.50	6.34
13.94	293.24	.703E+07	19259.8	8.86	6.08

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8290)	398.60	1.92	6.75	7.26	0.40	0.88
OUTFLOW: ID= 1 (6384)	398.60	1.50	8.00	7.26	0.39	0.87

ADD HYD (8288)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0384):	199.07	0.598	7.25	6.48
+ ID2= 2 (6384):	398.60	1.505	8.00	7.26
ID = 3 (8288):	597.67	2.089	8.00	7.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8284)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8286):	462.04	2.411	7.25	10.89
+ ID2= 2 (8288):	597.67	2.089	8.00	7.00
ID = 3 (8284):	1059.71	4.450	7.75	8.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8280)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8390):	420.00	1.700	7.50	9.40
+ ID2= 2 (8284):	1059.71	4.450	7.75	8.70
ID = 3 (8280):	1479.71	6.150	7.75	8.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0392)	Area (ha)= 167.22	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.74		

Unit Hyd Qpeak (cms)= 3.837

PEAK FLOW (cms)= 1.133 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 11.712
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.215

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0378)	Area (ha)= 606.72	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.18		

Unit Hyd Qpeak (cms)= 8.771

PEAK FLOW (cms)= 2.295 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.412
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.173

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0378):	606.72	2.295	8.00	9.41
+ ID2= 2 (0392):	167.22	1.133	7.00	11.71
ID = 3 (8282):	773.94	3.350	7.50	9.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8278)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8280):	1479.71	6.150	7.75	8.90
+ ID2= 2 (8282):	773.94	3.350	7.50	9.91
ID = 3 (8278):	2253.65	9.491	7.50	9.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3941.0) ------>

Distance	Elevation	Manning	
0.00	283.00	0.0380	
13.48	282.87	0.0380	
53.92	280.08	0.0380	
74.13	276.62	0.0380	
97.72	265.45	0.0380	
114.57	256.93	0.0380	
131.42	253.04	0.0380	
134.79	252.58	0.0380	
138.53	251.74	0.0380 /0.0300	Main Channel
139.03	251.20	0.0300	Main Channel
141.53	251.20	0.0300	Main Channel
144.03	251.20	0.0300	Main Channel
144.53	251.74	0.0300 /0.0380	Main Channel
148.27	252.69	0.0380	
151.64	252.97	0.0380	
185.34	255.08	0.0380	
219.03	257.54	0.0380	
262.84	259.43	0.0380	
310.02	262.80	0.0380	
333.60	283.00	0.0380	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	251.74	.827E+04	4.5	1.51	30.71
2.19	253.39	.758E+05	73.2	2.69	17.27
3.83	255.03	.282E+06	331.8	3.27	14.17
5.48	256.68	.633E+06	917.3	4.03	11.51
7.12	258.32	.112E+07	1889.5	4.69	9.90
8.77	259.97	.179E+07	3410.2	5.31	8.73
10.41	261.61	.259E+07	5627.6	6.05	7.66
12.06	263.26	.351E+07	8605.1	6.83	6.79
13.70	264.90	.447E+07	12544.9	7.81	5.94
15.35	266.55	.546E+07	17101.4	8.71	5.32

```
  16.99   268.19    .648E+07   22251.7          9.56       4.85
  18.64   269.84    .752E+07   27979.0         10.36       4.48
  20.28   271.48    .858E+07   34269.0         11.11       4.17
  21.93   273.13    .967E+07   41110.8         11.83       3.92
  23.57   274.77    .108E+08   48495.9         12.51       3.71
  25.22   276.42    .119E+08   56418.1         13.17       3.52
  26.86   278.06    .131E+08   64410.6         13.69       3.39
  28.51   279.71    .143E+08   73002.1         14.18       3.27
  30.15   281.35    .156E+08   81379.3         14.50       3.20

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8278) 2253.65     9.49    7.50   9.24      0.66      1.56
OUTFLOW: ID= 1 (6394) 2253.65     9.22    8.25   9.24      0.65      1.56


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   1.379     7.25     8.78
      + ID2= 2 (6394):  2253.65   9.215     8.25     9.24
        ================================================
        ID = 3 (8276):  2579.10  10.506     8.00     9.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.75   228.95    .780E+04      2.2          0.98       58.06
     2.54   230.74    .277E+06    145.1          1.78       31.76
     4.33   232.53    .786E+06    609.1          2.63       21.50
     6.13   234.33    .140E+07   1481.5          3.59       15.77
     7.92   236.12    .207E+07   2677.3          4.39       12.90
     9.71   237.91    .280E+07   4184.8          5.09       11.14
    11.50   239.70    .357E+07   6001.4          5.71        9.93
    13.29   241.49    .441E+07   8129.1          6.27        9.03
    15.09   243.29    .530E+07  10549.4          6.77        8.37
    16.88   245.08    .625E+07  13300.6          7.24        7.83
    18.67   246.87    .726E+07  16396.2          7.68        7.38
    20.46   248.66    .834E+07  19809.8          8.07        7.02
    22.26   250.46    .949E+07  23532.5          8.43        6.72
    24.05   252.25    .107E+08  27641.2          8.77        6.46
    25.84   254.04    .120E+08  32155.2          9.10        6.22
    27.63   255.83    .134E+08  36901.0          9.37        6.05
    29.42   257.62    .149E+08  42147.7          9.64        5.88
    31.22   259.42    .164E+08  48149.1          9.97        5.68
    33.01   261.21    .181E+08  54644.8         10.29        5.51

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8276) 2579.10    10.51    8.00   9.19      0.85      1.00
OUTFLOW: ID= 1 (6396) 2579.10     9.52    9.25   9.19      0.84      1.00


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   1.961     7.50    14.79
      + ID2= 2 (6396):  2579.10   9.515     9.25     9.19
        ================================================
        ID = 3 (8274):  2884.31  11.197     9.00     9.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21   8.592    10.25    10.64
      + ID2= 2 (8274):  2884.31  11.197     9.00     9.78
        ================================================
        ID = 3 (8270):  5660.52  19.501     9.50    10.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520     19.501      9.50      10.20
    OUTFLOW: ID= 1 (5506)   5660.520     16.142     11.75      10.20

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.78
               TIME SHIFT OF PEAK FLOW          (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 12.7854

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.319 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.237
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.243

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.810 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.191
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.206 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.417
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.675 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.305
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0398)  |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   1.617 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.360
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   1.617     7.00     9.36
      + ID2= 2 (0400):    93.97   0.675     6.50     8.30
        ================================================
        ID = 3 (8268):   422.16   2.224     6.75     9.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.41   225.66    .391E+04         1.7         1.36      38.31
       0.81   226.06    .804E+04         5.0         1.93      27.02
       1.22   226.47    .124E+05         9.1         2.30      22.61
       1.84   227.09    .308E+05        23.3         2.36      22.03
       2.46   227.71    .904E+05        62.0         2.14      24.31
       3.09   228.34    .223E+06       188.3         2.63      19.75
       3.71   228.96    .379E+06       410.2         3.38      15.39
       4.33   229.58    .550E+06       711.5         4.04      12.89
       4.95   230.20    .737E+06      1091.3         4.62      11.25
       5.58   230.83    .939E+06      1550.6         5.15      10.10
       6.20   231.45    .116E+07      2072.4         5.59       9.31
       6.82   232.07    .140E+07      2659.2         5.93       8.77
       7.44   232.69    .167E+07      3345.8         6.27       8.30
       8.07   233.32    .195E+07      4159.0         6.64       7.83
       8.69   233.94    .226E+07      5100.8         7.03       7.39
       9.31   234.56    .259E+07      6081.3         7.32       7.11
       9.93   235.18    .295E+07      7183.1         7.60       6.84
      10.56   235.81    .334E+07      8145.2         7.62       6.83
      11.18   236.43    .379E+07      9116.0         7.51       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                                      (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     2.22     6.75    9.12      0.47      1.43
     OUTFLOW: ID= 1 (6402)  422.16     2.00     7.75    9.12      0.44      1.39

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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00   1.206     7.50    11.42
      + ID2= 2 (6402):   422.16   1.996     7.75     9.12
        ================================================
        ID = 3 (8266):   666.16   3.200     7.75     9.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   0.810     7.50     7.19
      + ID2= 2 (8266):   666.16   3.200     7.75     9.96
        ================================================
        ID = 3 (8264):   912.62   4.005     7.75     9.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   1.319     6.75    13.24
      + ID2= 2 (8264):   912.62   4.005     7.75     9.22
        ================================================
        ID = 3 (8262):  1055.27   5.146     7.25     9.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  16.142    11.75    10.20
      + ID2= 2 (8262):  1055.27   5.146     7.25     9.76
        ================================================
        ID = 3 (8260):  6715.79  18.516    11.25    10.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   1.542     6.75    10.25
      + ID2= 2 (8260):  6715.79  18.516    11.25    10.13
        ================================================
        ID = 3 (8258):  6947.41  18.994    11.00    10.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   1.460     8.25     7.48
      + ID2= 2 (8258):  6947.41  18.994    11.00    10.14
        ================================================
        ID = 3 (8256):  7519.42  20.184    11.00     9.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140    67.8416
                         39.6440    12.3348   |  *******   160.3529
                         48.1390    18.5023   |  *******   160.3629
                         67.9600    37.0045   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
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                              (ha)     (cms)     (hrs)      (mm)
INFLOW : ID= 2 (8256)   7519.421     20.184     11.00      9.93
OUTFLOW: ID= 1 (5507)   7519.421     19.753     12.00      9.93

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.87
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  6.1500

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   0.822 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.762
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   1.014 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.572
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.231

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   2.108 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.603
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   1.169 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.052
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.73         27.97
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     539.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         18.99
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       9.87 (ii)   30.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.26          0.90          1.628 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         15.90          22.10
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.29           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4720      1.9177
                          0.3820     0.3152   |   3.8720      1.9277
                          1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700      1.628      6.00      22.10
     OUTFLOW: ID= 1 (5414)     43.700      0.795      6.75      22.10

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.83
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3604

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.30        114.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     980.82         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         14.82
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.13 (ii)   37.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.15          2.62          3.220 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      52.40         14.26          18.07
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.26           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4142):   144.30   3.220     6.50    18.07
        + ID2= 2 (5414):    43.70   0.795     6.75    22.10
          ================================================
          ID = 3 (8254):   188.00   3.727     6.50    19.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0412):   238.70   1.169     7.00     9.05
        + ID2= 2 (8254):   188.00   3.727     6.50    19.01
          ================================================
          ID = 3 (8252):   426.70   4.816     6.50    13.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.27   246.02    .295E+04         0.6          0.75       88.26
       1.53   247.28    .168E+06        69.7          1.65       40.13
       2.79   248.54    .490E+06       299.5          2.42       27.28
       4.06   249.81    .962E+06       740.1          3.05       21.67
       5.32   251.07    .158E+07      1440.0          3.61       18.33
       6.58   252.33    .235E+07      2443.8          4.12       16.06
       7.84   253.59    .327E+07      3811.2          4.63       14.30
       9.10   254.85    .432E+07      5565.1          5.11       12.94
      10.37   256.12    .550E+07      7721.3          5.57       11.88
      11.63   257.38    .682E+07     10309.9          6.00       11.02
      12.89   258.64    .827E+07     13360.6          6.42       10.31
      14.15   259.90    .985E+07     16884.5          6.81        9.72
      15.42   261.17    .116E+08     20818.4          7.14        9.26
      16.68   262.43    .134E+08     25510.4          7.53        8.79
      17.94   263.69    .154E+08     30958.0          7.97        8.30
      19.20   264.95    .175E+08     36988.3          8.38        7.89
      20.46   266.21    .197E+08     43617.1          8.78        7.53
      21.73   267.48    .220E+08     50868.1          9.17        7.22
      22.99   268.74    .244E+08     58854.0          9.56        6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70     4.82    6.50  13.44      0.35      0.78
    OUTFLOW: ID= 1 (6416)  426.70     2.78    7.50  13.44      0.31      0.76

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   2.108     8.00     12.60
      + ID2= 2 (6416):   426.70   2.775     7.50     13.44
        ================================================
        ID = 3 (8250):   866.00   4.861     7.75     13.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   1.014     7.50     12.57
      + ID2= 2 (8250):   866.00   4.861     7.75     13.01
        ================================================
        ID = 3 (8248):  1048.79   5.871     7.75     12.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   0.822     7.00      8.76
      + ID2= 2 (8248):  1048.79   5.871     7.75     12.94
        ================================================
        ID = 3 (8246):  1224.61   6.658     7.50     12.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  19.753    12.00      9.93
      + ID2= 2 (8246):  1224.61   6.658     7.50     12.34
        ================================================
        ID = 3 (8244):  8744.03  23.417    11.25     10.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   1.954     9.25      9.15
      + ID2= 2 (8244):  8744.03  23.417    11.25     10.27
        ================================================
        ID = 3 (8242):  9524.23  25.245    11.00     10.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  *******    197.3574
                          76.4550    30.8371   |  *******    394.7148
                          *******    61.6742   |  *******    394.7248
                          *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8242)   9524.231    25.245     11.00      10.18
    OUTFLOW: ID= 1 (5508)   9524.231    24.490     12.25      10.18

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.01
                TIME SHIFT OF PEAK FLOW       (min)= 75.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  9.8788

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   1.997 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  16.446
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58       331.32
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=     1872.43        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       48.96        20.86
               over (min)         30.00        45.00
     Storage Coeff.  (min)=       24.27 (ii)   44.30 (ii)
     Unit Hyd. Tpeak (min)=       30.00        45.00
     Unit Hyd. peak  (cms)=        0.04         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        8.78         9.65        15.834 (iii)
     TIME TO PEAK    (hrs)=        6.25         6.50          6.25
     RUNOFF VOLUME    (mm)=       52.40        17.08         23.09
     TOTAL RAINFALL   (mm)=       54.40        54.40         54.40
     RUNOFF COEFFICIENT   =        0.96         0.31          0.42

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
          CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3381)  |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        43.61
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.52 (ii)   26.43 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.70         1.99          3.937 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     52.40        18.95          26.64
     TOTAL RAINFALL   (mm)=     54.40        54.40          54.40
     RUNOFF COEFFICIENT  =      0.96         0.35           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     3.937      6.00      26.64
     OUTFLOW: ID= 1 (5338)     73.000     1.561      6.75      26.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.64
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7662

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  15.834     6.25    23.09
      + ID2= 2 (5338):    73.00   1.561     6.75    26.64
        ================================================
        ID = 3 (8310):   598.90  17.031     6.25    23.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3342)  |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.467 (i)
     TIME TO PEAK    (hrs)=  15.500
     RUNOFF VOLUME    (mm)=   9.797
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3341)  |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        15.09
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      9.08 (ii)   31.87 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.77         0.41          1.938 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     52.40        11.90          24.45
     TOTAL RAINFALL   (mm)=     54.40        54.40          54.40
     RUNOFF COEFFICIENT  =      0.96         0.22           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6540      0.4604
                         0.0390     0.1699   |   0.8330      0.5249
                         0.1860     0.2610   |   1.0130      0.5896
                         0.3750     0.3534   |   1.4130      0.5996
                         0.4340     0.3813   |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     1.938      6.00      24.45
     OUTFLOW: ID= 1 (5334)     33.000     0.481      6.75      24.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.84
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3985

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| ADD HYD   (8314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.467    15.50     9.80
      + ID2= 2 (5334):    33.00   0.481     6.75    24.42
        ================================================
        ID = 3 (8314):   620.10   0.655     7.00    10.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0306)  |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.250 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=   8.592
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.158

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0286)  |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   2.734 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.753
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.455

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB           |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   3.035 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.368
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.356

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.445 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  24.380
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.448

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0282):    449.38    3.035     8.00     19.37
      + ID2= 2 (0284):     78.93    1.445     6.50     24.38
        ================================================
        ID = 3 (8388):    528.31    4.143     7.25     20.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation      Manning
                  0.00         233.00        0.0450
                 20.58         228.51        0.0450
                 41.17         227.74        0.0450
                 51.46         227.41        0.0450
                 97.77         225.96        0.0450
                149.23         223.94        0.0450
                200.69         220.84        0.0450
                226.42         220.66        0.0450
                238.85         220.22        0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70        0.0350      Main Channel
                245.85         219.72        0.0350      Main Channel
                246.35         220.06        0.0350      Main Channel
                248.85         220.23        0.0350      Main Channel
                303.60         221.64        0.0350      Main Channel
                380.79         224.98        0.0450
                432.25         229.54        0.0450
                457.98         233.33        0.0450
                483.71         234.27        0.0450
                509.44         233.81        0.0450

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31    220.01    .382E+04        0.8         0.57       82.89
      1.06    220.76    .525E+05       12.1         0.66       72.51
      1.81    221.51    .240E+06       88.6         1.05       45.21
      2.56    222.26    .510E+06      261.7         1.46       32.47
      3.31    223.01    .843E+06      533.8         1.81       26.34
      4.06    223.76    .124E+07      913.6         2.10       22.64
      4.81    224.51    .171E+07     1399.0         2.34       20.33
      5.56    225.26    .225E+07     2051.0         2.60       18.27
      6.31    226.01    .285E+07     2907.0         2.91       16.35
      7.06    226.76    .352E+07     3902.5         3.16       15.04
      7.82    227.52    .426E+07     5069.9         3.39       14.01
      8.57    228.27    .507E+07     6433.0         3.62       13.13
      9.32    229.02    .593E+07     8069.2         3.89       12.24
     10.07    229.77    .681E+07     9926.7         4.16       11.44
     10.82    230.52    .772E+07    11962.8         4.42       10.75
     11.57    231.27    .864E+07    14167.1         4.68       10.17
     12.32    232.02    .959E+07    16537.1         4.92        9.66
     13.07    232.77    .105E+08    19070.7         5.16        9.22
     13.82    233.52    .115E+08    21790.4         5.39        8.82

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     4.14    7.25  20.12      0.53      0.60
     OUTFLOW: ID= 1 (6286)  528.31     3.51    9.25  20.12      0.49      0.59

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0286):    260.51    2.734     7.50     24.75
      + ID2= 2 (6286):    528.31    3.506     9.25     20.12
        ================================================
        ID = 3 (8386):    788.82    5.992     8.50     21.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0302) |   Area    (ha)= 473.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   1.530 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  10.409
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   1.017 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.830
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.846 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.733
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0298):    330.51    0.846     8.00      6.73
      + ID2= 2 (0300):    258.93    1.017     7.50      8.83
        ================================================
        ID = 3 (8395):    589.44    1.852     7.75      7.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629
```

```
     PEAK FLOW      (cms)=   1.727 (i)
     TIME TO PEAK   (hrs)=   9.500
     RUNOFF VOLUME   (mm)=  20.098
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW      (cms)=   2.388 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  19.976
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0288):   340.83   1.727    9.50    20.10
      + ID2= 2 (0290):   269.18   2.388    7.50    19.98
        ================================================
        ID = 3 (8397):   610.01   3.977    8.00    20.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW      (cms)=   2.330 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  18.668
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW      (cms)=   3.557 (i)
     TIME TO PEAK   (hrs)=   8.250
     RUNOFF VOLUME   (mm)=  14.367
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.264

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW      (cms)=   1.387 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=   9.999
     TOTAL RAINFALL  (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0292):   738.49   3.557    8.25    14.37
      + ID2= 2 (0294):   274.15   1.387    7.25    10.00
        ================================================
        ID = 3 (8398):  1012.64   4.858    8.00    13.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation        Manning
                  0.00         243.98         0.0400
                 42.59         243.18         0.0400
                 85.17         241.81         0.0400
                120.66         240.50         0.0400
                156.15         239.56         0.0400
                198.74         236.15         0.0400
                237.78         234.01         0.0400
                241.33         233.82         0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32         0.0400      Main Channel
                250.37         231.80         0.0400      Main Channel
                250.87         232.23         0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22         0.0400
                259.07         233.87         0.0400
                262.62         234.12         0.0400
                266.17         234.23         0.0400
                283.91         234.73         0.0400
                337.15         241.75         0.0400
                351.34         244.00         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   232.23     .510E+03        0.1          0.53       81.07
       0.87   232.67     .213E+04        0.7          0.83       51.49
       1.30   233.10     .501E+04        2.2          1.10       38.75
       1.98   233.78     .242E+05       12.6          1.34       31.93
       2.66   234.46     .738E+05       42.1          1.46       29.21
       3.34   235.14     .177E+06      127.9          1.84       23.13
       4.02   235.82     .314E+06      281.4          2.29       18.61
       4.70   236.50     .481E+06      509.4          2.71       15.73
       5.38   237.18     .672E+06      815.6          3.11       13.73
       6.06   237.86     .886E+06     1200.7          3.46       12.30
       6.74   238.54     .112E+07     1669.4          3.80       11.23
       7.42   239.22     .139E+07     2226.9          4.11       10.38
       8.10   239.90     .168E+07     2808.4          4.28        9.95
       8.78   240.58     .202E+07     3470.4          4.40        9.68
       9.46   241.26     .240E+07     4331.7          4.61        9.24
      10.14   241.94     .283E+07     5335.2          4.83        8.84
      10.82   242.62     .330E+07     6482.6          5.03        8.48
      11.50   243.30     .381E+07     7764.1          5.21        8.18
      12.18   243.98     .439E+07     9101.2          5.31        8.04

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64     4.86    8.00  13.18       1.48       1.15
    OUTFLOW: ID= 1 (6296) 1012.64     4.69    8.75  13.18       1.46       1.15

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| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   2.330    7.50    18.67
      + ID2= 2 (6296):  1012.64   4.688    8.75    13.18
        ================================================
        ID = 3 (8396):  1306.29   6.905    8.25    14.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29   6.905    8.25    14.42
      + ID2= 2 (8397):   610.01   3.977    8.00    20.04
        ================================================
        ID = 3 (8394):  1916.30  10.857    8.25    16.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  10.857     8.25    16.21
       + ID2= 2 (8395):   589.44   1.852     7.75     7.65
         ================================================
         ID = 3 (8392):  2505.74  12.674     8.25    14.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.29    221.29    .228E+04        0.2         0.32     165.63
      0.59    221.59    .465E+04        0.7         0.45     116.15
      0.88    221.88    .713E+04        1.2         0.54      96.87
      1.18    222.18    .971E+04        1.9         0.61      86.20
      1.57    222.57    .175E+05        3.3         0.59      88.86
      1.97    222.97    .427E+05        6.4         0.47     111.39
      2.36    223.36    .115E+06       16.1         0.44     119.14
      2.76    223.76    .237E+06       37.1         0.49     106.49
      3.15    224.15    .409E+06       72.9         0.56      93.40
      3.55    224.55    .631E+06      127.0         0.63      82.76
      3.94    224.94    .903E+06      202.4         0.70      74.37
      4.34    225.34    .123E+07      301.8         0.77      67.68
      4.73    225.73    .160E+07      433.5         0.85      61.37
      5.13    226.13    .200E+07      602.2         0.95      55.29
      5.52    226.52    .242E+07      804.7         1.05      50.13
      5.92    226.92    .286E+07     1034.2         1.14      46.11
      6.31    227.31    .332E+07     1290.5         1.22      42.88
      6.71    227.71    .380E+07     1560.9         1.29      40.55
      7.10    228.10    .432E+07     1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    12.67    8.25  14.20      2.23      0.45
    OUTFLOW: ID= 1 (6302) 2505.74    10.20   10.50  14.20      2.12      0.46


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| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   1.530     8.50    10.41
       + ID2= 2 (6302):  2505.74  10.198    10.50    14.20
         ================================================
         ID = 3 (8390):  2979.64  11.602    10.25    13.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   5.992     8.50    21.65
       + ID2= 2 (8390):  2979.64  11.602    10.25    13.59
         ================================================
         ID = 3 (8348):  3768.46  17.080     9.75    15.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.753 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  12.262
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   3.720 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.907
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.421

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   3.831 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.080
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.377

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   3.104 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.038
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   3.104     7.50    18.04
       + ID2= 2 (0276):    90.89   1.207     6.75    20.49
         ================================================
         ID = 3 (8360):   483.38   4.235     7.25    18.50
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8358)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0278):		485.49	3.831	8.00	23.08
+ ID2= 2 (8360):		483.38	4.235	7.25	18.50
ID = 3 (8358):		968.87	7.908	7.75	20.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6280)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2801.0) ------>

Distance	Elevation	Manning	
0.00	241.14	0.0500	
13.32	240.80	0.0500	
39.95	240.07	0.0500	
96.54	236.21	0.0500	
113.19	234.15	0.0500	
123.18	232.35	0.0500	
143.15	225.80	0.0500	
149.81	225.62	0.0500	
153.14	225.40	0.0500	
157.30	224.76	0.0500 /0.0300	Main Channel
159.80	224.26	0.0300	Main Channel
162.30	224.85	0.0300	Main Channel
162.55	224.97	0.0300 /0.0500	Main Channel
167.80	225.05	0.0500	
186.43	229.14	0.0500	
213.06	234.75	0.0500	
236.37	237.09	0.0500	
266.33	237.31	0.0500	
292.96	237.83	0.0500	
329.58	241.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	224.76	.263E+04	0.8	0.65	58.31
1.36	225.62	.278E+05	13.4	1.10	34.54
2.22	226.48	.855E+05	52.6	1.40	27.09
3.09	227.35	.157E+06	120.4	1.74	21.78
3.95	228.21	.242E+06	216.3	2.04	18.64
4.81	229.07	.340E+06	341.8	2.29	16.56
5.67	229.93	.450E+06	498.3	2.52	15.06
6.53	230.79	.574E+06	688.3	2.73	13.90
7.40	231.66	.711E+06	913.8	2.93	12.97
8.26	232.52	.861E+06	1173.4	3.11	12.23
9.12	233.38	.103E+07	1461.3	3.24	11.72
9.98	234.24	.121E+07	1793.3	3.37	11.26
10.85	235.11	.142E+07	2141.0	3.45	11.02
11.71	235.97	.165E+07	2530.4	3.50	10.86
12.57	236.83	.192E+07	2954.0	3.51	10.81
13.43	237.69	.226E+07	3160.3	3.18	11.93
14.29	238.55	.271E+07	3869.4	3.26	11.67
15.16	239.42	.320E+07	4740.3	3.38	11.24
16.02	240.28	.373E+07	5688.4	3.48	10.92

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8358)	968.87	7.91	7.75	20.79	0.99	0.85
OUTFLOW: ID= 1 (6280)	968.87	7.48	8.50	20.79	0.95	0.83

ADD HYD (8354)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0280):		299.86	3.720	7.00	22.91
+ ID2= 2 (6280):		968.87	7.477	8.50	20.79
ID = 3 (8354):		1268.73	10.681	8.00	21.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0272)	Area (ha)= 157.38 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.09

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 1.236 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 18.040
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.332

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0270)	Area (ha)= 243.61 Curve Number (CN)= 81.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 2.117 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 22.091
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.406

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0268)	Area (ha)= 215.76 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.69

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 1.800 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 17.875
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0264)	Area (ha)= 353.96 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.30

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 1.477 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 14.806
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.272

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0266)	Area (ha)= 508.09 Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.63

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 1.507 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 12.617
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.232

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0264):		353.96	1.477	8.25	14.81
+ ID2= 2 (0266):		508.09	1.507	9.50	12.62
ID = 3 (8380):		862.05	2.967	8.75	13.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning		
0.00	274.03	0.0500		
10.55	272.73	0.0500		
21.10	271.28	0.0500		
50.12	266.83	0.0500		
87.04	260.36	0.0500		
92.32	260.06	0.0500		
94.95	259.93	0.0500		
101.00	256.87	0.0500		
103.00	256.58	0.0500 /0.0350	Main Channel	
104.00	256.32	0.0350	Main Channel	
106.00	256.05	0.0350	Main Channel	
108.00	256.25	0.0350	Main Channel	
110.78	256.65	0.0350 /0.0500	Main Channel	
113.42	256.81	0.0500		
116.06	257.00	0.0500		
155.62	260.24	0.0500		
187.27	263.35	0.0500		
211.01	267.22	0.0500		
224.20	269.60	0.0500		
261.13	272.68	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8380)	862.05	2.97	8.75	13.52	0.56	0.98
OUTFLOW:	ID= 1 (6268)	862.05	2.89	10.25	13.52	0.56	0.98

ADD HYD (8382)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0268):	215.76	1.800	7.00	17.88
	+ ID2= 2 (6268):	862.05	2.886	10.25	13.52
	ID = 3 (8382):	1077.81	4.220	8.75	14.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning		
0.00	245.98	0.0500		
8.14	245.66	0.0500		
16.28	245.16	0.0500		
20.35	244.84	0.0500		
38.66	242.98	0.0500		
48.83	240.65	0.0500		
63.07	235.91	0.0500		
65.11	235.18	0.0500		
68.43	234.34	0.0500 /0.0300	Main Channel	
68.68	233.95	0.0300	Main Channel	
69.18	233.89	0.0300	Main Channel	
69.68	233.95	0.0300	Main Channel	
71.21	234.48	0.0300 /0.0500	Main Channel	
81.38	236.44	0.0500		
95.63	236.66	0.0500		
120.04	237.00	0.0500		
148.53	241.77	0.0500		
158.70	242.34	0.0500		
187.18	244.03	0.0500		
201.42	244.36	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8382)	1077.81	4.22	8.75	14.39	0.93	1.43
OUTFLOW:	ID= 1 (6270)	1077.81	4.19	9.25	14.39	0.92	1.42

ADD HYD (8384)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0270):	243.61	2.117	7.50	22.09
	+ ID2= 2 (6270):	1077.81	4.186	9.25	14.39
	ID = 3 (8384):	1321.42	6.059	8.75	15.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0262)	Area (ha)= 341.31 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 2.732 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 22.953
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0260)	Area (ha)= 476.24 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 4.360

PEAK FLOW (cms)= 3.089 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 23.028
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0258)	Area (ha)= 181.99 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 1.165 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 20.683
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

```
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   1.827 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.843
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.310

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.678 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.836
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.254

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.113 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.405
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2561.0) ------>
            Distance      Elevation       Manning
               0.00         276.07        0.0400
              11.68         273.71        0.0400
              23.36         271.35        0.0400
              29.19         270.30        0.0400
              35.03         269.44        0.0400
              55.47         267.90        0.0400
              78.82         266.24        0.0400
              90.50         265.63        0.0400
             102.18         265.40        0.0400
             105.10         264.95    0.0400 /0.0350  Main Channel
             108.02         264.39        0.0350      Main Channel
             110.94         264.72        0.0350      Main Channel
             113.86         265.19    0.0350 /0.0400  Main Channel
             116.78         265.49        0.0400
             143.05         268.24        0.0400
             172.25         270.53        0.0400
             207.28         271.95        0.0400
             233.55         273.72        0.0400
             256.91         274.98        0.0400
             289.02         275.97        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.56   264.95    .723E+04         1.9          0.90       62.51
       1.14   265.53    .307E+05        13.5          1.49       37.92
       1.72   266.11    .951E+05        48.6          1.73       32.62
       2.30   266.69    .191E+06       117.8          2.09       27.03
       2.88   267.27    .314E+06       225.2          2.43       23.24
       3.46   267.85    .464E+06       375.5          2.74       20.59
       4.04   268.43    .641E+06       573.2          3.03       18.62
       4.62   269.01    .846E+06       821.9          3.29       17.15
       5.20   269.59    .108E+07      1135.0          3.56       15.87
       5.78   270.17    .134E+07      1525.1          3.86       14.64
       6.36   270.75    .162E+07      1971.1          4.12       13.71
       6.94   271.33    .194E+07      2474.0          4.33       13.04
       7.52   271.91    .228E+07      3065.0          4.55       12.42
       8.10   272.49    .266E+07      3773.4          4.80       11.75
       8.68   273.07    .306E+07      4566.3          5.05       11.17
       9.26   273.65    .348E+07      5443.7          5.30       10.66
       9.84   274.23    .393E+07      6389.6          5.51       10.25
      10.42   274.81    .440E+07      7426.2          5.72        9.88
      11.00   275.39    .490E+07      8490.1          5.86        9.63

                                <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0254)  403.00     1.11    8.25   9.41      0.32      0.90
    OUTFLOW: ID= 1 (6256)  403.00     1.05   10.00   9.41      0.31      0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   0.678     8.00    13.84
       + ID2= 2 (6256):   403.00   1.052    10.00     9.41
         ================================================
         ID = 3 (8370):   548.79   1.667     9.25    10.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   0.878 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.287
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   1.566 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=   9.438
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   0.754 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.498
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.230

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   1.566    10.00     9.44
       + ID2= 2 (0248):   146.04   0.754     7.25    12.50
         ================================================
         ID = 3 (8364):   905.65   2.217     8.25     9.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
```

0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	2.22	8.25	9.93	0.72	0.73
OUTFLOW: ID= 1 (6250)	905.65	2.06	10.50	9.93	0.70	0.73

ADD HYD (8366)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):		192.88	0.878	8.00	15.29
+ ID2= 2 (6250):		905.65	2.056	10.50	9.93
ID = 3 (8366):		1098.53	2.855	10.00	10.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):		1098.53	2.855	10.00	10.87
+ ID2= 2 (8370):		548.79	1.667	9.25	10.58
ID = 3 (8368):		1647.32	4.503	10.00	10.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):		319.99	1.827	8.00	16.84
+ ID2= 2 (8368):		1647.32	4.503	10.00	10.78
ID = 3 (8372):		1967.31	6.156	9.25	11.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	6.16	9.25	11.76	0.59	0.88
OUTFLOW: ID= 1 (6258)	1967.31	5.64	11.25	11.76	0.58	0.89

ADD HYD (8374)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):		181.99	1.165	8.00	20.68
+ ID2= 2 (6258):		1967.31	5.637	11.25	11.76
ID = 3 (8374):		2149.30	6.579	11.00	12.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):		476.24	3.089	8.25	23.03
+ ID2= 2 (8374):		2149.30	6.579	11.00	12.52
ID = 3 (8376):		2625.54	9.354	10.25	14.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):		341.31	2.732	8.00	22.95
+ ID2= 2 (8376):		2625.54	9.354	10.25	14.42
ID = 3 (8378):		2966.85	11.655	10.00	15.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8362) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85  11.655    10.00    15.41
      + ID2= 2 (8384):  1321.42   6.059     8.75    15.81
        ================================================
        ID = 3 (8362):  4288.27  17.537     9.50    15.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <----- DATA FOR SECTION (2721.0) ------>
             Distance      Elevation       Manning
                0.00         231.01        0.0450
               23.01         223.65        0.0450
               34.51         222.46        0.0450
               51.77         222.11        0.0450
               69.02         221.87        0.0450
              161.06         221.92        0.0450
              166.81         221.91        0.0450
              172.56         221.89        0.0450
              180.57         221.40    0.0450 /0.0300  Main Channel
              181.57         220.60        0.0300      Main Channel
              184.07         220.16        0.0300      Main Channel
              195.57         221.85    0.0300 /0.0450  Main Channel
              201.32         221.82        0.0450
              207.07         221.77        0.0450
              212.83         221.72        0.0450
              253.09         222.52        0.0450
              408.40         222.65        0.0450
              460.17         223.20        0.0450
              517.69         224.84        0.0450
              569.46         232.57        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.41   220.57    .189E+04        0.5        0.49      60.18
       0.83   220.99    .697E+04        3.2        0.82      35.79
       1.24   221.40    .145E+05        8.8        1.07      27.45
       1.84   222.00    .643E+05       29.3        0.81      36.61
       2.44   222.60    .282E+06      132.9        0.83      35.41
       3.04   223.20    .707E+06      413.7        1.04      28.50
       3.64   223.80    .118E+07      876.8        1.31      22.46
       4.24   224.40    .168E+07     1494.8        1.57      18.75
       4.84   225.00    .221E+07     2264.1        1.82      16.23
       5.44   225.60    .274E+07     3196.3        2.06      14.29
       6.04   226.20    .328E+07     4258.6        2.30      12.84
       6.65   226.81    .383E+07     5444.7        2.52      11.72
       7.25   227.41    .438E+07     6749.7        2.73      10.82
       7.85   228.01    .494E+07     8169.4        2.93      10.08
       8.45   228.61    .551E+07     9700.7        3.12       9.46
       9.05   229.21    .608E+07    11340.8        3.30       8.94
       9.65   229.81    .666E+07    13087.4        3.48       8.48
      10.25   230.41    .724E+07    14938.5        3.65       8.08
      10.85   231.01    .783E+07    16892.4        3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27    17.54    9.50  15.53      1.50      0.94
    OUTFLOW: ID= 1 (6272) 4288.27    17.32   10.25  15.53      1.49      0.94
```

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-------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   1.236     7.50    18.04
      + ID2= 2 (6272):  4288.27  17.324    10.25    15.53
        ================================================
        ID = 3 (8356):  4445.65  18.249    10.00    15.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  10.681     8.00    21.29
      + ID2= 2 (8356):  4445.65  18.249    10.00    15.62
        ================================================
        ID = 3 (8352):  5714.38  27.725     9.00    16.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.00    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.48   218.85    .121E+05        1.2        0.36     173.94
       1.17   219.54    .839E+05        9.8        0.44     142.60
       1.86   220.23    .323E+06       41.0        0.47     131.43
       2.56   220.93    .708E+06      109.5        0.58     107.67
       3.25   221.62    .118E+07      224.3        0.71      87.36
       3.94   222.31    .168E+07      376.5        0.84      74.48
       4.63   223.00    .222E+07      567.9        0.96      65.26
       5.32   223.69    .279E+07      794.7        1.07      58.58
       6.02   224.39    .339E+07     1056.2        1.17      53.52
       6.71   225.08    .402E+07     1352.4        1.26      49.52
       7.40   225.77    .468E+07     1677.3        1.34      46.46
       8.09   226.46    .536E+07     2050.0        1.43      43.58
       8.79   227.16    .607E+07     2457.9        1.52      41.14
       9.48   227.85    .680E+07     2901.0        1.60      39.05
      10.17   228.54    .755E+07     3352.7        1.66      37.53
      10.86   229.23    .834E+07     3812.5        1.71      36.48
      11.55   229.92    .919E+07     4241.8        1.73      36.13
      12.25   230.62    .101E+08     4697.0        1.74      35.93
      12.94   231.31    .111E+08     5186.3        1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38    27.72    9.00  16.88      1.57      0.46
    OUTFLOW: ID= 1 (6304) 5714.38    22.85   11.75  16.88      1.46      0.45
```

```
-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   0.753    10.50    12.26
      + ID2= 2 (6304):  5714.38  22.850    11.75    16.88
        ================================================
        ID = 3 (8350):  6006.75  23.587    11.75    16.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3760.46  17.080     9.75    15.28
      + ID2= 2 (8350):  6006.75  23.587    11.75    16.65
        ================================================
        ID = 3 (8346):  9775.21  39.706    10.75    16.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.250    13.75     8.59
      + ID2= 2 (8346):  9775.21  39.706    10.75    16.12
        ================================================
        ID = 3 (8344): 10059.18  39.930    10.75    15.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  *******    370.0451
                         41.0590   56.7403   |  *******    863.4386
                         48.1390   86.3439   |  *******    ********
                         56.6340   *******   |  *******    ********
                         67.9600   *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********     39.930     10.75      15.91
     OUTFLOW: ID= 1 (5509)   ********     30.768     14.50      15.91

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.05
                    TIME SHIFT OF PEAK FLOW         (min)=225.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 42.5230

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.734 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  18.150
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.334

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   4.424 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.421
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.394

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3321.0) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.0380
                 25.85        227.20        0.0380
                 96.94        226.44        0.0380
                168.03        227.38        0.0380
                219.73        225.62        0.0380
                342.52        221.57        0.0380
                368.37        221.42        0.0380
                374.83        221.23        0.0380
                379.79        220.98    0.0380 /0.0300  Main Channel
                380.29        220.47        0.0300      Main Channel
                381.29        220.47        0.0300      Main Channel
                382.79        220.47        0.0300      Main Channel
                383.29        220.98    0.0300 /0.0380  Main Channel
                394.22        221.22        0.0380
                400.68        221.33        0.0380
                407.14        221.44        0.0380
                491.16        225.70        0.0380
                568.71        227.55        0.0380
                607.49        230.14        0.0380
                639.80        234.08        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.51   220.98    .554E+04         0.9        0.56     107.27
        1.20   221.67    .885E+05        12.1        0.49     122.32
        1.88   222.35    .309E+06        64.7        0.76      79.70
        2.57   223.04    .615E+06       165.4        0.97      61.99
        3.25   223.72    .101E+07       322.1        1.16      52.06
        3.94   224.41    .148E+07       542.9        1.33      45.51
        4.62   225.09    .204E+07       835.4        1.48      40.77
        5.31   225.78    .269E+07      1202.8        1.62      37.27
        5.99   226.46    .344E+07      1618.0        1.70      35.46
        6.68   227.15    .447E+07      1932.0        1.56      38.56
        7.36   227.83    .580E+07      2763.9        1.72      34.96
        8.05   228.52    .718E+07      3861.9        1.95      30.97
        8.73   229.20    .859E+07      5115.4        2.16      27.98
        9.42   229.89    .100E+08      6519.2        2.35      25.64
       10.10   230.57    .115E+08      8092.3        2.55      23.69
       10.79   231.26    .130E+08      9821.5        2.73      22.05
       11.47   231.94    .145E+08     11690.0        2.92      20.68
       12.16   232.63    .160E+08     13694.9        3.09      19.52
       12.84   233.31    .176E+08     15833.9        3.26      18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30    4.42    7.50  21.42     0.73      0.54
     OUTFLOW: ID= 1 (6332)  468.30    3.43    9.75  21.42     0.67      0.54

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0332):   393.44   1.734    10.00    18.15
        + ID2= 2 (6332):   468.30   3.427     9.75    21.42
          ================================================
          ID = 3 (8322):   861.74   5.160     9.75    19.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   2.703 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  19.405
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.357

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   4.073 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  21.534
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   3.645 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  20.790
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   2.314 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  22.248
```

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     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.409

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3182)  |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   3.172 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.047
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3181)  |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06         4.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     416.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        18.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.45 (ii)   29.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.71         0.17          3.819 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40        19.48          46.14
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.36           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800      0.7654
                         0.0510     0.4423   |   4.1500      0.8231
                         0.8700     0.5378   |   4.8750      0.8778
                         1.9590     0.6105   |   5.2750      0.8878
                         2.5620     0.6796   |   0.0000      0.0000

                            AREA      QPEAK      TPEAK       R.V.
                            (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000      3.819      6.00      46.14
     OUTFLOW: ID= 1 (5318)     26.000      1.977      6.25      46.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.76
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6441

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8334)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (3182):   457.40   3.172    8.00    20.05
     + ID2= 2 (5318):    26.00   1.977    6.25    46.06
       ================================================
       ID = 3 (8334):   483.40   3.965    6.25    21.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6320)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3201.0) ------>
```

```
          Distance      Elevation       Manning
             0.00         249.00        0.0380
            22.92         245.86        0.0380
            45.83         244.87        0.0380
            91.66         243.11        0.0380
           126.03         239.53        0.0380
           160.41         237.17        0.0380
           166.14         237.06        0.0380
           177.59         237.13        0.0380
           183.32         237.20        0.0380
           189.05         236.70    0.0380 /0.0350  Main Channel
           193.05         235.89        0.0350      Main Channel
           197.05         236.64    0.0350 /0.0380  Main Channel
           200.51         236.74        0.0380
           206.24         237.03        0.0380
           246.34         238.82        0.0380
           263.53         243.87        0.0380
           389.56         247.64        0.0380
           452.58         247.74        0.0380
           498.41         248.60        0.0380
           567.16         249.84        0.0380

        <---------- TRAVEL TIME TABLE ---------->
         DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.37   236.26    .270E+04        0.4         0.58     107.96
         0.75   236.64    .108E+05        2.6         0.92      68.01
         1.48   237.37    .877E+05       27.4         1.17      53.35
         2.20   238.09    .277E+06      122.1         1.65      37.83
         2.93   238.82    .540E+06      299.7         2.08      30.01
         3.66   239.55    .857E+06      587.8         2.57      24.29
         4.39   240.28    .120E+07      977.8         3.04      20.52
         5.11   241.00    .158E+07     1458.1         3.46      18.02
         5.84   241.73    .198E+07     2028.6         3.84      16.23
         6.57   242.46    .240E+07     2690.5         4.19      14.86
         7.29   243.18    .285E+07     3431.8         4.50      13.84
         8.02   243.91    .335E+07     4149.1         4.64      13.44
         8.75   244.64    .393E+07     4746.6         4.51      13.80
         9.47   245.36    .463E+07     5618.6         4.53      13.75
        10.20   246.09    .545E+07     6781.8         4.66      13.39
        10.93   246.82    .635E+07     8274.5         4.87      12.79
        11.66   247.55    .733E+07     9988.0         5.10      12.23
        12.38   248.27    .853E+07    11422.0         5.01      12.45
        13.11   249.00    .989E+07    13749.7         5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     3.97    6.25  21.45      0.79      0.93
     OUTFLOW: ID= 1 (6320)  483.40     3.17    9.00  21.45      0.77      0.92

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8332)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6320):   278.74   2.314    8.00    22.25
     + ID2= 2 (6320):   483.40   3.174    9.00    21.45
       ================================================
       ID = 3 (8332):   762.14   5.391    8.50    21.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0314)  |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   2.028 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  19.819
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.364

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6316)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
```

195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->				<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0314)	165.20	2.03	6.75	19.82	0.56	0.98
OUTFLOW:	ID= 1 (6316)	165.20	1.77	7.75	19.82	0.52	0.93

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 82.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 2.513 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 22.974
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0316):	232.34	2.513	7.25	22.97
+ ID2= 2 (6316):	165.20	1.774	7.75	19.82
ID = 3 (8338):	397.54	4.262	7.50	21.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 80.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 2.884 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 21.475
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 1.987 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 11.840
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.218

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0310) | ID= 1 DT=15.0 min

Area (ha)= 138.28	Curve Number (CN)= 65.0		
Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
U.H. Tp(hrs)= 0.76			

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 1.019 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 12.908
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.237

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	1.987	8.50	11.84
+ ID2= 2 (0310):	138.28	1.019	7.00	12.91
ID = 3 (8342):	667.58	2.871	8.00	12.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

```
                                <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8342)  667.58     2.87    8.00  12.06      0.44      1.78
     OUTFLOW: ID= 1 (6312)  667.58     2.87    8.00  12.06      0.44      1.78


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-------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   2.884     8.00    21.47
       + ID2= 2 (6312):   667.58   2.869     8.00    12.06
         ================================================
         ID = 3 (8340):  1027.02   5.753     8.00    15.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.54   4.262     7.50    21.66
       + ID2= 2 (8340):  1027.02   5.753     8.00    15.36
         ================================================
         ID = 3 (8336):  1424.56   9.969     7.75    17.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.14   5.391     8.50    21.74
       + ID2= 2 (8336):  1424.56   9.969     7.75    17.12
         ================================================
         ID = 3 (8330):  2186.70  15.231     8.00    18.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)     (min)
      0.20   223.86    .145E+04       0.2         0.43     147.27
      0.73   224.39    .159E+05       2.8         0.68      93.11
      1.27   224.93    .561E+05      11.0         0.75      85.19
      1.80   225.46    .217E+06      45.6         0.80      79.20
      2.33   225.99    .566E+06     134.4         0.91      70.20
      2.87   226.53    .122E+07     338.1         1.06      59.97
      3.40   227.06    .206E+07     744.3         1.38      46.16
      3.94   227.60    .298E+07    1295.9         1.66      38.38
      4.47   228.13    .399E+07    1979.9         1.90      33.59
      5.00   228.66    .509E+07    2807.5         2.11      30.21
      5.54   229.20    .627E+07    3815.1         2.32      27.41
      6.07   229.73    .753E+07    4984.1         2.53      25.17
      6.60   230.26    .884E+07    6346.3         2.74      23.20
      7.14   230.80    .102E+08    7861.2         2.95      21.61
      7.67   231.33    .116E+08    9526.4         3.14      20.29
      8.21   231.87    .131E+08   11342.2         3.32      19.18
      8.74   232.40    .146E+08   13309.6         3.49      18.22
      9.27   232.93    .161E+08   15414.0         3.66      17.41
      9.81   233.47    .177E+08   17671.0         3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8330) 2186.70    15.23    8.00  18.73      1.33      0.75
     OUTFLOW: ID= 1 (6324) 2186.70    13.09    9.75  18.73      1.30      0.75


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-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0324):   615.64   3.645     8.75    20.79
       + ID2= 2 (6324):  2186.70  13.089     9.75    18.73
         ================================================
         ID = 3 (8328):  2802.34  16.666     9.75    19.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=   3.366 (i)
    TIME TO PEAK    (hrs)=   8.500
    RUNOFF VOLUME    (mm)=  21.519
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.396

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   3.366     8.50    21.52
       + ID2= 2 (8328):  2802.34  16.666     9.75    19.18
         ================================================
         ID = 3 (8326):  3315.47  19.923     9.50    19.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   4.073     9.00    21.53
       + ID2= 2 (8326):  3315.47  19.923     9.50    19.54
         ================================================
         ID = 3 (8324):  3994.38  23.966     9.50    19.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

```
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.50   218.64    .373E+05        3.2          0.33     192.37
     1.00   219.14    .752E+05       10.1          0.51     124.71
     1.52   219.66    .149E+06       22.2          0.57     112.06
     2.04   220.18    .279E+06       43.4          0.59     107.06
     2.56   220.70    .464E+06       77.0          0.63     100.52
     3.08   221.22    .705E+06      125.7          0.68      93.56
     3.61   221.75    .100E+07      192.7          0.73      86.62
     4.13   222.27    .135E+07      278.1          0.79      80.92
     4.65   222.79    .176E+07      385.9          0.84      75.86
     5.17   223.31    .222E+07      514.9          0.89      71.82
     5.69   223.83    .280E+07      662.7          0.90      70.40
     6.21   224.35    .345E+07      867.7          0.96      66.35
     6.73   224.87    .417E+07     1107.0          1.01      62.81
     7.25   225.39    .494E+07     1400.0          1.08      58.80
     7.78   225.92    .573E+07     1732.2          1.15      55.17
     8.30   226.44    .655E+07     2099.9          1.22      52.02
     8.82   226.96    .740E+07     2502.8          1.29      49.29
     9.34   227.48    .828E+07     2940.9          1.36      46.90
     9.86   228.00    .918E+07     3414.3          1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8324) 3994.38    23.97    9.50  19.88      1.57      0.57
OUTFLOW: ID= 1 (6328) 3994.38    20.57   11.25  19.88      1.45      0.56

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   2.703     8.75    19.40
       + ID2= 2 (6328):  3994.38  20.574    11.25    19.88
         ================================================
         ID = 3 (8320):  4487.30  22.991    11.00    19.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  22.991    11.00    19.83
       + ID2= 2 (8322):   861.74   5.160     9.75    19.93
         ================================================
         ID = 3 (8318):  5349.04  27.883    11.00    19.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  30.768    14.50    15.91
       + ID2= 2 (8318):  5349.04  27.883    11.00    19.84
         ================================================
         ID = 3 (8316): 15408.22  54.401    12.50    17.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   0.655     7.00    10.58
       + ID2= 2 (8316): 15408.22  54.401    12.50    17.28
         ================================================
         ID = 3 (8312): 16028.32  54.930    12.50    17.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  17.031     6.25    23.52
       + ID2= 2 (8312): 16028.32  54.930    12.50    17.02
         ================================================
         ID = 3 (8308): 16627.22  55.984    12.25    17.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
```

```
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------         (cms)     (ha.m.)   |   (cms)     (ha.m.)
                              0.0000     0.0000   |  *******     74.0090
                             66.5450    18.5023   |  *******    ********
                             98.5430    37.0045   |  *******    ********

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     55.984     12.25      17.25
    OUTFLOW: ID= 1 (5510)   ********     55.092     13.25      17.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.41
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.3262

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   1.997    22.25    16.45
       + ID2= 2 (5510): 16627.22  55.092    13.25    17.25
         ================================================
         ID = 3 (8240): 19412.22  56.803    13.25    17.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  24.490    12.25    10.18
       + ID2= 2 (8240): 19412.22  56.803    13.25    17.14
         ================================================
         ID = 3 (8238): 28936.45  80.945    12.75    14.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   2.057    10.25     9.16
       + ID2= 2 (8238): 28936.45  80.945    12.75    14.85
         ================================================
         ID = 3 (8236): 29941.03  82.805    12.75    14.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80   5.262     6.00    15.59
       + ID2= 2 (8236): 29941.03  82.805    12.75    14.66
         ================================================
         ID = 3 (8234): 30226.83  83.076    12.75    14.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   1.873     7.00    10.67
       + ID2= 2 (8234): 30226.83  83.076    12.75    14.67
         ================================================
         ID = 3 (8230): 30570.83  83.630    12.75    14.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06   6.251     8.75     8.85
       + ID2= 2 (8230): 30570.83  83.630    12.75    14.62
         ================================================
         ID = 3 (8228): 32522.89  87.695    12.50    14.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  42.683    12.25    17.78
      + ID2= 2 (8240): 19412.22  88.298    13.50    28.47
        ================================================
        ID = 3 (8238): 28936.45 130.148    12.75    24.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   3.660    10.00    16.26
      + ID2= 2 (8238): 28936.45 130.148    12.75    24.95
        ================================================
        ID = 3 (8236): 29941.03 133.430    12.75    24.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   8.040     6.00    24.37
      + ID2= 2 (8236): 29941.03 133.430    12.75    24.66
        ================================================
        ID = 3 (8234): 30226.83 133.766    12.75    24.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   3.342     7.00    18.72
      + ID2= 2 (8234): 30226.83 133.766    12.75    24.65
        ================================================
        ID = 3 (8230): 30570.83 134.707    12.75    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06  11.133     8.75    15.62
      + ID2= 2 (8230): 30570.83 134.707    12.75    24.59
        ================================================
        ID = 3 (8228): 32522.89 141.797    12.50    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   4.610     8.00    12.58
      + ID2= 2 (8228): 32522.89 141.797    12.50    24.05
        ================================================
        ID = 3 (8190): 33538.11 144.663    12.25    23.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  13 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\f574c8d3
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.57 |  3.25    2.51 |'  6.25   11.29 |  9.25    2.19
               0.50    1.57 |  3.50    2.51 |'  6.50   11.29 |  9.50    2.19
               0.75    1.57 |  3.75    2.51 |'  6.75    5.02 |  9.75    2.19
               1.00    1.57 |  4.00    2.51 |'  7.00    5.02 | 10.00    2.19
               1.25    1.57 |  4.25    3.76 |'  7.25    3.76 | 10.25    1.25
               1.50    1.57 |  4.50    3.76 |'  7.50    3.76 | 10.50    1.25
               1.75    1.57 |  4.75    5.02 |'  7.75    3.76 | 10.75    1.25
               2.00    1.57 |  5.00    5.02 |'  8.00    3.76 | 11.00    1.25
               2.25    1.88 |  5.25    7.52 |'  8.25    2.19 | 11.25    1.25
               2.50    1.88 |  5.50    7.52 |'  8.50    2.19 | 11.50    1.25
               2.75    1.88 |  5.75   30.10 |'  8.75    2.19 | 11.75    1.25
               3.00    1.88 |  6.00   82.76 |'  9.00    2.19 | 12.00    1.25

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   3.392 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   9.295
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.148

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.631 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.749
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.108

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980

    PEAK FLOW       (cms)=   2.453 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.980
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.191

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   6.254

    PEAK FLOW       (cms)=   3.349 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.771
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.315

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   5.831

    PEAK FLOW       (cms)=   1.564 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=   9.910
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.158

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| CALIB              |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   1.632 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=   9.963
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                0.00         287.00        0.0500
               23.66         283.72        0.0500
               70.98         280.94        0.0500
              112.38         280.23        0.0500
              171.52         276.80        0.0500
              260.24         274.46        0.0500
              266.16         274.26        0.0500
              272.07         274.12        0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82        0.0300      Main Channel
              277.99         273.82        0.0300      Main Channel
              279.49         273.82        0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27        0.0500
              289.81         274.57        0.0500
              325.30         275.75        0.0500
              396.28         278.98        0.0500
              449.51         280.97        0.0500
              496.83         283.90        0.0500
              585.54         287.92        0.0500

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   274.12    .273E+04        0.9         0.99      49.81
       0.98   274.80    .583E+05       20.8         1.05      46.71
       1.66   275.48    .203E+06       95.2         1.38      35.53
       2.33   276.15    .438E+06      256.0         1.73      28.50
       3.01   276.83    .755E+06      524.8         2.05      23.97
       3.69   277.51    .114E+07      935.8         2.43      20.26
       4.37   278.19    .157E+07     1472.0         2.76      17.82
       5.05   278.87    .206E+07     2140.7         3.06      16.06
       5.72   279.54    .261E+07     2938.6         3.33      14.79
       6.40   280.22    .321E+07     3887.6         3.57      13.77
       7.08   280.90    .390E+07     4795.4         3.63      13.56
       7.76   281.58    .468E+07     6196.2         3.91      12.58
       8.43   282.25    .550E+07     7803.9         4.19      11.74
       9.11   282.93    .637E+07     9601.9         4.45      11.05
       9.79   283.61    .728E+07    11594.8         4.70      10.46
      10.47   284.29    .823E+07    13845.3         4.96       9.91
      11.15   284.97    .922E+07    16293.4         5.21       9.43
      11.82   285.64    .103E+08    18952.0         5.45       9.02
      12.50   286.32    .113E+08    21824.3         5.69       8.65

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (0348)  590.18     1.63    9.00   9.96      0.32      0.99
    OUTFLOW: ID= 1 (6350)  590.18     1.59   10.25   9.96      0.32      0.99

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0350):   366.84   1.564     7.50      9.91
      + ID2= 2 (6350):   590.18   1.595    10.25      9.96
        ================================================
        ID = 3 (8220):   957.02   2.909     8.75      9.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0346):   350.93   3.349     7.25     19.77
      + ID2= 2 (8220):   957.02   2.909     8.75      9.94
        ================================================
        ID = 3 (8222):  1307.95   6.043     8.00     12.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.60   239.41    .224E+04        2.2         1.52      17.12
       1.58   240.39    .216E+05       22.3         1.61      16.16
       2.55   241.36    .804E+05      101.0         1.96      13.27
       3.53   242.34    .173E+06      275.6         2.48      10.46
       4.50   243.31    .293E+06      553.9         2.95       8.80
       5.48   244.29    .438E+06      961.8         3.42       7.60
       6.45   245.26    .599E+06     1534.4         3.99       6.51
       7.43   246.24    .770E+06     2228.4         4.51       5.76
       8.41   247.22    .951E+06     3043.6         4.98       5.21
       9.38   248.19    .114E+07     3982.1         5.43       4.78
      10.36   249.17    .134E+07     5040.1         5.85       4.44
      11.33   250.14    .155E+07     6218.5         6.24       4.16
      12.31   251.12    .177E+07     7518.6         6.61       3.93
      13.29   252.10    .200E+07     8969.0         6.98       3.72
      14.26   253.07    .224E+07    10554.1         7.35       3.53
      15.24   254.05    .248E+07    12257.1         7.71       3.37
      16.21   255.02    .272E+07    14045.1         8.03       3.23
      17.19   256.00    .298E+07    15954.8         8.34       3.11
      18.16   256.97    .325E+07    17780.4         8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8222) 1307.95     6.04    8.00  12.58      0.79      1.53
    OUTFLOW: ID= 1 (6352) 1307.95     6.00    8.25  12.58      0.78      1.53

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-------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0352):   381.43   2.453     7.00     11.98
      + ID2= 2 (6352):  1307.95   5.998     8.25     12.58
        ================================================
        ID = 3 (8224):  1689.38   8.227     8.00     12.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3541.0) ------>
             Distance      Elevation       Manning
                0.00         253.92        0.0500
                7.95         251.83        0.0500
               15.89         249.97        0.0500
               19.87         249.05        0.0500
               47.68         242.00        0.0500
               67.55         237.10        0.0500
               83.44         231.11        0.0500
               85.43         230.75        0.0500
               85.66         230.61    0.0500 /0.0300  Main Channel
               85.76         230.01        0.0300      Main Channel
               87.41         230.01        0.0300      Main Channel
               88.06         230.01        0.0300      Main Channel
               88.16         230.61    0.0300 /0.0500  Main Channel
```

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              89.40        230.72        0.0500
              91.39        230.88        0.0500
              93.37        231.03        0.0500
             133.11        233.96        0.0500
             150.99        235.39        0.0500
             172.84        239.03        0.0500
             196.68        250.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.60   230.61    .451E+04         1.5          1.06      49.40
        1.62   231.63    .394E+05        14.6          1.16      45.13
        2.64   232.65    .128E+06        58.8          1.44      36.30
        3.66   233.67    .269E+06       149.7          1.74      30.00
        4.68   234.69    .463E+06       301.5          2.04      25.58
        5.70   235.71    .705E+06       530.5          2.36      22.14
        6.72   236.73    .980E+06       848.4          2.71      19.25
        7.74   237.75    .128E+07      1237.9          3.02      17.29
        8.76   238.77    .162E+07      1706.7          3.30      15.83
        9.78   239.79    .199E+07      2291.9          3.61      14.45
       10.81   240.82    .237E+07      2973.7          3.92      13.30
       11.83   241.84    .278E+07      3742.2          4.21      12.38
       12.85   242.86    .321E+07      4599.1          4.49      11.62
       13.87   243.88    .365E+07      5544.6          4.75      10.98
       14.89   244.90    .412E+07      6579.7          5.00      10.44
       15.91   245.92    .461E+07      7705.9          5.23       9.97
       16.93   246.94    .512E+07      8924.6          5.46       9.55
       17.95   247.96    .564E+07     10237.5          5.68       9.19
       18.97   248.98    .619E+07     11646.2          5.89       8.86

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8224) 1689.38     8.23    8.00  12.44      1.12      1.11
     OUTFLOW: ID= 1 (6354) 1689.38     7.67    8.75  12.44      1.08      1.10


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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68   0.631     8.00     6.75
      + ID2= 2 (6354):  1689.38   7.666     8.75    12.44
        ================================================
        ID = 3 (8226):  1952.06   8.283     8.75    11.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  14.035
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        12.93
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     15.44 (ii)   39.69 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.04         3.27          6.356 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     60.70        11.98         18.31
     TOTAL RAINFALL   (mm)=     62.70        62.70         62.70
     RUNOFF COEFFICIENT   =      0.97         0.19          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        18.77
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      9.78 (ii)   30.67 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.10         0.89          2.465 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     60.70        14.21         23.97
     TOTAL RAINFALL   (mm)=     62.70        62.70         62.70
     RUNOFF COEFFICIENT   =      0.97         0.23          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360     1.7877
                         0.1730     0.6348   |   7.2780     2.2185
                         1.8360     0.8250   |   9.1880     2.6486
                         2.1540     1.1051   |   9.5880     2.6586
                         3.3950     1.3506   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      2.465      6.00      23.97
     OUTFLOW: ID= 1 (5340)     51.200      0.624      7.00      23.95

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.34
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.6899

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3402):   234.60   6.356     6.00    18.31
      + ID2= 2 (5340):    51.20   0.624     7.00    23.95
        ================================================
        ID = 3 (8232):   285.80   6.442     6.00    19.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   2.724 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  12.117
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
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|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   2.591 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.102
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.949 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.944
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   2.048 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.505
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   4.625 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.449
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.358

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.759 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  15.043
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.719
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   1.913 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.799
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.617 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   9.274
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.148

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   3.151 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.457
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   1.155 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.322
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   1.155     6.75    12.32
      + ID2= 2 (0366):   462.62   3.151     7.50    15.46
        ================================================
        ID = 3 (8302):   617.89   4.258     7.25    14.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.13        92.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    889.87        40.00
```

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     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        11.12
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.59 (ii)   38.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.71         1.58          2.335 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        10.62         14.63
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.17          0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0358) |   Area     (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   6.228
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0360) |   Area     (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.860 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.151
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   1.174     7.50     6.23
      + ID2= 2 (0360):   138.37   0.860     6.75     9.15
        ================================================
        ID = 3 (8306):   568.24   1.984     7.00     6.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3621.0) ------>
             Distance      Elevation       Manning
                0.00         261.46        0.0550
               27.86         254.23        0.0550
               51.07         251.96        0.0550
               74.29         250.77        0.0550
               97.50         249.91        0.0550
              125.36         249.40        0.0550
              150.93         247.40        0.0550
              155.93         247.33    0.0550 /0.0350  Main Channel
              157.93         246.85        0.0350      Main Channel
              159.18         246.65        0.0350      Main Channel
              160.18         246.63        0.0350      Main Channel
              160.93         246.85        0.0350      Main Channel
              161.93         247.18    0.0350 /0.0550  Main Channel
              163.18         248.03        0.0550
              168.18         248.58        0.0550
              183.18         250.18        0.0550
              201.97         252.59        0.0550
              213.57         256.02        0.0550
              225.18         260.31        0.0550
              229.82         261.00        0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   247.18   .556E+04       1.9          1.03      49.95
       1.28   247.91   .336E+05      16.7          1.53      33.61
       2.00   248.63   .913E+05      53.6          1.81      28.40
       2.73   249.36   .185E+06     122.3          2.05      25.18
       3.46   250.09   .344E+06     224.6          2.02      25.52
       4.19   250.82   .574E+06     417.9          2.25      22.91
       4.91   251.54   .855E+06     699.1          2.53      20.38
       5.64   252.27   .118E+07    1075.3          2.82      18.26
       6.37   253.00   .153E+07    1559.9          3.15      16.38
       7.10   253.73   .191E+07    2137.6          3.46      14.89
       7.82   254.45   .231E+07    2815.2          3.77      13.67
       8.55   255.18   .272E+07    3608.5          4.10      12.58
       9.28   255.91   .315E+07    4488.2          4.41      11.69
      10.01   256.64   .358E+07    5458.0          4.71      10.95
      10.73   257.36   .403E+07    6512.4          4.99      10.32
      11.46   258.09   .449E+07    7649.8          5.27       9.78
      12.19   258.82   .496E+07    8869.5          5.53       9.32
      12.92   259.55   .544E+07   10171.2          5.78       8.91
      13.64   260.27   .593E+07   11554.8          6.02       8.55

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8306)  568.24     1.98    7.00   6.94      0.56      1.03
     OUTFLOW: ID= 1 (6362)  568.24     1.75    8.25   6.94      0.52      1.03

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--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0362):   118.78   2.335     6.00    14.63
      + ID2= 2 (6362):   568.24   1.750     8.25     6.94
        ================================================
        ID = 3 (8304):   687.02   2.882     6.50     8.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8302):   617.89   4.258     7.25    14.67
      + ID2= 2 (8304):   687.02   2.882     6.50     8.27
        ================================================
        ID = 3 (8300):  1304.91   6.844     7.00    11.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation       Manning
                0.00         230.00        0.0370
               18.48         223.26        0.0370
               36.96         223.05        0.0370
               64.67         222.94        0.0370
              110.87         222.86        0.0370
              133.96         222.74        0.0370
              147.82         222.65        0.0370
              170.92         222.31        0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86        0.0300      Main Channel
              175.54         221.86        0.0300      Main Channel
              176.19         221.86        0.0300      Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25        0.0370
              184.78         222.28        0.0370
              189.40         222.31        0.0370
              332.60         222.37        0.0370
              450.00         230.00        0.0370

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   222.26   .771E+03       0.3          0.52      41.74
       0.81   222.67   .784E+05      30.3          0.51      43.17
       1.21   223.07   .210E+06     123.2          0.77      28.42
       1.62   223.48   .384E+06     301.0          1.03      21.25
       2.03   223.89   .563E+06     550.2          1.28      17.06
       2.44   224.30   .747E+06     860.7          1.51      14.46
```

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      2.84   224.70    .934E+06    1228.1          1.73      12.68
      3.25   225.11    .113E+07    1649.3          1.92      11.37
      3.66   225.52    .132E+07    2122.3          2.11      10.37
      4.07   225.93    .152E+07    2645.5          2.29       9.58
      4.47   226.33    .172E+07    3217.8          2.45       8.92
      4.88   226.74    .193E+07    3838.3          2.61       8.38
      5.29   227.15    .214E+07    4506.3          2.76       7.92
      5.70   227.56    .236E+07    5221.3          2.91       7.52
      6.10   227.96    .258E+07    5983.0          3.05       7.17
      6.51   228.37    .280E+07    6790.9          3.19       6.87
      6.92   228.78    .303E+07    7645.0          3.32       6.60
      7.33   229.19    .326E+07    8545.1          3.45       6.35
      7.73   229.59    .349E+07    9491.0          3.57       6.13

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91     6.84    7.00  11.30      0.49      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     6.29    8.25  11.30      0.48      0.52


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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6368):   159.48   0.617     7.75     9.27
      + ID2= 2 (6368):  1304.91   6.294     8.25    11.30
        ================================================
        ID = 3 (8298):  1464.39   6.900     8.00    11.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8370):   191.85   1.913     6.75    15.80
      + ID2= 2 (8298):  1464.39   6.900     8.00    11.08
        ================================================
        ID = 3 (8296):  1656.24   8.479     7.75    11.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
              Distance      Elevation       Manning
                 0.00         225.00        0.0390
                30.80         219.38        0.0390
                61.61         219.30        0.0390
                77.01         219.27        0.0390
               469.76         219.14        0.0390
               477.46         219.13        0.0390
               485.16         219.10        0.0390
               492.86         219.09        0.0390
               495.56         219.09    0.0390 /0.0310  Main Channel
               495.66         218.51        0.0310      Main Channel
               500.56         218.51        0.0310      Main Channel
               505.46         218.51        0.0310      Main Channel
               505.56         219.09    0.0310 /0.0390  Main Channel
               508.26         219.09        0.0390
               515.96         219.10        0.0390
               523.67         219.21        0.0390
               562.17         219.32        0.0390
               654.58         219.43        0.0390
               731.59         219.46        0.0390
               762.39         225.00        0.0390

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   218.80    .431E+04        1.7         0.58      43.48
       0.58   219.09    .867E+04        5.1         0.89      28.32
       0.93   219.44    .200E+06       58.2         0.44      57.35
       1.28   219.79    .568E+06      278.6         0.74      33.99
       1.62   220.13    .939E+06      630.2         1.01      24.84
       1.97   220.48    .131E+07     1090.4         1.25      20.05
       2.32   220.83    .169E+07     1647.7         1.47      17.06
       2.67   221.18    .206E+07     2294.6         1.68      14.99
       3.01   221.52    .244E+07     3025.6         1.87      13.46
       3.36   221.87    .282E+07     3836.5         2.05      12.27
       3.71   222.22    .321E+07     4723.7         2.22      11.31
       4.06   222.57    .359E+07     5684.6         2.39      10.53
       4.40   222.91    .398E+07     6716.6         2.55       9.87
       4.75   223.26    .437E+07     7817.7         2.70       9.31
       5.10   223.61    .476E+07     8986.2         2.85       8.83
       5.45   223.96    .515E+07    10220.4         2.99       8.40
       5.79   224.30    .555E+07    11519.1         3.13       8.03
       6.14   224.65    .594E+07    12880.8         3.27       7.69
       6.49   225.00    .634E+07    14304.5         3.40       7.39

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24     8.48    7.75  11.63      0.60      0.83
     OUTFLOW: ID= 1 (6372) 1656.24     8.21    8.50  11.63      0.60      0.84


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-------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6372):   110.42   0.343     7.25     6.72
      + ID2= 2 (6372):  1656.24   8.215     8.50    11.63
        ================================================
        ID = 3 (8294):  1766.66   8.529     8.50    11.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8374):   545.70   2.759     8.25    15.04
      + ID2= 2 (8294):  1766.66   8.529     8.50    11.32
        ================================================
        ID = 3 (8292):  2312.36  11.277     8.50    12.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     11.277      8.50      12.20
     OUTFLOW: ID= 1 (5505)   2312.360      8.244     11.25      12.20

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.11
                TIME SHIFT OF PEAK FLOW          (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.9877

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8376):   463.85   4.625     7.50    22.45
      + ID2= 2 (5505):  2312.36   8.244    11.25    12.20
        ================================================
        ID = 3 (8272):  2776.21  11.221    10.25    13.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0396) |   Area     (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   2.564 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.201
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0394) |   Area     (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013
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```
     PEAK FLOW      (cms)=   1.838 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  11.632
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW      (cms)=   2.260 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  12.424
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW      (cms)=   1.394 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  13.635
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW      (cms)=   1.798 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  14.947
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.238

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   1.798     7.25    14.95
      + ID2= 2 (0388):   220.77   1.394     7.25    13.64
        ================================================
        ID = 3 (8286):   462.04   3.192     7.25    14.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW      (cms)=   0.803 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=   8.644
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW      (cms)=   0.964 (i)
     TIME TO PEAK   (hrs)=   6.500
     RUNOFF VOLUME   (mm)=   7.404
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW      (cms)=   1.611 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  11.537
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   0.964     6.50     7.40
      + ID2= 2 (0382):   216.59   1.611     6.75    11.54
        ================================================
        ID = 3 (8290):   398.60   2.571     6.75     9.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation        Manning
                 0.00         294.40         0.0380
                10.59         291.93         0.0380
                21.17         289.19         0.0380
                26.46         287.99         0.0380
                31.76         286.79         0.0380
                71.45         279.97         0.0380
                74.10         279.79         0.0380
                76.74         279.71         0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30         0.0300      Main Channel
                79.39         279.30         0.0300      Main Channel
                79.64         279.30         0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78         0.0380
               119.09         281.86         0.0380
               145.55         282.87         0.0380
               198.48         284.85         0.0380
               211.71         286.31         0.0380
               230.23         287.59         0.0380
               261.99         294.00         0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
      0.34    279.64    .715E+03        0.2          0.85       63.42
      1.10    280.40    .507E+05       21.9          1.40       38.54
      1.85    281.15    .141E+06       91.8          2.10       25.69
      2.61    281.91    .269E+06      218.9          2.63       20.46
      3.36    282.66    .445E+06      407.1          2.96       18.23
      4.12    283.42    .681E+06      698.3          3.31       16.26
      4.87    284.17    .977E+06     1111.8          3.68       14.65
      5.63    284.93    .133E+07     1674.3          4.06       13.27
      6.39    285.69    .173E+07     2457.8          4.59       11.73
      7.14    286.44    .215E+07     3378.8          5.07       10.63
      7.90    287.20    .261E+07     4418.4          5.47        9.85
      8.65    287.95    .310E+07     5676.3          5.92        9.11
      9.41    288.71    .361E+07     7150.5          6.40        8.42
     10.17    289.47    .414E+07     8783.1          6.86        7.86
     10.92    290.22    .469E+07    10575.1          7.30        7.38
     11.68    290.98    .525E+07    12520.4          7.72        6.98
     12.43    291.73    .582E+07    14619.0          8.12        6.64
     13.19    292.49    .642E+07    16863.2          8.50        6.34
     13.94    293.24    .703E+07    19259.8          8.86        6.08

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
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```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     2.57    6.75   9.65     0.42      0.89
     OUTFLOW: ID= 1 (6384)  398.60     2.01    8.00   9.65     0.40      0.88


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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.803     7.25     8.64
       + ID2= 2 (6384):   398.60   2.015     8.00     9.65
         ================================================
         ID = 3 (8288):   597.67   2.797     8.00     9.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   3.192     7.25    14.32
       + ID2= 2 (8288):   597.67   2.797     8.00     9.31
         ================================================
         ID = 3 (8284):  1059.71   5.920     7.75    11.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   2.260     7.50    12.42
       + ID2= 2 (8284):  1059.71   5.920     7.75    11.50
         ================================================
         ID = 3 (8280):  1479.71   8.177     7.50    11.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

    Unit Hyd Qpeak  (cms)=   3.837

    PEAK FLOW       (cms)=   1.497 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  15.356
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.245

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

    Unit Hyd Qpeak  (cms)=   8.771

    PEAK FLOW       (cms)=   3.046 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  12.439
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.198

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   3.046     8.00    12.44
       + ID2= 2 (0392):   167.22   1.497     7.00    15.36
         ================================================
         ID = 3 (8282):   773.94   4.443     7.25    13.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71   8.177     7.50    11.76
       + ID2= 2 (8282):   773.94   4.443     7.25    13.07
         ================================================
         ID = 3 (8278):  2253.65  12.619     7.50    12.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <----- DATA FOR SECTION (3941.0) ------>
               Distance      Elevation        Manning
                  0.00         283.00         0.0380
                 13.48         282.87         0.0380
                 53.92         280.08         0.0380
                 74.13         276.62         0.0380
                 97.72         265.45         0.0380
                114.57         256.93         0.0380
                131.42         253.04         0.0380
                134.79         252.58         0.0380
                138.53         251.74    0.0380 /0.0300  Main Channel
                139.03         251.20         0.0300      Main Channel
                141.53         251.20         0.0300      Main Channel
                144.03         251.20         0.0300      Main Channel
                144.53         251.74    0.0300 /0.0380  Main Channel
                148.27         252.69         0.0380
                151.64         252.97         0.0380
                185.34         255.08         0.0380
                219.03         257.54         0.0380
                262.84         259.43         0.0380
                310.02         262.80         0.0380
                333.60         283.00         0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54    251.74   .827E+04        4.5         1.51       30.71
       2.19    253.39   .758E+05       73.2         2.69       17.27
       3.83    255.03   .282E+06      331.8         3.27       14.17
       5.48    256.68   .633E+06      917.3         4.03       11.51
       7.12    258.32   .112E+07     1889.5         4.69        9.90
       8.77    259.97   .179E+07     3410.2         5.31        8.73
      10.41    261.61   .259E+07     5627.6         6.05        7.66
      12.06    263.26   .351E+07     8605.1         6.83        6.79
      13.70    264.90   .447E+07    12544.9         7.81        5.94
      15.35    266.55   .546E+07    17101.4         8.71        5.32
      16.99    268.19   .648E+07    22251.7         9.56        4.85
      18.64    269.84   .752E+07    27979.0        10.36        4.48
      20.28    271.48   .858E+07    34269.0        11.11        4.17
      21.93    273.13   .967E+07    41110.8        11.83        3.92
      23.57    274.77   .108E+08    48495.9        12.51        3.71
      25.22    276.42   .119E+08    56418.1        13.17        3.52
      26.86    278.06   .131E+08    64410.6        13.69        3.39
      28.51    279.71   .143E+08    73002.1        14.18        3.27
      30.15    281.35   .156E+08    81379.3        14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65    12.62    7.50  12.21      0.73      1.59
     OUTFLOW: ID= 1 (6394) 2253.65    12.25    8.25  12.21      0.73      1.59


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-------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   1.838     7.25    11.63
       + ID2= 2 (6394):  2253.65  12.251     8.25    12.21
         ================================================
         ID = 3 (8276):  2579.10  13.996     8.00    12.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3961.0) ------>
               Distance      Elevation        Manning
                  0.00         263.00         0.0410
                 11.75         257.14         0.0410
                 23.50         253.97         0.0410
                 41.13         247.83         0.0410
                 76.38         232.09         0.0410
                135.13         229.07         0.0410
                149.82         228.97         0.0410
                152.75         228.96    0.0410 /0.0300  Main Channel
```

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                154.19        228.73        0.0300      Main Channel
                154.69        228.20        0.0300      Main Channel
                155.69        228.20        0.0300      Main Channel
                156.69        228.20        0.0300      Main Channel
                157.19        228.73        0.0300      Main Channel
                158.63        228.95    0.0300 /0.0410  Main Channel
                161.57        228.96        0.0410
                164.51        229.71        0.0410
                196.82        241.70        0.0410
                223.26        249.21        0.0410
                246.76        255.13        0.0410
                290.82        263.51        0.0410

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.75    228.95   .780E+04        2.2         0.98      58.06
        2.54    230.74   .277E+06      145.1         1.78      31.76
        4.33    232.53   .786E+06      609.1         2.63      21.50
        6.13    234.33   .140E+07     1481.5         3.59      15.77
        7.92    236.12   .207E+07     2677.3         4.39      12.90
        9.71    237.91   .280E+07     4184.8         5.09      11.14
       11.50    239.70   .357E+07     6001.4         5.71       9.93
       13.29    241.49   .441E+07     8129.1         6.27       9.03
       15.09    243.29   .530E+07    10549.4         6.77       8.37
       16.88    245.08   .625E+07    13300.6         7.24       7.83
       18.67    246.87   .726E+07    16396.2         7.68       7.38
       20.46    248.66   .834E+07    19809.8         8.07       7.02
       22.26    250.46   .949E+07    23532.5         8.43       6.72
       24.05    252.25   .107E+08    27641.2         8.77       6.46
       25.84    254.04   .120E+08    32155.2         9.10       6.22
       27.63    255.83   .134E+08    36901.0         9.37       6.05
       29.42    257.62   .149E+08    42147.7         9.64       5.88
       31.22    259.42   .164E+08    48149.1         9.97       5.68
       33.01    261.21   .181E+08    54644.8        10.29       5.51

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    14.00    8.00  12.14      0.90      1.01
    OUTFLOW: ID= 1 (6396) 2579.10    12.65    9.25  12.14      0.88      1.01


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   2.564     7.50    19.20
      + ID2= 2 (6396):  2579.10  12.651     9.25    12.14
        ================================================
        ID = 3 (8274):  2884.31  14.864     9.00    12.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  11.221    10.25    13.91
      + ID2= 2 (8274):  2884.31  14.864     9.00    12.88
        ================================================
        ID = 3 (8270):  5660.52  25.641     9.25    13.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  60.8810    135.6832
                       31.1490    24.6697    |  96.2770    900.4431
                       36.8120    37.0045    |  96.6770    900.4531
                       45.3070    86.3439    |   0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520    25.641     9.25      13.39
    OUTFLOW: ID= 1 (5506)   5660.520    21.225    11.75      13.39

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.78
               TIME SHIFT OF PEAK FLOW         (min)=150.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 16.8111

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-------------------
| CALIB           |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.735 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.263
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.084 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.573
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.593 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.988
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.902 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  11.008
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.154 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.370
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   2.154     7.00    12.37
      + ID2= 2 (0400):    93.97   0.902     6.50    11.01
        ================================================
        ID = 3 (8268):   422.16   2.966     6.75    12.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
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| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <----- DATA FOR SECTION (4021.0) ----->
               Distance     Elevation      Manning
                  0.00        238.50       0.0360
                 11.50        238.00       0.0360
                 23.00        237.93       0.0360
                 34.49        236.39       0.0360
                 63.24        233.98       0.0360
                 97.73        228.15       0.0360
                123.60        227.08       0.0360
                126.48        226.61       0.0360
                127.60        226.47    0.0360 /0.0330  Main Channel
                127.85        225.25       0.0330       Main Channel
                129.35        225.25       0.0330       Main Channel
                130.85        225.25       0.0330       Main Channel
                131.10        226.47    0.0330 /0.0360  Main Channel
                132.22        226.59       0.0360
                143.72        227.42       0.0360
                169.59        227.88       0.0360
                192.59        231.19       0.0360
                218.46        233.02       0.0360
                241.45        235.50       0.0360
                284.57        236.43       0.0360

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
        0.41   225.66    .391E+04         1.7          1.36       38.31
        0.81   226.06    .804E+04         5.0          1.93       27.02
        1.22   226.47    .124E+05         9.1          2.30       22.61
        1.84   227.09    .308E+05        23.3          2.36       22.03
        2.46   227.71    .904E+05        62.0          2.14       24.31
        3.09   228.34    .223E+06       188.3          2.63       19.75
        3.71   228.96    .379E+06       410.2          3.38       15.39
        4.33   229.58    .550E+06       711.5          4.04       12.89
        4.95   230.20    .737E+06      1091.3          4.62       11.25
        5.58   230.83    .939E+06      1550.6          5.15       10.10
        6.20   231.45    .116E+07      2072.4          5.59        9.31
        6.82   232.07    .140E+07      2659.2          5.93        8.77
        7.44   232.69    .167E+07      3345.8          6.27        8.30
        8.07   233.32    .195E+07      4159.0          6.64        7.83
        8.69   233.94    .226E+07      5100.8          7.03        7.39
        9.31   234.56    .259E+07      6081.3          7.32        7.11
        9.93   235.18    .295E+07      7183.1          7.60        6.84
       10.56   235.81    .334E+07      8145.2          7.62        6.83
       11.18   236.43    .379E+07      9116.0          7.51        6.92

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8268)  422.16     2.97    6.75  12.07      0.56      1.53
    OUTFLOW: ID= 1 (6402)  422.16     2.70    7.50  12.07      0.53      1.49


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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   1.593     7.50    14.99
       + ID2= 2 (6402):   422.16   2.701     7.50    12.07
         ================================================
         ID = 3 (8266):   666.16   4.294     7.50    13.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.084     7.50     9.57
       + ID2= 2 (8266):   666.16   4.294     7.50    13.14
         ================================================
         ID = 3 (8264):   912.62   5.378     7.50    12.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   1.735     6.75    17.26
       + ID2= 2 (8264):   912.62   5.378     7.50    12.17
         ================================================
         ID = 3 (8262):  1055.27   6.905     7.25    12.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52  21.225    11.75    13.39
       + ID2= 2 (8262):  1055.27   6.905     7.25    12.86
         ================================================
         ID = 3 (8260):  6715.79  24.324    11.25    13.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   2.048     6.75    13.51
       + ID2= 2 (8260):  6715.79  24.324    11.25    13.31
         ================================================
         ID = 3 (8258):  6947.41  24.951    11.00    13.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   1.949     8.25     9.94
       + ID2= 2 (8258):  6947.41  24.951    11.00    13.31
         ================================================
         ID = 3 (8256):  7519.42  26.526    11.00    13.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     26.526     11.00      13.06
    OUTFLOW: ID= 1 (5507)   7519.421     25.968     11.75      13.06

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.89
               TIME SHIFT OF PEAK FLOW          (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  8.0848

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| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   1.097 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.603
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.185

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   1.335 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  16.442
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.262

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   2.770 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.482
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   1.557 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.975
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.73         27.97
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    539.75         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     82.76         24.71
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.33 (ii)    28.04 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.47          1.34        2.298 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     60.70         20.49         27.32
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.33          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720     1.9177
                         0.3820     0.3152   |   3.8720     1.9277
                         1.8280     0.4690   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700      2.298      6.00      27.32
     OUTFLOW: ID= 1 (5414)     43.700      1.248      6.50      27.32

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.31
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4093

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-------------------
| CALIB             |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     82.76         19.43
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     13.35 (ii)    33.95 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.53          3.58        4.256 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=     60.70         18.51         22.73
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.30          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4142):   144.30   4.256     6.50    22.73
        + ID2= 2 (5414):    43.70   1.248     6.50    27.32
          ================================================
          ID = 3 (8254):   188.00   5.504     6.50    23.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0412):   238.70   1.557     7.00    11.98
        + ID2= 2 (8254):   188.00   5.504     6.50    23.79
          ================================================
          ID = 3 (8252):   426.70   6.962     6.50    17.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (4161.0) ------>
                Distance      Elevation       Manning
                   0.00         270.07        0.0340
                  20.67         267.91        0.0340
                  62.01         264.33        0.0340
                 113.69         259.75        0.0340
                 165.37         253.30        0.0340
                 227.38         246.29        0.0340
                 232.55         246.03        0.0340
                 237.72         246.16        0.0340
                 241.39         246.02    0.0340 /0.0300  Main Channel
                 241.64         245.75        0.0300      Main Channel
                 242.89         245.75        0.0300      Main Channel
                 244.14         245.75        0.0300      Main Channel
                 244.39         246.02    0.0300 /0.0340  Main Channel
                 248.06         246.20        0.0340
                 253.22         246.28        0.0340
                 258.39         246.63        0.0340
                 346.25         252.57        0.0340
                 413.43         257.77        0.0340
                 465.11         261.78        0.0340
                 511.62         270.00        0.0340

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.27    246.02    .295E+04         0.6          0.75       80.26
       1.53    247.28    .168E+06        69.7          1.65       40.13
       2.79    248.54    .490E+06       299.5          2.42       27.28
       4.06    249.81    .962E+06       740.1          3.05       21.67
       5.32    251.07    .158E+07      1440.0          3.61       18.33
       6.58    252.33    .235E+07      2443.8          4.12       16.06
       7.84    253.59    .327E+07      3811.2          4.63       14.30
       9.10    254.85    .432E+07      5565.1          5.11       12.94
      10.37    256.12    .550E+07      7721.3          5.57       11.88
      11.63    257.38    .682E+07     10309.9          6.00       11.02
      12.89    258.64    .827E+07     13360.6          6.42       10.31
      14.15    259.90    .985E+07     16884.5          6.81        9.72
      15.42    261.17    .116E+08     20818.4          7.14        9.26
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      16.68   262.43    .134E+08   25510.4          7.53       8.78
      17.94   263.69    .154E+08   30958.0          7.97       8.30
      19.20   264.95    .175E+08   36988.3          8.38       7.89
      20.46   266.21    .197E+08   43617.1          8.78       7.53
      21.73   267.48    .220E+08   50868.1          9.17       7.22
      22.99   268.74    .244E+08   58854.0          9.56       6.92

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.70     6.96    6.50  17.18      0.39      0.79
     OUTFLOW: ID= 1 (6416)  426.70     3.67    7.50  17.18      0.33      0.77


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| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30   2.770     8.00    16.48
      + ID2= 2 (6416):   426.70   3.675     7.50    17.18
        ================================================
        ID = 3 (8250):   866.00   6.400     7.50    16.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79   1.335     7.50    16.44
      + ID2= 2 (8250):   866.00   6.400     7.50    16.83
        ================================================
        ID = 3 (8248):  1048.79   7.735     7.50    16.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82   1.097     7.00    11.60
      + ID2= 2 (8248):  1048.79   7.735     7.50    16.76
        ================================================
        ID = 3 (8246):  1224.61   8.801     7.50    16.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42  25.968    11.75    13.06
      + ID2= 2 (8246):  1224.61   8.801     7.50    16.02
        ================================================
        ID = 3 (8244):  8744.03  30.680    11.00    13.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   2.591     9.25    12.10
      + ID2= 2 (8244):  8744.03  30.680    11.00    13.47
        ================================================
        ID = 3 (8242):  9524.23  33.097    11.00    13.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    197.3574
                         76.4550    30.8371   |  *******    394.7148
                         *******    61.6742   |  *******    394.7248
                         *******    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)  9524.231   33.097    11.00      13.36
     OUTFLOW: ID= 1 (5508)  9524.231   32.116    12.25      13.36

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.04
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 12.9573

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   2.580 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  21.246
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.339

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58       331.32
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=     1872.43        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       56.43        44.05
               over (min)         30.00        45.00
     Storage Coeff.  (min)=       22.93 (ii)   37.78 (ii)
     Unit Hyd. Tpeak (min)=       30.00        45.00
     Unit Hyd. peak  (cms)=        0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       10.37        13.64        20.457 (iii)
     TIME TO PEAK    (hrs)=        6.25         6.50         6.25
     RUNOFF VOLUME    (mm)=       60.70        21.93        28.52
     TOTAL RAINFALL   (mm)=       62.70        62.70        62.70
     RUNOFF COEFFICIENT   =        0.97         0.35         0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       35.77        37.23
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=      697.61        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       82.76        55.73
               over (min)         15.00        30.00
     Storage Coeff.  (min)=       10.88 (ii)   24.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00        30.00
     Unit Hyd. peak  (cms)=        0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=        3.17         2.65         4.845 (iii)
     TIME TO PEAK    (hrs)=        6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=       60.70        24.15        32.56
     TOTAL RAINFALL   (mm)=       62.70        62.70        62.70
     RUNOFF COEFFICIENT   =        0.97         0.39         0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3350      1.2400
```

```
                        0.3230     0.3074   |   4.3560      1.3520
                        0.9360     0.5374   |   5.3290      1.4590
                        1.7590     0.8302   |   5.7290      1.4690
                        2.4110     1.0550   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     4.845      6.00      32.56
     OUTFLOW: ID= 1 (5338)     73.000     1.996      6.75      32.55

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.19
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9240

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| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  20.457     6.25    28.52
      + ID2= 2 (5338):    73.00   1.996     6.75    32.55
        ================================================
        ID = 3 (8310):   598.90  22.328     6.50    29.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.616 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  12.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83          16.17
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length             (m)=     469.04          40.00
     Mannings n            =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          19.84
           over (min)            15.00          30.00
     Storage Coeff.  (min)=       8.58 (ii)     29.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.09           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.07           0.61       2.446 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70          15.50      29.51
     TOTAL RAINFALL   (mm)=      62.70          62.70      62.70
     RUNOFF COEFFICIENT   =       0.97           0.25       0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  52.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  0.6540      0.4604
                        0.0390     0.1699    |  0.8330      0.5249
                        0.1860     0.2610    |  1.0130      0.5896
                        0.3750     0.3534    |  1.4130      0.5996
                        0.4340     0.3813    |  0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     2.446      6.00      29.51
     OUTFLOW: ID= 1 (5334)     33.000     0.677      6.75      29.48

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.69

                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4746

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.616    15.25    12.94
      + ID2= 2 (5334):    33.00   0.677     6.75    29.48
        ================================================
        ID = 3 (8314):   620.10   0.893     6.75    13.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.331 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  11.388
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.182

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   3.462 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  31.127
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.496

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   3.907 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.782
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.836 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  30.659
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.489

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   3.907     8.00    24.78
      + ID2= 2 (0284):    78.93   1.836     6.50    30.66
        ================================================
        ID = 3 (8388):   528.31   5.316     7.25    25.66
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6286)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2861.0) ------>

Distance	Elevation	Manning	
0.00	233.00	0.0450	
20.58	228.51	0.0450	
41.17	227.74	0.0450	
51.46	227.41	0.0450	
97.77	225.96	0.0450	
149.23	223.94	0.0450	
200.69	220.84	0.0450	
226.42	220.66	0.0450	
238.85	220.22	0.0450	
241.35	220.01	0.0450 /0.0350	Main Channel
241.85	219.70	0.0350	Main Channel
245.85	219.72	0.0350	Main Channel
246.35	220.06	0.0350	Main Channel
248.85	220.23	0.0350	Main Channel
303.60	221.64	0.0350	Main Channel
380.79	224.98	0.0450	
432.25	229.54	0.0450	
457.98	233.33	0.0450	
483.71	234.27	0.0450	
509.44	233.81	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	220.01	.382E+04	0.8	0.57	82.89
1.06	220.76	.525E+05	12.1	0.66	72.51
1.81	221.51	.240E+06	88.6	1.05	45.21
2.56	222.26	.510E+06	261.7	1.46	32.47
3.31	223.01	.843E+06	533.8	1.81	26.34
4.06	223.76	.124E+07	913.6	2.10	22.64
4.81	224.51	.171E+07	1399.0	2.34	20.33
5.56	225.26	.225E+07	2051.0	2.60	18.27
6.31	226.01	.285E+07	2907.0	2.91	16.35
7.06	226.76	.352E+07	3902.5	3.16	15.04
7.82	227.52	.426E+07	5069.9	3.39	14.01
8.57	228.27	.507E+07	6433.0	3.62	13.13
9.32	229.02	.593E+07	8069.2	3.89	12.24
10.07	229.77	.681E+07	9926.7	4.16	11.44
10.82	230.52	.772E+07	11962.8	4.42	10.75
11.57	231.27	.864E+07	14167.1	4.68	10.17
12.32	232.02	.959E+07	16537.1	4.92	9.66
13.07	232.77	.105E+08	19070.7	5.16	9.22
13.82	233.52	.115E+08	21790.4	5.39	8.82

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8388)	528.31	5.32	7.25	25.66	0.61	0.60
OUTFLOW:	ID= 1 (6286)	528.31	4.49	9.00	25.66	0.56	0.60

ADD HYD (8386)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0286):	260.51	3.462	7.50	31.13
+ ID2= 2 (6286):	528.31	4.493	9.00	25.66
ID = 3 (8386):	788.82	7.643	8.50	27.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0302) ID= 1 DT=15.0 min

Area (ha)= 473.90 Curve Number (CN)= 58.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.66

Unit Hyd Qpeak (cms)= 4.874

PEAK FLOW (cms)= 2.024 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 13.712
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.219

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0300) ID= 1 DT=15.0 min

Area (ha)= 258.93 Curve Number (CN)= 52.0
Ia (mm)= 4.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.03

Unit Hyd Qpeak (cms)= 4.292

PEAK FLOW (cms)= 1.347 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 11.639
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0298) ID= 1 DT=15.0 min

Area (ha)= 330.51 Curve Number (CN)= 45.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.26

Unit Hyd Qpeak (cms)= 4.461

PEAK FLOW (cms)= 1.133 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 8.978
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.143

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8395)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0298):	330.51	1.133	8.00	8.98
+ ID2= 2 (0300):	258.93	1.347	7.50	11.64
ID = 3 (8395):	589.44	2.465	7.75	10.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0288) ID= 1 DT=15.0 min

Area (ha)= 340.83 Curve Number (CN)= 78.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.21

Unit Hyd Qpeak (cms)= 2.629

PEAK FLOW (cms)= 2.210 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 25.660
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0290) ID= 1 DT=15.0 min

Area (ha)= 269.18 Curve Number (CN)= 78.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.07

Unit Hyd Qpeak (cms)= 4.279

PEAK FLOW (cms)= 3.070 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 25.504
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8397)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0288):	340.83	2.210	9.50	25.66
+ ID2= 2 (0290):	269.18	3.070	7.50	25.50
ID = 3 (8397):	610.01	5.105	8.00	25.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0296) ID= 1 DT=15.0 min

Area (ha)= 293.65 Curve Number (CN)= 76.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.13

```
     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.009 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0292) |   Area     (ha)= 738.49   Curve Number    (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   4.648 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  18.682
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0294) |   Area     (ha)= 274.15   Curve Number    (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   1.843 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  13.187
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0292):   738.49   4.648     8.25    18.68
     + ID2= 2 (0294):   274.15   1.843     7.00    13.19
       ================================================
       ID = 3 (8398):  1012.64   6.373     8.00    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12    0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400      Main Channel
              250.37         231.80        0.0400      Main Channel
              250.87         232.23        0.0400      Main Channel
              251.97         233.10    0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   232.23    .510E+03       0.1         0.53      81.07
      0.87   232.67    .213E+04       0.7         0.83      51.49
      1.30   233.10    .501E+04       2.2         1.10      38.75
      1.98   233.78    .242E+05      12.6         1.34      31.93
      2.66   234.46    .738E+05      42.1         1.46      29.21
      3.34   235.14    .177E+06     127.9         1.84      23.13
      4.02   235.82    .314E+06     281.4         2.29      18.61
      4.70   236.50    .481E+06     509.4         2.71      15.73
      5.38   237.18    .672E+06     815.6         3.11      13.73
      6.06   237.86    .886E+06    1200.7         3.46      12.30
      6.74   238.54    .112E+07    1669.4         3.80      11.23
      7.42   239.22    .139E+07    2226.9         4.11      10.38
      8.10   239.90    .168E+07    2808.4         4.28       9.95
      8.78   240.58    .202E+07    3470.4         4.40       9.68
      9.46   241.26    .240E+07    4331.7         4.61       9.24
     10.14   241.94    .283E+07    5335.2         4.83       8.84
     10.82   242.62    .330E+07    6482.6         5.03       8.48
     11.50   243.30    .381E+07    7764.1         5.21       8.18
     12.18   243.98    .439E+07    9101.2         5.31       8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                                     AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     6.37    8.00  17.19      1.57      1.18
     OUTFLOW: ID= 1 (6296) 1012.64     6.16    8.50  17.19      1.56      1.18

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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0296):   293.65   3.009     7.50    23.94
     + ID2= 2 (6296):  1012.64   6.164     8.50    17.19
       ================================================
       ID = 3 (8396):  1306.29   9.032     8.25    18.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8396):  1306.29   9.032     8.25    18.71
     + ID2= 2 (8397):   610.01   5.105     8.00    25.59
       ================================================
       ID = 3 (8394):  1916.30  14.100     8.25    20.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8394):  1916.30  14.100     8.25    20.90
     + ID2= 2 (8395):   589.44   2.465     7.75    10.15
       ================================================
       ID = 3 (8392):  2505.74  16.538     8.00    18.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
              272.47         222.88        0.0400
              277.09         222.76        0.0400
              281.71         222.58        0.0400
              288.54         222.18    0.0400 /0.0300  Main Channel
              288.64         221.00        0.0300      Main Channel
              290.94         221.00        0.0300      Main Channel
              291.04         221.00        0.0300      Main Channel
              291.54         222.75    0.0300 /0.0400  Main Channel
              300.18         222.83        0.0400
              304.80         223.04        0.0400
              309.42         223.25        0.0400
              318.65         223.69        0.0400
              360.22         225.57        0.0400
              397.16         227.60        0.0400
              457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   221.29    .228E+04       0.2         0.32     165.63
      0.59   221.59    .465E+04       0.7         0.45     116.15
      0.88   221.88    .713E+04       1.2         0.54      96.87
      1.18   222.18    .971E+04       1.9         0.61      86.20
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      1.57   222.57    .175E+05       3.3          0.59      88.86
      1.97   222.97    .427E+05       6.4          0.47     111.39
      2.36   223.36    .115E+06      16.1          0.44     119.14
      2.76   223.76    .237E+06      37.1          0.49     106.49
      3.15   224.15    .409E+06      72.9          0.56      93.40
      3.55   224.55    .631E+06     127.0          0.63      82.76
      3.94   224.94    .903E+06     202.4          0.70      74.37
      4.34   225.34    .123E+07     301.8          0.77      67.68
      4.73   225.73    .160E+07     433.5          0.85      61.37
      5.13   226.13    .200E+07     602.2          0.95      55.29
      5.52   226.52    .242E+07     804.7          1.05      50.13
      5.92   226.92    .286E+07    1034.2          1.14      46.11
      6.31   227.31    .332E+07    1290.5          1.22      42.88
      6.71   227.71    .380E+07    1560.9          1.29      40.55
      7.10   228.10    .432E+07    1835.6          1.34      39.19

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    16.54    8.00  18.37      2.37      0.44
     OUTFLOW: ID= 1 (6302) 2505.74    13.15   10.50  18.37      2.24      0.45


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| ADD HYD   (8390) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   2.024     8.50    13.71
       + ID2= 2 (6302):  2505.74  13.148    10.50    18.37
         ================================================
         ID = 3 (8390):  2979.64  15.009    10.25    17.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8348) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   7.643     8.50    27.47
       + ID2= 2 (8390):  2979.64  15.009    10.25    17.63
         ================================================
         ID = 3 (8348):  3768.46  21.986     9.75    19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.987 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  16.057
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   4.745 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.462

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   4.873 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.184
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.465

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.552 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.101
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.416

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   4.016 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.174
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.370

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   4.016     7.50    23.17
       + ID2= 2 (0276):    90.89   1.552     6.75    26.10
         ================================================
         ID = 3 (8360):   483.38   5.470     7.25    23.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   4.873     8.00    29.18
       + ID2= 2 (8360):   483.38   5.470     7.25    23.72
         ================================================
         ID = 3 (8358):   968.87  10.143     7.50    26.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (2801.0) ------>
                 Distance      Elevation        Manning
                    0.00         241.14         0.0500
                   13.32         240.80         0.0500
                   39.95         240.07         0.0500
                   96.54         236.21         0.0500
                  113.19         234.15         0.0500
                  123.18         232.35         0.0500
                  143.15         225.80         0.0500
                  149.81         225.62         0.0500
                  153.14         225.40         0.0500
                  157.30         224.76    0.0500 /0.0300  Main Channel
                  159.80         224.26         0.0300      Main Channel
                  162.30         224.85         0.0300      Main Channel
                  162.55         224.97    0.0300 /0.0500  Main Channel
                  167.80         225.05         0.0500
                  186.43         229.14         0.0500
                  213.06         234.75         0.0500
                  236.37         237.09         0.0500
                  266.33         237.31         0.0500
                  292.96         237.83         0.0500
                  329.58         241.50         0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.50	224.76	.263E+04	0.8	0.65	58.31
1.36	225.62	.278E+05	13.4	1.10	34.54
2.22	226.48	.855E+05	52.6	1.40	27.09
3.09	227.35	.157E+06	120.4	1.74	21.78
3.95	228.21	.242E+06	216.3	2.04	18.64
4.81	229.07	.340E+06	341.8	2.29	16.56
5.67	229.93	.450E+06	498.3	2.52	15.06
6.53	230.79	.574E+06	688.3	2.73	13.90
7.40	231.66	.711E+06	913.8	2.93	12.97
8.26	232.52	.861E+06	1173.4	3.11	12.23
9.12	233.38	.103E+07	1461.3	3.24	11.72
9.98	234.24	.121E+07	1793.3	3.37	11.26
10.85	235.11	.142E+07	2141.0	3.45	11.02
11.71	235.97	.165E+07	2530.4	3.50	10.86
12.57	236.83	.192E+07	2954.0	3.51	10.81
13.43	237.69	.226E+07	3160.3	3.18	11.93
14.29	238.55	.271E+07	3869.4	3.26	11.67
15.16	239.42	.320E+07	4740.3	3.38	11.24
16.02	240.28	.373E+07	5688.4	3.48	10.92

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8358)	968.87	10.14	7.50	26.46	1.14	0.93
OUTFLOW: ID= 1 (6280)	968.87	9.72	8.25	26.46	1.11	0.92

ADD HYD (8354)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0280):	299.86	4.745	7.00	28.96
	+ ID2= 2 (6280):	968.87	9.721	8.25	26.46
	ID = 3 (8354):	1268.73	13.898	8.00	27.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0272)	Area (ha)= 157.38	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.09		

Unit Hyd Qpeak (cms)= 2.456

PEAK FLOW (cms)= 1.599 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 23.176
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.370

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0270)	Area (ha)= 243.61	Curve Number (CN)= 81.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 0.87		

Unit Hyd Qpeak (cms)= 3.429

PEAK FLOW (cms)= 2.706 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 28.005
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.447

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0268)	Area (ha)= 215.76	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 0.69		

Unit Hyd Qpeak (cms)= 3.807

PEAK FLOW (cms)= 2.333 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 22.965
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0264)	Area (ha)= 353.96	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.30		

Unit Hyd Qpeak (cms)= 3.313

PEAK FLOW (cms)= 1.927 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 19.223
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.307

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0266)	Area (ha)= 508.09	Curve Number (CN)= 64.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.63		

Unit Hyd Qpeak (cms)= 3.786

PEAK FLOW (cms)= 1.975 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 16.500
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.263

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8380)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0264):	353.96	1.927	8.25	19.22
	+ ID2= 2 (0266):	508.09	1.975	9.25	16.50
	ID = 3 (8380):	862.05	3.882	8.50	17.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning	
0.00	274.03	0.0500	
10.55	272.73	0.0500	
21.10	271.28	0.0500	
50.12	266.83	0.0500	
87.04	260.36	0.0500	
92.32	260.06	0.0500	
94.95	259.93	0.0500	
101.00	256.87	0.0500	
103.00	256.58	0.0500 /0.0350	Main Channel
104.00	256.32	0.0350	Main Channel
106.00	256.05	0.0350	Main Channel
108.00	256.25	0.0350	Main Channel
110.78	256.65	0.0350 /0.0500	Main Channel
113.42	256.81	0.0500	
116.06	257.00	0.0500	
155.62	260.24	0.0500	
187.27	263.35	0.0500	
211.01	267.22	0.0500	
224.20	269.60	0.0500	
261.13	272.68	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

```
                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     3.88    8.50  17.62      0.59      1.00
     OUTFLOW: ID= 1 (6268)  862.05     3.78   10.00  17.62      0.59      1.00


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| ADD HYD   (8382) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   2.333    7.00     22.96
      + ID2= 2 (6268):   862.05   3.775   10.00     17.62
        ================================================
        ID = 3 (8382):  1077.81   5.511    8.75     18.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2701.0) ------>
             Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.45   234.34   .217E+04         0.7         0.99      52.83
       0.98   234.87   .966E+04         4.6         1.49      35.20
       1.50   235.39   .250E+05        13.7         1.73      30.41
       2.03   235.92   .475E+05        29.5         1.95      26.87
       2.56   236.45   .772E+05        52.5         2.14      24.50
       3.09   236.98   .142E+06        82.4         1.83      28.73
       3.61   237.50   .246E+06       158.1         2.03      25.91
       4.14   238.03   .357E+06       262.0         2.31      22.73
       4.67   238.56   .477E+06       392.1         2.59      20.27
       5.20   239.09   .604E+06       547.8         2.86      18.38
       5.72   239.61   .739E+06       720.2         3.11      16.90
       6.25   240.14   .882E+06       936.5         3.34      15.70
       6.78   240.67   .103E+07      1169.7         3.57      14.72
       7.31   241.20   .119E+07      1425.9         3.77      13.94
       7.83   241.72   .136E+07      1710.4         3.96      13.26
       8.36   242.25   .154E+07      1967.9         4.02      13.07
       8.89   242.78   .174E+07      2264.9         4.09      12.83
       9.42   243.31   .196E+07      2589.3         4.15      12.65
       9.94   243.83   .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     5.51    8.75  18.69      1.03      1.51
     OUTFLOW: ID= 1 (6270) 1077.81     5.44    9.50  18.69      1.03      1.51


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| ADD HYD   (8384) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   2.706    7.25     28.01
      + ID2= 2 (6270):  1077.81   5.436    9.50     18.69
        ================================================
        ID = 3 (8384):  1321.42   7.795    8.75     20.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   3.472 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  29.023
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.463

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   3.926 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.117
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   1.492 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  26.347
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   2.368 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  21.720
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.887 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.019
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------  U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.477 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.430
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6256)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2561.0) ------>

Distance	Elevation	Manning	
0.00	276.07	0.0400	
11.68	273.71	0.0400	
23.36	271.35	0.0400	
29.19	270.30	0.0400	
35.03	269.44	0.0400	
55.47	267.90	0.0400	
78.82	266.24	0.0400	
90.50	265.63	0.0400	
102.18	265.40	0.0400	
105.10	264.95	0.0400 /0.0350	Main Channel
108.02	264.39	0.0350	Main Channel
110.94	264.72	0.0350	Main Channel
113.86	265.19	0.0350 /0.0400	Main Channel
116.78	265.49	0.0400	
143.05	268.24	0.0400	
172.25	270.53	0.0400	
207.28	271.95	0.0400	
233.55	273.72	0.0400	
256.91	274.98	0.0400	
289.02	275.97	0.0400	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	264.95	.723E+04	1.9	0.90	62.51
1.14	265.53	.307E+05	13.5	1.49	37.92
1.72	266.11	.951E+05	48.6	1.73	32.62
2.30	266.69	.191E+06	117.8	2.09	27.03
2.88	267.27	.314E+06	225.2	2.43	23.24
3.46	267.85	.464E+06	375.5	2.74	20.59
4.04	268.43	.641E+06	573.2	3.03	18.62
4.62	269.01	.846E+06	821.9	3.29	17.15
5.20	269.59	.108E+07	1135.0	3.56	15.87
5.78	270.17	.134E+07	1525.1	3.86	14.64
6.36	270.75	.162E+07	1971.1	4.12	13.71
6.94	271.33	.194E+07	2474.0	4.33	13.04
7.52	271.91	.228E+07	3065.0	4.55	12.42
8.10	272.49	.266E+07	3773.4	4.80	11.75
8.68	273.07	.306E+07	4566.3	5.05	11.17
9.26	273.65	.348E+07	5443.7	5.30	10.66
9.84	274.23	.393E+07	6389.6	5.51	10.25
10.42	274.81	.440E+07	7426.2	5.72	9.88
11.00	275.39	.490E+07	8490.1	5.86	9.63

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0254)	403.00	1.48	8.25	12.43	0.43	0.90
OUTFLOW:	ID= 1 (6256)	403.00	1.39	10.00	12.43	0.40	0.90

ADD HYD (8370)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	145.79	0.887	8.00	18.02
+ ID2= 2 (6256):	403.00	1.392	10.00	12.43
ID = 3 (8370):	548.79	2.197	9.25	13.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0250)	Area (ha)= 192.88 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.22

Unit Hyd Qpeak (cms)= 1.930

PEAK FLOW (cms)= 1.144 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 19.816
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.316

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0246)	Area (ha)= 759.61 Curve Number (CN)= 55.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.81

Unit Hyd Qpeak (cms)= 5.121

PEAK FLOW (cms)= 2.071 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 12.474
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.199

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0248)	Area (ha)= 146.04 Curve Number (CN)= 64.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 0.78

Unit Hyd Qpeak (cms)= 2.271

PEAK FLOW (cms)= 0.994 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 16.345
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0246):	759.61	2.071	10.00	12.47
+ ID2= 2 (0248):	146.04	0.994	7.25	16.34
ID = 3 (8364):	905.65	2.933	8.25	13.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.9	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	2.93	8.25	13.10	0.81	0.75
OUTFLOW: ID= 1 (6250)	905.65	2.72	10.50	13.10	0.79	0.75

ADD HYD (8366)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):	192.88	1.144	8.00	19.82
+ ID2= 2 (6250):	905.65	2.724	10.50	13.10
ID = 3 (8366):	1098.53	3.765	10.00	14.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):	1098.53	3.765	10.00	14.28
+ ID2= 2 (8370):	548.79	2.197	9.25	13.91
ID = 3 (8368):	1647.32	5.937	9.75	14.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	319.09	2.368	8.00	21.72
+ ID2= 2 (8368):	1647.32	5.937	9.75	14.16
ID = 3 (8372):	1967.31	8.081	9.25	15.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	8.08	9.25	15.39	0.65	0.86
OUTFLOW: ID= 1 (6258)	1967.31	7.36	11.25	15.39	0.63	0.87

ADD HYD (8374)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):	181.90	1.492	8.00	26.35
+ ID2= 2 (6258):	1967.31	7.363	11.25	15.39
ID = 3 (8374):	2149.30	8.558	11.00	16.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):	476.24	3.926	8.00	29.12
+ ID2= 2 (8374):	2149.30	8.558	11.00	16.31
ID = 3 (8376):	2625.54	12.057	10.25	18.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):	341.31	3.472	7.75	29.02
+ ID2= 2 (8376):	2625.54	12.057	10.25	18.64
ID = 3 (8378):	2966.85	14.956	10.00	19.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8378):	2966.85	14.956	10.00	19.83
+ ID2= 2 (8384):	1321.42	7.795	8.75	20.41
ID = 3 (8362):	4288.27	22.550	9.50	20.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61

2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8362)	4288.27	22.55	9.50	20.01	1.64	0.88
OUTFLOW: ID= 1 (6272)	4288.27	22.22	10.25	20.01	1.63	0.88

ADD HYD (8356)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0272):	157.38	1.599	7.50	23.18
+ ID2= 2 (6272):	4288.27	22.221	10.25	20.01
ID = 3 (8356):	4445.65	23.386	10.00	20.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8354):	1268.73	13.898	8.00	27.05
+ ID2= 2 (8356):	4445.65	23.386	10.00	20.12
ID = 3 (8352):	5714.38	35.368	9.00	21.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304) — IN= 2 ---> OUT= 1 — Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (3041.0) -------->

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.90	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	229.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43
2.56	220.93	.708E+06	109.5	0.58	107.67
3.25	221.62	.118E+07	224.3	0.71	87.36
3.94	222.31	.168E+07	376.5	0.84	74.48
4.63	223.00	.222E+07	567.9	0.96	65.26
5.32	223.69	.279E+07	794.7	1.07	58.58
6.02	224.39	.339E+07	1056.2	1.17	53.52
6.71	225.08	.402E+07	1352.4	1.26	49.52
7.40	225.77	.468E+07	1677.3	1.34	46.46
8.09	226.46	.536E+07	2050.0	1.43	43.58
8.79	227.16	.607E+07	2457.9	1.52	41.14
9.48	227.85	.680E+07	2901.0	1.60	39.05
10.17	228.54	.755E+07	3352.7	1.66	37.53
10.86	229.23	.834E+07	3812.5	1.71	36.48
11.55	229.92	.919E+07	4241.8	1.73	36.13
12.25	230.62	.101E+08	4697.0	1.74	35.93
12.94	231.31	.111E+08	5186.3	1.74	35.83

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8352)	5714.38	35.37	9.00	21.66	1.74	0.47
OUTFLOW: ID= 1 (6304)	5714.38	29.22	11.50	21.66	1.60	0.46

ADD HYD (8350)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0304):	292.37	0.987	10.50	16.06
+ ID2= 2 (6304):	5714.38	29.219	11.50	21.66
ID = 3 (8350):	6006.75	30.190	11.50	21.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8346)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8348):	3768.46	21.986	9.75	19.69
+ ID2= 2 (8350):	6006.75	30.190	11.50	21.39
ID = 3 (8346):	9775.21	50.996	10.75	20.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8344)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	283.97	0.331	13.75	11.39
+ ID2= 2 (8346):	9775.21	50.996	10.75	20.73
ID = 3 (8344):	10059.18	51.294	10.75	20.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5509) — IN= 2 ---> OUT= 1 — DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	370.0451
41.0590	56.7403	*******	863.4386
48.1390	86.3439	*******	********
56.6340	*******	*******	********
67.9600	*******	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8344)	********	51.294	10.75	20.47
OUTFLOW: ID= 1 (5509)	********	39.479	14.50	20.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 76.97
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 54.5767

CALIB — NASHYD (0332) — ID= 1 DT=15.0 min

Area (ha)= 393.44 Curve Number (CN)= 75.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.32

Unit Hyd Qpeak (cms)= 2.894

PEAK FLOW (cms)= 2.232 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 23.317
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.372

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB — NASHYD (0330) — ID= 1 DT=15.0 min

Area (ha)= 468.30 Curve Number (CN)= 80.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.09

```
     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   5.661 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.223
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (3321.0) ------>
               Distance      Elevation        Manning
                   0.00         234.00         0.0380
                  25.85         227.20         0.0380
                  96.94         226.44         0.0380
                 168.03         227.38         0.0380
                 219.73         225.62         0.0380
                 342.52         221.57         0.0380
                 368.37         221.42         0.0380
                 374.83         221.23         0.0380
                 379.79         220.98    0.0380 /0.0300  Main Channel
                 380.29         220.47       0.0300       Main Channel
                 381.29         220.47       0.0300       Main Channel
                 382.79         220.47       0.0300       Main Channel
                 383.29         220.98    0.0300 /0.0380  Main Channel
                 394.22         221.22         0.0380
                 400.68         221.33         0.0380
                 407.14         221.44         0.0380
                 491.16         225.70         0.0380
                 568.71         227.55         0.0380
                 607.49         230.14         0.0380
                 639.80         234.08         0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.51    220.98    .554E+04         0.9          0.56      107.27
       1.20    221.67    .885E+05        12.1          0.49      122.32
       1.88    222.35    .309E+06        64.7          0.76       79.70
       2.57    223.04    .615E+06       165.4          0.97       61.99
       3.25    223.72    .101E+07       322.1          1.16       52.06
       3.94    224.41    .148E+07       542.9          1.33       45.51
       4.62    225.09    .204E+07       835.4          1.48       40.77
       5.31    225.78    .269E+07      1202.8          1.62       37.27
       5.99    226.46    .344E+07      1618.0          1.70       35.46
       6.68    227.15    .447E+07      1932.0          1.56       38.56
       7.36    227.83    .580E+07      2763.9          1.72       34.96
       8.05    228.52    .718E+07      3861.9          1.95       30.97
       8.73    229.20    .859E+07      5115.4          2.16       27.98
       9.42    229.89    .100E+08      6519.2          2.35       25.64
      10.10    230.57    .115E+08      8092.3          2.55       23.69
      10.79    231.26    .130E+08      9821.5          2.73       22.05
      11.47    231.94    .145E+08     11690.0          2.92       20.68
      12.16    232.63    .160E+08     13694.9          3.09       19.52
      12.84    233.31    .176E+08     15833.9          3.26       18.52

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     5.66    7.50  27.22      0.80      0.53
     OUTFLOW: ID= 1 (6332)  468.30     4.35    9.75  27.22      0.72      0.54


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   2.232     9.75    23.32
      + ID2= 2 (6332):   468.30   4.351     9.75    27.22
        ================================================
        ID = 3 (8322):   861.74   6.582     9.75    25.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   3.474 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  24.828
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   5.199 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  27.366
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.436

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   4.663 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  26.483
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   2.949 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.204
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   4.075 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  25.594
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06          4.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     416.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         23.72
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.98 (ii)    27.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.34          0.23          4.484 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         24.93         53.90
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
```

```
     RUNOFF COEFFICIENT   =       0.97         0.40           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |   3.3800     0.7654
                          0.0510    0.4423   |   4.1500     0.8231
                          0.8700    0.5378   |   4.8750     0.8778
                          1.9590    0.6105   |   5.2750     0.8878
                          2.5620    0.6796   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000     4.484      6.00      53.90
     OUTFLOW: ID= 1 (5318)     26.000     2.420      6.25      53.82

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.97
                    TIME SHIFT OF PEAK FLOW       (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7068

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40   4.075     8.00    25.59
       + ID2= 2 (5318):    26.00   2.420     6.25    53.82
         ==========================================
         ID = 3 (8334):   483.40   5.021     6.25    27.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                0.00         249.00        0.0380
               22.92         245.86        0.0380
               45.83         244.87        0.0380
               91.66         243.11        0.0380
              126.03         239.53        0.0380
              160.41         237.17        0.0380
              166.14         237.06        0.0380
              177.59         237.13        0.0380
              183.32         237.20        0.0380
              189.05         236.70    0.0380 /0.0350  Main Channel
              193.05         235.89        0.0350      Main Channel
              197.05         236.64    0.0350 /0.0380  Main Channel
              200.51         236.74        0.0380
              206.24         237.03        0.0380
              246.34         238.82        0.0380
              263.53         243.87        0.0380
              389.56         247.64        0.0380
              452.58         247.74        0.0380
              498.41         248.60        0.0380
              567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
      0.37   236.26    .270E+04         0.4        0.58     107.96
      0.75   236.64    .108E+05         2.6        0.92      68.01
      1.48   237.37    .877E+05        27.4        1.17      53.35
      2.20   238.09    .277E+06       122.1        1.65      37.83
      2.93   238.82    .540E+06       299.7        2.08      30.01
      3.66   239.55    .857E+06       587.8        2.57      24.29
      4.39   240.28    .120E+07       977.8        3.04      20.52
      5.11   241.00    .158E+07      1458.1        3.46      18.02
      5.84   241.73    .198E+07      2028.6        3.84      16.23
      6.57   242.46    .240E+07      2690.5        4.19      14.86
      7.29   243.18    .285E+07      3431.8        4.50      13.84
      8.02   243.91    .335E+07      4149.1        4.64      13.44
      8.75   244.64    .393E+07      4746.6        4.51      13.80
      9.47   245.36    .463E+07      5618.6        4.53      13.75
     10.20   246.09    .545E+07      6781.8        4.66      13.39
     10.93   246.82    .635E+07      8274.5        4.87      12.79
     11.66   247.55    .733E+07      9988.0        5.10      12.23
     12.38   248.27    .853E+07     11422.0        5.01      12.45
     13.11   249.00    .989E+07     13749.7        5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                                (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     5.02     6.25   27.11      0.82      0.94
     OUTFLOW: ID= 1 (6320)  483.40     4.04     9.00   27.11      0.79      0.93

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0320):   278.74   2.949     8.00    28.20
       + ID2= 2 (6320):   483.40   4.039     9.00    27.11
         ==========================================
         ID = 3 (8332):   762.14   6.855     8.50    27.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0314) |   Area     (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

    Unit Hyd Qpeak  (cms)=   3.978

    PEAK FLOW       (cms)=   2.616 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  25.303
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.404

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                0.00         248.54        0.0350
               27.93         248.34        0.0350
               41.89         246.61        0.0350
               62.83         243.09        0.0350
              132.65         239.00        0.0350
              188.50         236.74        0.0350
              195.48         236.54        0.0350
              202.46         236.32        0.0350
              205.48         236.14    0.0350 /0.0310  Main Channel
              205.98         235.61        0.0310      Main Channel
              207.98         235.25        0.0310      Main Channel
              209.98         235.53        0.0310      Main Channel
              210.48         236.00    0.0310 /0.0350  Main Channel
              216.42         236.73        0.0350
              258.31         239.09        0.0350
              328.12         239.84        0.0350
              439.83         241.47        0.0350
              530.58         242.08        0.0350
              586.43         242.93        0.0350
              691.16         248.00        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
      0.37   235.62    .215E+04         0.7        0.77      53.88
      0.75   236.00    .634E+04         3.5        1.36      30.45
      1.46   236.71    .297E+05        19.3        1.62      25.66
      2.16   237.41    .103E+06        75.8        1.84      22.60
      2.87   238.12    .229E+06       202.8        2.21      18.79
      3.57   238.82    .407E+06       423.3        2.59      16.03
      4.28   239.53    .654E+06       727.7        2.77      14.97
      4.99   240.24    .103E+07      1242.0        3.01      13.76
      5.69   240.94    .151E+07      2002.3        3.31      12.54
      6.40   241.65    .210E+07      2987.9        3.55      11.70
      7.10   242.35    .286E+07      4302.8        3.75      11.07
      7.81   243.06    .374E+07      6165.3        4.10      10.11
      8.51   243.76    .468E+07      8642.4        4.60       9.03
      9.22   244.47    .565E+07     11496.3        5.06       8.20
      9.93   245.18    .666E+07     14714.1        5.50       7.54
     10.63   245.88    .770E+07     18290.3        5.91       7.02
     11.34   246.59    .877E+07     22221.9        6.30       6.58
     12.04   247.29    .988E+07     26464.4        6.67       6.22
     12.75   248.00    .110E+08     31061.3        7.01       5.91

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                                (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0314)  165.20     2.62     6.75   25.30      0.64      1.10
     OUTFLOW: ID= 1 (6316)  165.20     2.35     7.50   25.30      0.60      1.04
```

```
--------------------
| CALIB            |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.923

     PEAK FLOW       (cms)=   3.203 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  29.050
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.463

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0316):   232.34   3.203     7.25    29.05
      + ID2= 2 (6316):   165.20   2.347     7.50    25.30
        ================================================
        ID = 3 (8338):   397.54   5.531     7.50    27.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   3.684 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  27.291
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   2.615 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  15.525
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   1.342 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.858
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   2.615     8.50    15.53
      + ID2= 2 (0310):   138.28   1.342     7.00    16.86
        ================================================
        ID = 3 (8342):   667.58   3.777     8.00    15.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3121.0) ------>
               Distance      Elevation       Manning
                  0.00         265.94        0.0360
                 38.07         265.43        0.0360
                 59.82         263.98        0.0360
                103.32         254.59        0.0360
                157.70         252.16        0.0360
                217.52         250.45        0.0360
                233.84         247.69        0.0360
                234.71         247.27        0.0360
                239.71         246.38        0.0360
                244.71         246.12    0.0360 /0.0330  Main Channel
                247.71         245.17        0.0330      Main Channel
                249.71         245.19        0.0330      Main Channel
                251.71         245.64    0.0330 /0.0360  Main Channel
                259.71         246.67        0.0360
                282.78         247.12        0.0360
                315.41         251.60        0.0360
                424.17         256.13        0.0360
                478.55         257.04        0.0360
                516.62         259.37        0.0360
                538.37         266.00        0.0360

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.47  245.64   .111E+04        3.1          1.78       6.07
       1.54  246.71   .103E+05       53.9          3.39       3.19
       2.61  247.78   .414E+05      281.3          4.40       2.45
       3.68  248.85   .839E+05      749.1          5.79       1.87
       4.74  249.91   .136E+06     1463.2          6.97       1.55
       5.81  250.98   .201E+06     2354.8          7.61       1.42
       6.88  252.05   .295E+06     3533.0          7.76       1.39
       7.95  253.12   .427E+06     5303.9          8.05       1.34
       9.02  254.19   .594E+06     7856.5          8.58       1.26
      10.09  255.26   .792E+06    11449.2          9.37       1.15
      11.15  256.32   .101E+07    15862.4         10.15       1.06
      12.22  257.39   .127E+07    21074.5         10.75       1.01
      13.29  258.46   .155E+07    28184.1         11.78       0.92
      14.36  259.53   .185E+07    36386.2         12.77       0.85
      15.43  260.60   .215E+07    46110.6         13.89       0.78
      16.50  261.67   .246E+07    56822.5         14.95       0.72
      17.56  262.73   .278E+07    68498.1         15.97       0.68
      18.63  263.80   .310E+07    81118.8         16.94       0.64
      19.70  264.87   .344E+07    93603.2         17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8342)  667.58     3.78    8.00  15.80      0.49      1.79
    OUTFLOW: ID= 1 (6312)  667.58     3.78    8.00  15.80      0.49      1.79
```

```
--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   3.684     8.00    27.29
      + ID2= 2 (6312):   667.58   3.776     8.00    15.80
        ================================================
        ID = 3 (8340):  1027.02   7.460     8.00    19.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   5.531     7.50    27.49
      + ID2= 2 (8340):  1027.02   7.460     8.00    19.82
        ================================================
        ID = 3 (8336):  1424.56  12.900     7.75    21.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   6.855     8.50    27.51
      + ID2= 2 (8336):  1424.56  12.900     7.75    21.96
        ================================================
        ID = 3 (8330):  2186.70  19.539     8.00    23.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.86   .145E+04        0.2         0.43     147.27
       0.73   224.39   .159E+05        2.8         0.68      93.11
       1.27   224.93   .561E+05       11.0         0.75      85.19
       1.80   225.46   .217E+06       45.6         0.80      79.20
       2.33   225.99   .566E+06      134.4         0.91      70.20
       2.87   226.53   .122E+07      338.1         1.06      59.97
       3.40   227.06   .206E+07      744.3         1.38      46.16
       3.94   227.60   .298E+07     1295.9         1.66      38.38
       4.47   228.13   .399E+07     1979.9         1.90      33.59
       5.00   228.66   .509E+07     2807.5         2.11      30.21
       5.54   229.20   .627E+07     3815.1         2.32      27.41
       6.07   229.73   .753E+07     4984.1         2.53      25.17
       6.60   230.26   .884E+07     6346.3         2.74      23.20
       7.14   230.80   .102E+08     7861.2         2.95      21.61
       7.67   231.33   .116E+08     9526.4         3.14      20.29
       8.21   231.87   .131E+08    11342.2         3.32      19.18
       8.74   232.40   .146E+08    13309.6         3.49      18.22
       9.27   232.93   .161E+08    15414.0         3.66      17.41
       9.81   233.47   .177E+08    17671.0         3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.70    19.54    8.00  23.90      1.40      0.76
    OUTFLOW: ID= 1 (6324) 2186.70    16.78    9.75  23.90      1.35      0.76


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--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6324):   615.64   4.663     8.75     26.48
      + ID2= 2 (6324):  2186.70  16.778     9.75     23.90
        ================================================
        ID = 3 (8328):  2802.34  21.348     9.50     24.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW      (cms)=   4.298 (i)
    TIME TO PEAK   (hrs)=   8.500
    RUNOFF VOLUME   (mm)=  27.347
    TOTAL RAINFALL  (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.436

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   4.298     8.50     27.35
      + ID2= 2 (8328):  2802.34  21.348     9.50     24.46
        ================================================
        ID = 3 (8326):  3315.47  25.514     9.50     24.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   5.199     8.75     27.37
      + ID2= 2 (8326):  3315.47  25.514     9.50     24.91
        ================================================
        ID = 3 (8324):  3994.38  30.661     9.50     25.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   218.64   .373E+05        3.2         0.33     192.37
       1.00   219.14   .752E+05       10.1         0.51     124.71
       1.52   219.66   .149E+06       22.2         0.57     112.06
       2.04   220.18   .279E+06       43.4         0.59     107.06
       2.56   220.70   .464E+06       77.0         0.63     100.52
       3.08   221.22   .705E+06      125.7         0.68      93.56
       3.61   221.75   .100E+07      192.7         0.73      86.62
       4.13   222.27   .135E+07      278.1         0.79      80.92
       4.65   222.79   .176E+07      385.9         0.84      75.86
       5.17   223.31   .222E+07      514.9         0.89      71.82
       5.69   223.83   .280E+07      662.7         0.90      70.40
       6.21   224.35   .345E+07      867.7         0.96      66.35
       6.73   224.87   .417E+07     1107.0         1.01      62.81
       7.25   225.39   .494E+07     1400.0         1.08      58.80
       7.78   225.92   .573E+07     1732.2         1.15      55.17
       8.30   226.44   .655E+07     2099.9         1.22      52.02
       8.82   226.96   .740E+07     2502.8         1.29      49.29
       9.34   227.48   .828E+07     2940.9         1.36      46.90
       9.86   228.00   .918E+07     3414.3         1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.38    30.66    9.50  25.33      1.73      0.58
    OUTFLOW: ID= 1 (6328) 3994.38    26.24   11.25  25.33      1.62      0.57


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--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0328):   492.92   3.474     8.75     24.83
      + ID2= 2 (6328):  3994.38  26.237    11.25     25.33
        ================================================
        ID = 3 (8320):  4487.30  29.349    11.00     25.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8318) |
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```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  29.340    11.00    25.27
      + ID2= 2 (8322):   861.74   6.582     9.75    25.44
        ================================================
        ID = 3 (8318):  5349.04  35.607    10.75    25.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  39.479    14.50    20.47
      + ID2= 2 (8318):  5349.04  35.607    10.75    25.30
        ================================================
        ID = 3 (8316): 15408.22  70.146    12.75    22.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   0.893     6.75    13.82
      + ID2= 2 (8316): 15408.22  70.146    12.75    22.15
        ================================================
        ID = 3 (8312): 16028.32  70.826    12.75    21.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90  22.328     6.50    29.01
      + ID2= 2 (8312): 16028.32  70.826    12.75    21.82
        ================================================
        ID = 3 (8308): 16627.22  71.998    12.25    22.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |    (cms)     (ha.m.)
                        0.0000     0.0000    |  *******     74.0090
                        66.5450    18.5023   |  *******    ********
                        98.5430    37.0045   |  *******    ********

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     71.998     12.25      22.08
    OUTFLOW: ID= 1 (5510)   ********     69.834     13.50      22.08

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.99
               TIME SHIFT OF PEAK FLOW         (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 20.4048

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| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   2.580    22.25    21.25
      + ID2= 2 (5510): 16627.22  69.834    13.50    22.08
        ================================================
        ID = 3 (8240): 19412.22  72.075    13.50    21.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  32.116    12.25    13.36
      + ID2= 2 (8240): 19412.22  72.075    13.50    21.97
        ================================================
        ID = 3 (8238): 28936.45 103.371    13.00    19.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   2.724    10.25    12.12
      + ID2= 2 (8238): 28936.45 103.371    13.00    19.13
        ================================================
        ID = 3 (8236): 29941.03 105.769    13.00    18.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   6.442     6.00    19.32
      + ID2= 2 (8236): 29941.03 105.769    13.00    18.90
        ================================================
        ID = 3 (8234): 30226.83 106.051    12.75    18.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   2.485     7.00    14.04
      + ID2= 2 (8234): 30226.83 106.051    12.75    18.90
        ================================================
        ID = 3 (8230): 30570.83 106.769    12.75    18.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06   8.283     8.75    11.68
      + ID2= 2 (8230): 30570.83 106.769    12.75    18.85
        ================================================
        ID = 3 (8228): 32522.89 112.061    12.50    18.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   3.392     8.00     9.30
      + ID2= 2 (8228): 32522.89 112.061    12.50    18.42
        ================================================
        ID = 3 (8190): 33538.11 114.186    12.25    18.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8324) 3994.38    46.68    9.25  38.24      2.09      0.60
     OUTFLOW: ID= 1 (6328) 3994.38    39.91   11.00  38.24      1.96      0.59


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-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   5.314     8.75    37.73
       + ID2= 2 (6328):  3994.38  39.913    11.00    38.24
         ================================================
         ID = 3 (8320):  4487.30  44.685    10.75    38.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  44.685    10.75    38.18
       + ID2= 2 (8322):   861.74   9.928     9.50    38.51
         ================================================
         ID = 3 (8318):  5349.04  54.210    10.75    38.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  50.565    15.50    31.46
       + ID2= 2 (8318):  5349.04  54.210    10.75    38.23
         ================================================
         ID = 3 (8316): 15408.22  97.899    11.75    33.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   1.884     6.50    21.94
       + ID2= 2 (8316): 15408.22  97.899    11.75    33.81
         ================================================
         ID = 3 (8312): 16028.32  98.974    11.75    33.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  33.223     6.50    41.92
       + ID2= 2 (8312): 16028.32  98.974    11.75    33.35
         ================================================
         ID = 3 (8308): 16627.22 101.128    11.50    33.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000    0.0000    |  *******     74.0090
                        66.5450   18.5023   |  *******    ********
                        98.5430   37.0045   |  *******    ********

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8308)  ********    101.128     11.50      33.66
     OUTFLOW: ID= 1 (5510)  ********     96.575     13.25      33.66

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.50
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 35.8687

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   3.992    22.25    32.86
       + ID2= 2 (5510): 16627.22  96.575    13.25    33.66
         ================================================
         ID = 3 (8240): 19412.22 100.014    13.25    33.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  50.303    12.00    21.33
       + ID2= 2 (8240): 19412.22 100.014    13.25    33.55
         ================================================
         ID = 3 (8238): 28936.45 149.326    12.75    29.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   4.420    10.00    19.62
       + ID2= 2 (8238): 28936.45 149.326    12.75    29.53
         ================================================
         ID = 3 (8236): 29941.03 153.277    12.75    29.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80   9.337     6.50    28.35
       + ID2= 2 (8236): 29941.03 153.277    12.75    29.20
         ================================================
         ID = 3 (8234): 30226.83 153.639    12.75    29.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.034     7.00    22.48
       + ID2= 2 (8234): 30226.83 153.639    12.75    29.19
         ================================================
         ID = 3 (8230): 30570.83 154.850    12.50    29.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  13.442     8.75    18.81
       + ID2= 2 (8230): 30570.83 154.850    12.50    29.11
         ================================================
         ID = 3 (8228): 32522.89 163.469    12.25    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   5.609     8.00    15.27
       + ID2= 2 (8228): 32522.89 163.469    12.25    28.09
         ================================================
         ID = 3 (8190): 33538.11 166.987    12.25    28.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:  12 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
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| | 3e280798-92ee-4282-809c-79f5caed0add\73a1f747
| Ptotal= 73.10 mm | Comments: 25-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	1.83	3.25	2.92	6.25	13.16	9.25	2.56
0.50	1.83	3.50	2.92	6.50	13.16	9.50	2.56
0.75	1.83	3.75	2.92	6.75	5.85	9.75	2.56
1.00	1.83	4.00	2.92	7.00	5.85	10.00	2.56
1.25	1.83	4.25	4.39	7.25	4.39	10.25	1.46
1.50	1.83	4.50	4.39	7.50	4.39	10.50	1.46
1.75	1.83	4.75	5.85	7.75	4.39	10.75	1.46
2.00	1.83	5.00	5.85	8.00	4.39	11.00	1.46
2.25	2.19	5.25	8.77	8.25	2.56	11.25	1.46
2.50	2.19	5.50	8.77	8.50	2.56	11.50	1.46
2.75	2.19	5.75	35.09	8.75	2.56	11.75	1.46
3.00	2.19	6.00	96.49	9.00	2.56	12.00	1.46

CALIB	
NASHYD (0356)	Area (ha)=1015.22 Curve Number (CN)= 46.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 12.651

PEAK FLOW (cms)= 4.610 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 12.581
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.172

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0354)	Area (ha)= 262.68 Curve Number (CN)= 37.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 3.252

PEAK FLOW (cms)= 0.864 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.206
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.126

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0352)	Area (ha)= 381.43 Curve Number (CN)= 54.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 7.980

PEAK FLOW (cms)= 3.316 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 16.078
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.220

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0346)	Area (ha)= 350.93 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.96

Unit Hyd Qpeak (cms)= 6.254

PEAK FLOW (cms)= 4.425 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 25.923
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0350)	Area (ha)= 366.84 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.07

Unit Hyd Qpeak (cms)= 5.831

PEAK FLOW (cms)= 2.124 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 13.386
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.183

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0348)	Area (ha)= 590.18 Curve Number (CN)= 48.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 5.267

PEAK FLOW (cms)= 2.211 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 13.458
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.184

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6350)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3501.0) ------>

Distance	Elevation	Manning	
0.00	287.00	0.0500	
23.66	283.72	0.0500	
70.98	280.94	0.0500	
112.38	280.23	0.0500	
171.52	276.80	0.0500	
260.24	274.46	0.0500	
266.16	274.26	0.0500	
272.07	274.12	0.0500	
276.49	274.12	0.0500 /0.0300	Main Channel
276.99	273.82	0.0300	Main Channel
277.99	273.82	0.0300	Main Channel
279.49	273.82	0.0300	Main Channel
280.49	274.27	0.0300 /0.0500	Main Channel
283.90	274.27	0.0500	
289.81	274.57	0.0500	
325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	2.21	9.00	13.46	0.34	0.99
OUTFLOW: ID= 1 (6350)	590.18	2.16	10.25	13.46	0.34	0.99

ADD HYD (8220)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0350):	366.84	2.124	7.50	13.39	
+ ID2= 2 (6350):	590.18	2.158	10.25	13.46	
ID = 3 (8220):	957.02	3.943	8.75	13.43	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0346):		350.03	4.425	7.25	25.92
+ ID2= 2 (8220):		957.02	3.943	8.75	13.43
ID = 3 (8222):		1307.95	8.070	8.00	16.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning	
0.00	257.95	0.0500	
7.83	257.34	0.0500	
15.66	256.19	0.0500	
21.53	254.01	0.0500	
41.11	244.06	0.0500	
76.35	241.38	0.0500	
111.58	239.74	0.0500	
113.54	239.61	0.0500	
113.75	239.41	0.0500 /0.0300	Main Channel
113.85	238.81	0.0300	Main Channel
115.50	238.81	0.0300	Main Channel
116.15	238.81	0.0300	Main Channel
116.25	239.41	0.0300	Main Channel
117.46	239.52	0.0500	
119.41	239.72	0.0500	
121.37	240.04	0.0500	
131.16	241.84	0.0500	
156.61	247.03	0.0500	
176.19	251.46	0.0500	
193.80	258.79	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	8.07	8.00	16.78	0.89	1.54
OUTFLOW: ID= 1 (6352)	1307.95	8.01	8.25	16.78	0.88	1.54

ADD HYD (8224)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0352):		381.43	3.316	7.00	16.08
+ ID2= 2 (6352):		1307.95	8.013	8.25	16.78
ID = 3 (8224):		1689.38	11.017	7.75	16.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning
0.00	253.92	0.0500
7.95	251.83	0.0500
15.89	249.97	0.0500
19.87	249.05	0.0500
47.68	242.00	0.0500
67.55	237.10	0.0500
83.44	231.11	0.0500
85.43	230.75	0.0500
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	11.02	7.75	16.62	1.34	1.13
OUTFLOW: ID= 1 (6354)	1689.38	10.29	8.75	16.62	1.28	1.12

ADD HYD (8226)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0354):		262.68	0.864	8.00	9.21
+ ID2= 2 (6354):		1689.38	10.290	8.75	16.62
ID = 3 (8226):		1952.06	11.133	8.75	15.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0344)	Area	(ha)= 344.00	Curve Number (CN)= 59.0
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	0.87	

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 3.342 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 18.719
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (3402)	Area	(ha)= 234.60	
ID= 1 DT=15.0 min	Total Imp(%)=	28.00	Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.69	168.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1250.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	17.46
over (min)		15.00	45.00
Storage Coeff. (min)=		14.53 (ii)	36.03 (ii)

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     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.04         4.65          7.929 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10        16.03          23.19
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.22           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.55        27.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     584.24        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        25.11
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.20 (ii)   27.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.49         1.35          3.325 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        18.84          29.81
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.26           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360      1.7877
                         0.1730     0.6348   |   7.2780      2.2185
                         1.8360     0.8250   |   9.1880      2.6486
                         2.1540     1.1051   |   9.5880      2.6586
                         3.3950     1.3506   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200      3.325      6.00      29.81
     OUTFLOW: ID= 1 (5340)     51.200      1.201      6.75      29.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.13
                   TIME SHIFT OF PEAK FLOW       (min)= 45.00
                   MAXIMUM  STORAGE   USED      (ha.m.)=  0.7607

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| ADD HYD   (8232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   234.60   7.929     6.00     23.19
       + ID2= 2 (5340):    51.20   1.201     6.75     29.79
         ================================================
         ID = 3 (8232):   285.80   8.040     6.00     24.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   3.660 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  16.262
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   3.488 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.241
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   2.643 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  13.432
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   2.757 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.036
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   6.058 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  29.204
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.400

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  20.009
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.471 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.165
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   2.560 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.954
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   0.838 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.552
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   4.212 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.530
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   1.561 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  16.518
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   1.561     6.75    16.52
      + ID2= 2 (0366):   462.62   4.212     7.50    20.53
        ================================================
        ID = 3 (8302):   617.89   5.710     7.25    19.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13        92.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     889.87        40.00
     Mannings n             =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        15.08
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.84 (ii)   34.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.03         2.25          2.946 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10        14.28         18.83
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.20          0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.611 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.508
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.171 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.385
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   429.87   1.611     7.50     8.51
      + ID2= 2 (0360):   138.37   1.171     6.75    12.38
        ================================================
        ID = 3 (8306):   568.24   2.716     7.00     9.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation        Manning
                 0.00         261.46         0.0550
                27.86         254.23         0.0550
                51.07         251.96         0.0550
                74.29         250.77         0.0550
                97.50         249.91         0.0550
```

125.36	249.40	0.0550	
150.93	247.40	0.0550	
155.93	247.33	0.0550 /0.0350	Main Channel
157.93	246.85	0.0350	Main Channel
159.18	246.65	0.0350	Main Channel
160.18	246.63	0.0350	Main Channel
160.93	246.85	0.0350	Main Channel
161.93	247.18	0.0350 /0.0550	Main Channel
163.18	248.03	0.0550	
168.18	248.58	0.0550	
183.18	250.18	0.0550	
201.97	252.59	0.0550	
213.57	256.02	0.0550	
225.18	260.31	0.0550	
229.82	261.00	0.0550	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	247.18	.556E+04	1.9	1.03	49.95
1.28	247.91	.336E+05	16.7	1.53	33.61
2.00	248.63	.913E+05	53.6	1.81	28.40
2.73	249.36	.185E+06	122.3	2.05	25.18
3.46	250.09	.344E+06	224.6	2.02	25.52
4.19	250.82	.574E+06	417.9	2.25	22.91
4.91	251.54	.855E+06	699.1	2.53	20.38
5.64	252.27	.118E+07	1075.3	2.82	18.26
6.37	253.00	.153E+07	1559.9	3.15	16.38
7.10	253.73	.191E+07	2137.6	3.46	14.89
7.82	254.45	.231E+07	2815.2	3.77	13.67
8.55	255.18	.272E+07	3608.5	4.10	12.58
9.28	255.91	.315E+07	4488.2	4.41	11.69
10.01	256.64	.358E+07	5458.0	4.71	10.95
10.73	257.36	.403E+07	6512.4	4.99	10.32
11.46	258.09	.449E+07	7649.8	5.27	9.78
12.19	258.82	.496E+07	8869.5	5.53	9.32
12.92	259.55	.544E+07	10171.2	5.78	8.91
13.64	260.27	.593E+07	11554.8	6.02	8.55

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8306)	568.24	2.72	7.00	9.45	0.59	1.05
OUTFLOW:	ID= 1 (6362)	568.24	2.40	8.25	9.45	0.58	1.04

ADD HYD (8304)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0362):		118.78	2.946	6.00	18.83
+ ID2= 2 (6362):		568.24	2.400	8.25	9.45
ID = 3 (8304):		687.02	3.953	6.50	11.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8300)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8302):		617.89	5.710	7.25	19.52
+ ID2= 2 (8304):		687.02	3.953	6.50	11.07
ID = 3 (8300):		1304.91	9.215	7.00	15.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6368)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3681.0) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0370	
18.48	223.26	0.0370	
36.96	223.05	0.0370	
64.67	222.94	0.0370	
110.87	222.86	0.0370	
133.96	222.74	0.0370	
147.82	222.65	0.0370	
170.92	222.31	0.0370	
174.79	222.26	0.0370 /0.0300	Main Channel
174.89	221.86	0.0300	Main Channel
175.54	221.86	0.0300	Main Channel
176.19	221.86	0.0300	Main Channel
176.29	222.26	0.0300 /0.0370	Main Channel
180.16	222.25	0.0370	
184.78	222.28	0.0370	
189.40	222.31	0.0370	
332.60	222.37	0.0370	
450.00	230.00	0.0370	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	222.26	.771E+03	0.3	0.52	41.74
0.81	222.67	.784E+05	30.3	0.51	43.17
1.21	223.07	.210E+06	123.2	0.77	28.42
1.62	223.48	.384E+06	301.0	1.03	21.25
2.03	223.89	.563E+06	550.2	1.28	17.06
2.44	224.30	.747E+06	860.7	1.51	14.46
2.84	224.70	.934E+06	1228.1	1.73	12.68
3.25	225.11	.113E+07	1649.3	1.92	11.37
3.66	225.52	.132E+07	2122.3	2.11	10.37
4.07	225.93	.152E+07	2645.5	2.29	9.58
4.47	226.33	.172E+07	3217.8	2.45	8.92
4.88	226.74	.193E+07	3838.3	2.61	8.38
5.29	227.15	.214E+07	4506.3	2.76	7.92
5.70	227.56	.236E+07	5221.3	2.91	7.52
6.10	227.96	.258E+07	5983.0	3.05	7.17
6.51	228.37	.280E+07	6790.9	3.19	6.87
6.92	228.78	.303E+07	7645.0	3.32	6.60
7.33	229.19	.326E+07	8545.1	3.45	6.35
7.73	229.59	.349E+07	9491.0	3.57	6.13

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8300)	1304.91	9.22	7.00	15.07	0.52	0.52
OUTFLOW:	ID= 1 (6368)	1304.91	8.43	8.25	15.07	0.51	0.52

ADD HYD (8298)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0368):		159.48	0.838	7.75	12.55
+ ID2= 2 (6368):		1304.91	8.430	8.25	15.07
ID = 3 (8298):		1464.39	9.262	8.00	14.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8296)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0370):		191.85	2.560	6.75	20.95
+ ID2= 2 (8298):		1464.39	9.262	8.00	14.80
ID = 3 (8296):		1656.24	11.367	7.75	15.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84

```
      1.97   220.48    .131E+07    1090.4          1.25      20.05
      2.32   220.83    .169E+07    1647.7          1.47      17.06
      2.67   221.18    .206E+07    2294.6          1.68      14.99
      3.01   221.52    .244E+07    3025.6          1.87      13.46
      3.36   221.87    .282E+07    3836.5          2.05      12.27
      3.71   222.22    .321E+07    4723.7          2.22      11.31
      4.06   222.57    .359E+07    5684.6          2.39      10.53
      4.40   222.91    .398E+07    6716.6          2.55       9.87
      4.75   223.26    .437E+07    7817.7          2.70       9.31
      5.10   223.61    .476E+07    8986.2          2.85       8.83
      5.45   223.96    .515E+07   10220.4          2.99       8.40
      5.79   224.30    .555E+07   11519.1          3.13       8.03
      6.14   224.65    .594E+07   12880.8          3.27       7.69
      6.49   225.00    .634E+07   14304.5          3.40       7.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8296) 1656.24    11.37    7.75  15.51     0.62      0.79
    OUTFLOW: ID= 1 (6372) 1656.24    10.94    8.50  15.51     0.62      0.80


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6372):   110.42   0.471     7.25     9.16
      + ID2= 2 (6372):  1656.24  10.944     8.50    15.51
        ================================================
        ID = 3 (8294):  1766.66  11.372     8.50    15.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70   3.687     8.25    20.01
      + ID2= 2 (8294):  1766.66  11.372     8.50    15.12
        ================================================
        ID = 3 (8292):  2312.36  15.040     8.50    16.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8292)   2312.360     15.040      8.50      16.27
    OUTFLOW: ID= 1 (5505)   2312.360     11.011     11.25      16.27

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.21
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 10.6689

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| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85   6.058     7.50    29.20
      + ID2= 2 (5505):  2312.36  11.011    11.25    16.27
        ================================================
        ID = 3 (8272):  2776.21  14.844    10.25    18.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=   3.390 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  25.220
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.345

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=   2.485 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  15.628
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.214

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=   3.048 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  16.653
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.228

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=   1.875 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  18.209
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.249

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=   2.408 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.881
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.272

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   2.408     7.25    19.88
      + ID2= 2 (0388):   220.77   1.875     7.25    18.21
        ================================================
        ID = 3 (8286):   462.04   4.284     7.25    19.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   3.537

    PEAK FLOW       (cms)=   1.095 (i)
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```
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.721
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380)  |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.322 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.074
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382)  |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.181 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.501
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   1.322     6.50    10.07
      + ID2= 2 (0382):   216.59   2.181     6.75    15.50
        ================================================
        ID = 3 (8290):   398.60   3.495     6.75    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30       0.0300       Main Channel
                79.39         279.30       0.0300       Main Channel
                79.64         279.30       0.0300       Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.34   279.64    .715E+03         0.2         0.85      63.42
       1.10   280.40    .507E+05        21.9         1.40      38.54
       1.85   281.15    .141E+06        91.8         2.10      25.69
       2.61   281.91    .269E+06       218.9         2.63      20.46
       3.36   282.66    .445E+06       407.1         2.96      18.23
       4.12   283.42    .681E+06       698.3         3.31      16.26
       4.87   284.17    .977E+06      1111.8         3.68      14.65
       5.63   284.93    .133E+07      1674.3         4.06      13.27
       6.39   285.69    .173E+07      2457.8         4.59      11.73
       7.14   286.44    .215E+07      3378.8         5.07      10.63
       7.90   287.20    .261E+07      4418.4         5.47       9.85
       8.65   287.95    .310E+07      5676.3         5.92       9.11
       9.41   288.71    .361E+07      7150.5         6.40       8.42
      10.17   289.47    .414E+07      8783.1         6.86       7.86
      10.92   290.22    .469E+07     10575.1         7.30       7.38
      11.68   290.98    .525E+07     12520.4         7.72       6.98
      12.43   291.73    .582E+07     14619.0         8.12       6.64
      13.19   292.49    .642E+07     16863.2         8.50       6.34
      13.94   293.24    .703E+07     19259.8         8.86       6.08

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     3.50    6.75  13.02      0.45      0.90
     OUTFLOW: ID= 1 (6384)  398.60     2.74    8.00  13.02      0.43      0.89

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0384):   199.07   1.095     7.25    11.72
      + ID2= 2 (6384):   398.60   2.742     8.00    13.02
        ================================================
        ID = 3 (8288):   597.67   3.810     7.75    12.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8286):   462.04   4.284     7.25    19.08
      + ID2= 2 (8288):   597.67   3.810     7.75    12.59
        ================================================
        ID = 3 (8284):  1059.71   8.003     7.50    15.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):   420.00   3.048     7.50    16.65
      + ID2= 2 (8284):  1059.71   8.003     7.50    15.42
        ================================================
        ID = 3 (8280):  1479.71  11.051     7.50    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.002 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  20.396
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.279

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   4.102 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.674
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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```
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0378):   606.72   4.102     7.75    16.67
      + ID2= 2 (0392):   167.22   2.002     7.00    20.40
        ================================================
        ID = 3 (8282):   773.94   5.981     7.25    17.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8280):  1479.71  11.051     7.50    15.77
      + ID2= 2 (8282):   773.94   5.981     7.25    17.48
        ================================================
        ID = 3 (8278):  2253.65  17.022     7.50    16.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3941.0) ------>
             Distance      Elevation       Manning
                0.00         283.00        0.0380
               13.48         282.87        0.0380
               53.92         280.08        0.0380
               74.13         276.62        0.0380
               97.72         265.45        0.0380
              114.57         256.93        0.0380
              131.42         253.04        0.0380
              134.79         252.58        0.0380
              138.53         251.74    0.0380 /0.0300  Main Channel
              139.03         251.20        0.0300      Main Channel
              141.53         251.20        0.0300      Main Channel
              144.03         251.20        0.0300      Main Channel
              144.53         251.74    0.0300 /0.0380  Main Channel
              148.27         252.69        0.0380
              151.64         252.97        0.0380
              185.34         255.08        0.0380
              219.03         257.54        0.0380
              262.84         259.43        0.0380
              310.02         262.80        0.0380
              333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)        (m/s)      (min)
       0.54   251.74    .827E+04         4.5         1.51       30.71
       2.19   253.39    .758E+05        73.2         2.69       17.27
       3.83   255.03    .282E+06       331.8         3.27       14.17
       5.48   256.68    .633E+06       917.3         4.03       11.51
       7.12   258.32    .112E+07      1889.5         4.69        9.90
       8.77   259.97    .179E+07      3410.2         5.31        8.73
      10.41   261.61    .259E+07      5627.6         6.05        7.66
      12.06   263.26    .351E+07      8605.1         6.83        6.79
      13.70   264.90    .447E+07     12544.9         7.81        5.94
      15.35   266.55    .546E+07     17101.4         8.71        5.32
      16.99   268.19    .648E+07     22251.7         9.56        4.85
      18.64   269.84    .752E+07     27979.0        10.36        4.48
      20.28   271.48    .858E+07     34269.0        11.11        4.17
      21.93   273.13    .967E+07     41110.8        11.83        3.92
      23.57   274.77    .108E+08     48495.9        12.51        3.71
      25.22   276.42    .119E+08     56418.1        13.17        3.52
      26.86   278.06    .131E+08     64410.6        13.69        3.39
      28.51   279.71    .143E+08     73002.1        14.18        3.27
      30.15   281.35    .156E+08     81379.3        14.50        3.20

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65    17.02    7.50  16.36      0.84      1.64
    OUTFLOW: ID= 1 (6394) 2253.65    16.55    8.00  16.36      0.83      1.64


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| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   2.485     7.25    15.63
      + ID2= 2 (6394):  2253.65  16.553     8.00    16.36
        ================================================
        ID = 3 (8276):  2579.10  18.926     8.00    16.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3961.0) ------>
             Distance      Elevation       Manning
                0.00         263.00        0.0410
               11.75         257.14        0.0410
               23.50         253.97        0.0410
               41.13         247.83        0.0410
               76.38         232.09        0.0410
              135.13         229.07        0.0410
              149.82         228.97        0.0410
              152.75         228.96    0.0410 /0.0300  Main Channel
              154.19         228.73        0.0300      Main Channel
              154.69         228.20        0.0300      Main Channel
              155.69         228.20        0.0300      Main Channel
              156.69         228.20        0.0300      Main Channel
              157.19         228.73        0.0300      Main Channel
              158.63         228.95    0.0300 /0.0410  Main Channel
              161.57         228.96        0.0410
              164.51         229.71        0.0410
              196.82         241.70        0.0410
              223.26         249.21        0.0410
              246.76         255.13        0.0410
              290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)        (m/s)      (min)
       0.75   228.95    .780E+04         2.2         0.98       58.06
       2.54   230.74    .277E+06       145.1         1.78       31.76
       4.33   232.53    .786E+06       609.1         2.63       21.50
       6.13   234.33    .140E+07      1481.5         3.59       15.77
       7.92   236.12    .207E+07      2677.3         4.39       12.90
       9.71   237.91    .280E+07      4184.8         5.09       11.14
      11.50   239.70    .357E+07      6001.4         5.71        9.93
      13.29   241.49    .441E+07      8129.1         6.27        9.03
      15.09   243.29    .530E+07     10549.4         6.77        8.37
      16.88   245.08    .625E+07     13300.6         7.24        7.83
      18.67   246.87    .726E+07     16396.2         7.68        7.38
      20.46   248.66    .834E+07     19809.8         8.07        7.02
      22.26   250.46    .949E+07     23532.5         8.43        6.72
      24.05   252.25    .107E+08     27641.2         8.77        6.46
      25.84   254.04    .120E+08     32155.2         9.10        6.22
      27.63   255.83    .134E+08     36901.0         9.37        6.05
      29.42   257.62    .149E+08     42147.7         9.64        5.88
      31.22   259.42    .164E+08     48149.1         9.97        5.68
      33.01   261.21    .181E+08     54644.8        10.29        5.51

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    18.93    8.00  16.26      0.96      1.03
    OUTFLOW: ID= 1 (6396) 2579.10    17.09    9.00  16.26      0.93      1.02


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-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   3.390     7.50    25.22
      + ID2= 2 (6396):  2579.10  17.092     9.00    16.26
        ================================================
        ID = 3 (8274):  2884.31  20.021     9.00    17.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  14.844    10.25    18.43
      + ID2= 2 (8274):  2884.31  20.021     9.00    17.21
        ================================================
        ID = 3 (8270):  5660.52  34.206     9.25    17.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810   135.6832
                         31.1490    24.6697   |  96.2770   900.4431
                         36.8120    37.0045   |  96.6770   900.4531
                         45.3070    86.3439   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520    34.206     9.25      17.81
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     OUTFLOW: ID= 1 (5506)   5660.520     28.236     11.75      17.81

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.54
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 22.3717

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--------------------
| CALIB            |
| NASHYD    (0406) |   Area     (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.315 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  22.790
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.312

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0404) |   Area     (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.475 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.944
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.177

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0402) |   Area     (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.133 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.936
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0400) |   Area     (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.222 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.807
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.203

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0398) |   Area     (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.909 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.581
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   2.909     7.00    16.58
       + ID2= 2 (0400):    93.97   1.222     6.50    14.81
         ================================================
         ID = 3 (8268):   422.16   4.012     6.75    16.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <---- DATA FOR SECTION (4021.0) ------>
               Distance      Elevation        Manning
                  0.00         238.50         0.0360
                 11.50         238.00         0.0360
                 23.00         237.93         0.0360
                 34.49         236.39         0.0360
                 63.24         233.98         0.0360
                 97.73         228.15         0.0360
                123.60         227.08         0.0360
                126.48         226.61         0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25         0.0330      Main Channel
                129.35         225.25         0.0330      Main Channel
                130.85         225.25         0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59         0.0360
                143.72         227.42         0.0360
                169.59         227.88         0.0360
                192.59         231.19         0.0360
                218.46         233.02         0.0360
                241.45         235.50         0.0360
                284.57         236.43         0.0360

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.41   225.66    .391E+04         1.7          1.36      38.31
        0.81   226.06    .804E+04         5.0          1.93      27.02
        1.22   226.47    .124E+05         9.1          2.30      22.61
        1.84   227.09    .308E+05        23.3          2.36      22.03
        2.46   227.71    .904E+05        62.0          2.14      24.31
        3.09   228.34    .223E+06       188.3          2.63      19.75
        3.71   228.96    .379E+06       410.2          3.38      15.39
        4.33   229.58    .550E+06       711.5          4.04      12.89
        4.95   230.20    .737E+06      1091.3          4.62      11.25
        5.58   230.83    .939E+06      1550.6          5.15      10.10
        6.20   231.45    .116E+07      2072.4          5.59       9.31
        6.82   232.07    .140E+07      2659.2          5.93       8.77
        7.44   232.69    .167E+07      3345.8          6.27       8.30
        8.07   233.32    .195E+07      4159.0          6.64       7.83
        8.69   233.94    .226E+07      5100.8          7.03       7.39
        9.31   234.56    .259E+07      6081.3          7.32       7.11
        9.93   235.18    .295E+07      7183.1          7.60       6.84
       10.56   235.81    .334E+07      8145.2          7.62       6.83
       11.18   236.43    .379E+07      9116.0          7.51       6.92

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.01    6.75  16.19      0.70      1.72
     OUTFLOW: ID= 1 (6402)  422.16     3.72    7.50  16.19      0.66      1.66

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--------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   2.133     7.50    19.94
       + ID2= 2 (6402):   422.16   3.724     7.50    16.19
         ================================================
         ID = 3 (8266):   666.16   5.857     7.50    17.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.475     7.25    12.94
       + ID2= 2 (8266):   666.16   5.857     7.50    17.56
         ================================================
         ID = 3 (8264):   912.62   7.330     7.50    16.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   2.315     6.50    22.79
      + ID2= 2 (8264):   912.62   7.330     7.50    16.31
        ================================================
        ID = 3 (8262):  1055.27   9.418     7.25    17.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  28.236    11.75    17.81
      + ID2= 2 (8262):  1055.27   9.418     7.25    17.19
        ================================================
        ID = 3 (8260):  6715.79  32.331    11.25    17.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   2.757     6.75    18.04
      + ID2= 2 (8260):  6715.79  32.331    11.25    17.71
        ================================================
        ID = 3 (8258):  6947.41  33.171    11.00    17.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   2.643     8.25    13.43
      + ID2= 2 (8258):  6947.41  33.171    11.00    17.72
        ================================================
        ID = 3 (8256):  7519.42  35.308    10.75    17.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |    (cms)    (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     35.308     10.75      17.40
    OUTFLOW: ID= 1 (5507)   7519.421     34.570     11.75      17.40

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.91
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 10.7597

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   1.485 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  15.590
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.213

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   1.780 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  21.774
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.298

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0416) |   Area     (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

    Unit Hyd Qpeak  (cms)=   5.832

    PEAK FLOW       (cms)=   3.686 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  21.827
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.299

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0412) |   Area     (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   5.088

    PEAK FLOW       (cms)=   2.105 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  16.071
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.220

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4141) |   Area     (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      15.73        27.97
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     539.75        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      96.49        52.82
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       8.77 (ii)   22.58 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
    PEAK FLOW       (cms)=       1.74         1.96          2.978 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25           6.00
    RUNOFF VOLUME    (mm)=      71.10        26.72          34.27
    TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
    RUNOFF COEFFICIENT   =       0.97         0.37           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |    (cms)    (ha.m.)
                          0.0000     0.0000   |   3.4720      1.9177
                          0.3820     0.3152   |   3.8720      1.9277
                          1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4141)     43.700      2.978      6.00      34.27
    OUTFLOW: ID= 1 (5414)     43.700      1.837      6.50      34.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.71
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
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                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4849

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     96.49         25.80
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     12.55 (ii)    30.95 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.02          4.96          5.721 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=     71.10         24.32         29.00
     TOTAL RAINFALL   (mm)=     73.10         73.10         73.10
     RUNOFF COEFFICIENT   =      0.97          0.33          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):   144.30   5.721     6.50    29.00
       + ID2= 2 (5414):    43.70   1.837     6.50    34.26
         ================================================
         ID = 3 (8254):   188.00   7.558     6.50    30.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0412):   238.70   2.105     7.00    16.07
       + ID2= 2 (8254):   188.00   7.558     6.50    30.22
         ================================================
         ID = 3 (8252):   426.70   9.538     6.50    22.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   246.02    .295E+04        0.6         0.75      88.26
       1.53   247.28    .168E+06       69.7         1.65      40.13
       2.79   248.54    .490E+06      299.5         2.42      27.28
       4.06   249.81    .962E+06      740.1         3.05      21.67
       5.32   251.07    .158E+07     1440.0         3.61      18.33
       6.58   252.33    .235E+07     2443.8         4.12      16.06
       7.84   253.59    .327E+07     3811.2         4.63      14.30
       9.10   254.85    .432E+07     5565.1         5.11      12.94
      10.37   256.12    .550E+07     7721.3         5.57      11.88
      11.63   257.38    .682E+07    10309.9         6.00      11.02
      12.89   258.64    .827E+07    13360.6         6.42      10.31
      14.15   259.90    .985E+07    16884.5         6.81       9.72
      15.42   261.17    .116E+08    20818.4         7.14       9.26
      16.68   262.43    .134E+08    25510.4         7.53       8.78
      17.94   263.69    .154E+08    30958.0         7.97       8.30
      19.20   264.95    .175E+08    36988.3         8.38       7.89
      20.46   266.21    .197E+08    43617.1         8.78       7.53
      21.73   267.48    .220E+08    50868.1         9.17       7.22
      22.99   268.74    .244E+08    58854.0         9.56       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70     9.54    6.50  22.31      0.43      0.81
    OUTFLOW: ID= 1 (6416)  426.70     4.90    7.50  22.31      0.35      0.78

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   3.686     8.00    21.83
       + ID2= 2 (6416):   426.70   4.904     7.50    22.31
         ================================================
         ID = 3 (8250):   866.00   8.541     7.50    22.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   162.79   1.780     7.50    21.77
       + ID2= 2 (8250):   866.00   8.541     7.50    22.06
         ================================================
         ID = 3 (8248):  1048.79  10.321     7.50    22.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.485     7.00    15.59
       + ID2= 2 (8248):  1048.79  10.321     7.50    22.01
         ================================================
         ID = 3 (8246):  1224.61  11.759     7.50    21.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  34.570    11.75    17.40
       + ID2= 2 (8246):  1224.61  11.759     7.50    21.09
         ================================================
         ID = 3 (8244):  8744.03  40.750    11.00    17.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0422):   780.20   3.488     9.00    16.24
       + ID2= 2 (8244):  8744.03  40.750    11.00    17.91
         ================================================
         ID = 3 (8242):  9524.23  43.985    11.00    17.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
```

```
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231    43.985     11.00      17.78
     OUTFLOW: ID= 1 (5508)   9524.231    42.683     12.25      17.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.04
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 17.2250

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-------------------
| CALIB           |
| NASHYD     (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.370 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  27.751
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     194.58        331.32
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1872.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         57.38
               over (min)        15.00         45.00
     Storage Coeff.  (min)=     18.51 (ii)    31.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      15.86         19.45      25.210 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.50
     RUNOFF VOLUME    (mm)=      71.10         28.48      35.73
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.39       0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.77         37.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     697.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         72.01
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.23 (ii)    22.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.77          3.58       6.061 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         31.13      40.32
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.43       0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3350      1.2400
                         0.3230     0.3074   |   4.3560      1.3520
                         0.9360     0.5374   |   5.3290      1.4590
                         1.7590     0.8302   |   5.7290      1.4690
                         2.4110     1.0550   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    73.000     6.061      6.00      40.32
     OUTFLOW: ID= 1 (5338)    73.000     2.647      6.75      40.32

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.67
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1258

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3382):   525.90  25.210     6.50     35.73
        + ID2= 2 (5338):    73.00   2.647     6.75     40.32
          ================================================
          ID = 3 (8310):   598.90  27.843     6.50     36.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.825 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  17.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.237

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.83         16.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     469.04         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         43.28
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      8.06 (ii)    23.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.45          0.92       3.022 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         20.49      36.18
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.28       0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   0.6540      0.4604
                        0.0390     0.1699   |   0.8330      0.5240
                        0.1860     0.2610   |   1.0130      0.5896
                        0.3750     0.3534   |   1.4130      0.5996
                        0.4340     0.3813   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (3341)     33.000     3.022      6.00      36.18
     OUTFLOW: ID= 1 (5334)     33.000     0.928      6.50      36.15

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.69
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5651

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| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (3342):   587.10   0.825    15.25    17.32
      + ID2= 2 (5334):    33.00   0.928     6.50    36.15
        ================================================
        ID = 3 (8314):   620.10   1.209     6.75    18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.445 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  15.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   4.421 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  39.488
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.540

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.078 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.027
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.351 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  38.894
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   5.078     8.00    32.03
      + ID2= 2 (0284):    78.93   2.351     6.50    38.89
        ================================================
        ID = 3 (8388):   528.31   6.886     7.25    33.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2861.0) ------>
              Distance      Elevation       Manning
                 0.00         233.00        0.0450
                20.58         228.51        0.0450
                41.17         227.74        0.0450
                51.46         227.41        0.0450
                97.77         225.96        0.0450
               149.23         223.94        0.0450
               200.69         220.84        0.0450
               226.42         220.66        0.0450
               238.85         220.22        0.0450
               241.35         220.01   0.0450 /0.0350  Main Channel
               241.85         219.70        0.0350      Main Channel
               245.85         219.72        0.0350      Main Channel
               246.35         220.06        0.0350      Main Channel
               248.85         220.23        0.0350      Main Channel
               303.60         221.64        0.0350      Main Channel
               380.79         224.98        0.0450
               432.25         229.54        0.0450
               457.98         233.33        0.0450
               483.71         234.27        0.0450
               509.44         233.81        0.0450

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.31  220.01   .382E+04        0.8         0.57       82.89
       1.06  220.76   .525E+05       12.1         0.66       72.51
       1.81  221.51   .240E+06       88.6         1.05       45.21
       2.56  222.26   .510E+06      261.7         1.46       32.47
       3.31  223.01   .843E+06      533.8         1.81       26.34
       4.06  223.76   .124E+07      913.6         2.10       22.64
       4.81  224.51   .171E+07     1399.0         2.34       20.33
       5.56  225.26   .225E+07     2051.0         2.60       18.27
       6.31  226.01   .285E+07     2907.0         2.91       16.35
       7.06  226.76   .352E+07     3902.5         3.16       15.04
       7.82  227.52   .426E+07     5069.9         3.39       14.01
       8.57  228.27   .507E+07     6433.0         3.62       13.13
       9.32  229.02   .593E+07     8069.2         3.89       12.24
      10.07  229.77   .681E+07     9926.7         4.16       11.44
      10.82  230.52   .772E+07    11962.8         4.42       10.75
      11.57  231.27   .864E+07    14167.1         4.68       10.17
      12.32  232.02   .959E+07    16537.1         4.92        9.66
      13.07  232.77   .105E+08    19070.7         5.16        9.22
      13.82  233.52   .115E+08    21790.4         5.39        8.82

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8388) 528.31     6.89    7.25  33.05      0.72      0.62
     OUTFLOW: ID= 1 (6286) 528.31     5.82    9.00  33.05      0.64      0.61

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51   4.421     7.50    39.49
      + ID2= 2 (6286):   528.31   5.824     9.00    33.05
        ================================================
        ID = 3 (8386):   788.82   9.844     8.50    35.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD     (0302) |   Area    (ha)= 473.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   2.715 (i)
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```
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  18.313
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.251

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0300)  |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   1.811 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.576
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0298)  |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.541 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.163
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   1.541     8.00    12.16
       + ID2= 2 (0300):   258.93   1.811     7.50    15.58
         ================================================
         ID = 3 (8395):   589.44   3.331     7.75    13.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0288)  |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   2.858 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  33.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.453

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0290)  |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   3.986 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  32.883
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   2.858     9.25    33.08
       + ID2= 2 (0290):   269.18   3.986     7.25    32.88
         ================================================
         ID = 3 (8397):   610.01   6.617     8.00    32.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0296)  |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.926 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  31.003
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0292)  |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   6.145 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  24.582
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0294)  |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.633
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   6.145     8.25    24.58
       + ID2= 2 (0294):   274.15   2.485     7.00    17.63
         ================================================
         ID = 3 (8398):  1012.64   8.463     8.00    22.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation       Manning
                  0.00         243.98        0.0400
                 42.59         243.18        0.0400
                 85.17         241.81        0.0400
                120.66         240.50        0.0400
                156.15         239.56        0.0400
                198.74         236.15        0.0400
                237.78         234.01        0.0400
                241.33         233.82        0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32        0.0400      Main Channel
                250.37         231.80        0.0400      Main Channel
                250.87         232.23        0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22        0.0400
                259.07         233.87        0.0400
                262.62         234.12        0.0400
                266.17         234.23        0.0400
                283.91         234.73        0.0400
```

```
            337.15        241.75        0.0400
            351.34        244.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.43   232.23    .510E+03        0.1         0.53      81.07
       0.87   232.67    .213E+04        0.7         0.83      51.49
       1.30   233.10    .501E+04        2.2         1.10      38.75
       1.98   233.78    .242E+05       12.6         1.34      31.93
       2.66   234.46    .738E+05       42.1         1.46      29.21
       3.34   235.14    .177E+06      127.9         1.84      23.13
       4.02   235.82    .314E+06      281.4         2.29      18.61
       4.70   236.50    .481E+06      509.4         2.71      15.73
       5.38   237.18    .672E+06      815.6         3.11      13.73
       6.06   237.86    .886E+06     1200.7         3.46      12.30
       6.74   238.54    .112E+07     1669.4         3.80      11.23
       7.42   239.22    .139E+07     2226.9         4.11      10.38
       8.10   239.90    .168E+07     2808.4         4.28       9.95
       8.78   240.58    .202E+07     3470.4         4.40       9.68
       9.46   241.26    .240E+07     4331.7         4.61       9.24
      10.14   241.94    .283E+07     5335.2         4.83       8.84
      10.82   242.62    .330E+07     6482.6         5.03       8.48
      11.50   243.30    .381E+07     7764.1         5.21       8.18
      12.18   243.98    .439E+07     9101.2         5.31       8.04

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     8.46    8.00  22.70      1.71      1.23
     OUTFLOW: ID= 1 (6296) 1012.64     8.22    8.50  22.70      1.69      1.22


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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   3.926     7.50    31.00
       + ID2= 2 (6296):  1012.64   8.218     8.50    22.70
         ================================================
         ID = 3 (8396):  1306.29  11.968     8.25    24.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  11.968     8.25    24.57
       + ID2= 2 (8397):   610.01   6.617     8.00    32.99
         ================================================
         ID = 3 (8394):  1916.30  18.538     8.00    27.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  18.538     8.00    27.25
       + ID2= 2 (8395):   589.44   3.331     7.75    13.66
         ================================================
         ID = 3 (8392):  2505.74  21.856     8.00    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   221.29    .228E+04        0.2         0.32     165.63
       0.59   221.59    .465E+04        0.7         0.45     116.15
       0.88   221.88    .713E+04        1.2         0.54      96.87
       1.18   222.18    .971E+04        1.9         0.61      86.20
       1.57   222.57    .175E+05        3.3         0.59      88.86
       1.97   222.97    .427E+05        6.4         0.47     111.39
       2.36   223.36    .115E+06       16.1         0.44     119.14
       2.76   223.76    .237E+06       37.1         0.49     106.49
       3.15   224.15    .409E+06       72.9         0.56      93.40
       3.55   224.55    .631E+06      127.0         0.63      82.76
       3.94   224.94    .903E+06      202.4         0.70      74.37
       4.34   225.34    .123E+07      301.8         0.77      67.68
       4.73   225.73    .160E+07      433.5         0.85      61.37
       5.13   226.13    .200E+07      602.2         0.95      55.29
       5.52   226.52    .242E+07      804.7         1.05      50.13
       5.92   226.92    .286E+07     1034.2         1.14      46.11
       6.31   227.31    .332E+07     1290.5         1.22      42.88
       6.71   227.71    .380E+07     1560.9         1.29      40.55
       7.10   228.10    .432E+07     1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    21.86    8.00  24.05      2.47      0.45
     OUTFLOW: ID= 1 (6302) 2505.74    17.19   10.25  24.05      2.38      0.44


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| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   2.715     8.50    18.31
       + ID2= 2 (6302):  2505.74  17.189    10.25    24.05
         ================================================
         ID = 3 (8390):  2979.64  19.699    10.25    23.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   9.844     8.50    35.18
       + ID2= 2 (8390):  2979.64  19.699    10.25    23.14
         ================================================
         ID = 3 (8348):  3768.46  28.649     9.75    25.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.311 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  21.297
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.291

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   6.103 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  36.959
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   6.254 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.239
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.509

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.014 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  33.570
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.459

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   5.249 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  30.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.412

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0274):   392.49   5.249     7.50    30.08
      + ID2= 2 (0276):    90.89   2.014     6.75    33.57
        ================================================
        ID = 3 (8360):   483.38   7.141     7.00    30.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0278):   485.49   6.254     8.00    37.24
      + ID2= 2 (8360):   483.38   7.141     7.00    30.74
        ================================================
        ID = 3 (8358):   968.87  13.139     7.50    34.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2801.0) ------>
             Distance       Elevation       Manning
                0.00          241.14        0.0500
               13.32          240.80        0.0500
               39.95          240.07        0.0500
               96.54          236.21        0.0500
              113.19          234.15        0.0500
              123.18          232.35        0.0500
              143.15          225.80        0.0500
              149.81          225.62        0.0500
              153.14          225.40        0.0500
              157.30          224.76    0.0500 /0.0300  Main Channel
              159.80          224.26        0.0300      Main Channel
              162.30          224.85        0.0300      Main Channel
              162.55          224.97    0.0300 /0.0500  Main Channel
              167.80          225.05        0.0500
              186.43          229.14        0.0500
              213.06          234.75        0.0500
              236.37          237.09        0.0500
              266.33          237.31        0.0500
              292.96          237.83        0.0500
              329.58          241.50        0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
           0.50   224.76    .263E+04        0.8          0.65      58.31
           1.36   225.62    .278E+05       13.4          1.10      34.54
           2.22   226.48    .855E+05       52.6          1.40      27.09
           3.09   227.35    .157E+06      120.4          1.74      21.78
           3.95   228.21    .242E+06      216.3          2.04      18.64
           4.81   229.07    .340E+06      341.8          2.29      16.56
           5.67   229.93    .450E+06      498.3          2.52      15.06
           6.53   230.79    .574E+06      688.3          2.73      13.90
           7.40   231.66    .711E+06      913.8          2.93      12.97
           8.26   232.52    .861E+06     1173.4          3.11      12.23
           9.12   233.38    .103E+07     1461.3          3.24      11.72
           9.98   234.24    .121E+07     1793.3          3.37      11.26
          10.85   235.11    .142E+07     2141.0          3.45      11.02
          11.71   235.97    .165E+07     2530.4          3.50      10.86
          12.57   236.83    .192E+07     2954.0          3.51      10.81
          13.43   237.69    .226E+07     3160.3          3.18      11.93
          14.29   238.55    .271E+07     3869.4          3.26      11.67
          15.16   239.42    .320E+07     4740.3          3.38      11.24
          16.02   240.28    .373E+07     5688.4          3.48      10.92

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    13.14    7.50  34.00      1.34      1.08
     OUTFLOW: ID= 1 (6280)  968.87    12.85    8.00  34.00      1.32      1.06

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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0280):   299.86   6.103     7.00    36.96
      + ID2= 2 (6280):   968.87  12.849     8.00    34.00
        ================================================
        ID = 3 (8354):  1268.73  18.341     7.75    34.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.090 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  30.086
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.412

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   3.490 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.833
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807
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```
     PEAK FLOW       (cms)=   3.054 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  29.811
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   2.544 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  25.249
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   2.622 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  21.852
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0264):   353.96   2.544     8.25    25.25
      + ID2= 2 (0266):   508.09   2.622     9.25    21.85
        ================================================
        ID = 3 (8380):   862.05   5.142     8.50    23.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2681.0) ------>
              Distance      Elevation       Manning
                 0.00         274.03        0.0500
                10.55         272.73        0.0500
                21.10         271.28        0.0500
                50.12         266.83        0.0500
                87.04         260.36        0.0500
                92.32         260.06        0.0500
                94.95         259.93        0.0500
               101.00         256.87        0.0500
               103.00         256.58    0.0500 /0.0350  Main Channel
               104.00         256.32        0.0350      Main Channel
               106.00         256.05        0.0350      Main Channel
               108.00         256.25        0.0350      Main Channel
               110.78         256.65    0.0350 /0.0500  Main Channel
               113.42         256.81        0.0500
               116.06         257.00        0.0500
               155.62         260.24        0.0500
               187.27         263.35        0.0500
               211.01         267.22        0.0500
               224.20         269.60        0.0500
               261.13         272.68        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.53   256.58    .697E+04        2.1         0.97      55.64
        1.38   257.43    .477E+05       25.9         1.76      30.66
        2.22   258.27    .123E+06       84.3         2.22      24.26
        3.07   259.12    .231E+06      185.4         2.60      20.72
        3.92   259.97    .371E+06      335.8         2.92      18.42
        4.77   260.82    .560E+06      547.6         3.15      17.06
        5.61   261.66    .790E+06      845.6         3.46      15.57
        6.46   262.51    .106E+07     1225.0         3.75      14.37
        7.31   263.36    .136E+07     1693.3         4.02      13.37
        8.16   264.21    .169E+07     2283.2         4.35      12.36
        9.00   265.05    .206E+07     2969.1         4.66      11.54
        9.85   265.90    .245E+07     3754.4         4.96      10.86
       10.70   266.75    .286E+07     4643.0         5.24      10.28
       11.55   267.60    .331E+07     5636.1         5.50       9.78
       12.39   268.44    .378E+07     6746.2         5.76       9.34
       13.24   269.29    .428E+07     7972.2         6.01       8.96
       14.09   270.14    .482E+07     9218.9         6.18       8.71
       14.94   270.99    .539E+07    10550.5         6.32       8.52
       15.78   271.83    .601E+07    12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     5.14    8.50  23.25      0.64      1.03
     OUTFLOW: ID= 1 (6268)  862.05     5.00   10.00  23.25      0.63      1.02

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| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   3.054     7.00    29.81
      + ID2= 2 (6268):   862.05   5.000    10.00    23.25
        ================================================
        ID = 3 (8382):  1077.81   7.285     8.75    24.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2701.0) ------>
              Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.45   234.34    .217E+04         0.7         0.99      52.83
        0.98   234.87    .966E+04         4.6         1.49      35.20
        1.50   235.39    .250E+05        13.7         1.73      30.41
        2.03   235.92    .475E+05        29.5         1.95      26.87
        2.56   236.45    .772E+05        52.5         2.14      24.50
        3.09   236.98    .142E+06        82.4         1.83      28.73
        3.61   237.50    .246E+06       158.1         2.03      25.91
        4.14   238.03    .357E+06       262.0         2.31      22.73
        4.67   238.56    .477E+06       392.1         2.59      20.27
        5.20   239.09    .604E+06       547.8         2.86      18.38
        5.72   239.61    .739E+06       729.2         3.11      16.90
        6.25   240.14    .882E+06       936.5         3.34      15.70
        6.78   240.67    .103E+07      1169.7         3.57      14.72
        7.31   241.20    .119E+07      1425.9         3.77      13.94
        7.83   241.72    .136E+07      1710.4         3.96      13.26
        8.36   242.25    .154E+07      1967.9         4.02      13.07
        8.89   242.78    .174E+07      2264.9         4.09      12.83
        9.42   243.31    .196E+07      2589.3         4.15      12.65
        9.94   243.83    .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81     7.29    8.75  24.56      1.13      1.56
     OUTFLOW: ID= 1 (6270) 1077.81     7.18    9.25  24.56      1.13      1.55

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| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   3.490     7.25    35.83
      + ID2= 2 (6270):  1077.81   7.180     9.25    24.56
        ================================================
        ID = 3 (8384):  1321.42  10.209     8.75    26.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   4.455 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  37.033
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.507

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=   5.038 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.154
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.508

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   1.930 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  33.887
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=   3.102 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.314
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.387

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.749
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.990 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.662
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation         Manning
                0.00         276.07          0.0400
               11.68         273.71          0.0400
               23.36         271.35          0.0400
               29.19         270.30          0.0400
               35.03         269.44          0.0400
               55.47         267.90          0.0400
               78.82         266.24          0.0400
               90.50         265.63          0.0400
              102.18         265.40          0.0400
              105.10         264.95    0.0400 /0.0350  Main Channel
              108.02         264.39         0.0350     Main Channel
              110.94         264.72         0.0350     Main Channel
              113.86         265.19    0.0350 /0.0400  Main Channel
              116.78         265.49          0.0400
              143.05         268.24          0.0400
              172.25         270.53          0.0400
              207.28         271.95          0.0400
              233.55         273.72          0.0400
              256.91         274.98          0.0400
              289.02         275.97          0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.56   264.95    .723E+04         1.9          0.90      62.51
        1.14   265.53    .307E+05        13.5          1.49      37.92
        1.72   266.11    .951E+05        48.6          1.73      32.62
        2.30   266.69    .191E+06       117.8          2.09      27.03
        2.88   267.27    .314E+06       225.2          2.43      23.24
        3.46   267.85    .464E+06       375.5          2.74      20.59
        4.04   268.43    .641E+06       573.2          3.03      18.62
        4.62   269.01    .846E+06       821.9          3.29      17.15
        5.20   269.59    .108E+07      1135.0          3.56      15.87
        5.78   270.17    .134E+07      1525.1          3.86      14.64
        6.36   270.75    .162E+07      1971.1          4.12      13.71
        6.94   271.33    .194E+07      2474.0          4.33      13.04
        7.52   271.91    .228E+07      3065.0          4.55      12.42
        8.10   272.49    .266E+07      3773.4          4.80      11.75
        8.68   273.07    .306E+07      4566.3          5.05      11.17
        9.26   273.65    .348E+07      5443.7          5.30      10.66
        9.84   274.23    .393E+07      6389.6          5.51      10.25
       10.42   274.81    .440E+07      7426.2          5.72       9.88
       11.00   275.39    .490E+07      8490.1          5.86       9.63

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     1.99    8.00  16.66      0.56      0.90
     OUTFLOW: ID= 1 (6256)  403.00     1.87    9.75  16.66      0.54      0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0256):   145.79   1.174     8.00    23.75
      + ID2= 2 (6256):   403.00   1.869     9.75    16.66
        ================================================
        ID = 3 (8370):   548.79   2.934     9.25    18.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930
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```
     PEAK FLOW      (cms)=   1.508 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=  25.980
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0246)  |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW      (cms)=   2.778 (i)
     TIME TO PEAK   (hrs)=  10.000
     RUNOFF VOLUME   (mm)=  16.720
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0248)  |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW      (cms)=   1.326 (i)
     TIME TO PEAK   (hrs)=   7.250
     RUNOFF VOLUME   (mm)=  21.646
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0246):   759.61   2.778    10.00    16.72
      + ID2= 2 (0248):   146.04   1.326     7.25    21.65
        ================================================
        ID = 3 (8364):   905.65   3.933     8.25    17.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                 0.00         269.96        0.0500
                 8.56         268.55        0.0500
                17.13         266.91        0.0500
                21.41         266.13        0.0500
                40.68         263.15        0.0500
                62.09         260.75        0.0500
                85.64         258.02        0.0500
                88.20         257.69        0.0500
                93.20         257.05    0.0500 /0.0350  Main Channel
                93.45         256.88        0.0350      Main Channel
                94.20         256.56        0.0350      Main Channel
                94.95         256.83        0.0350      Main Channel
                95.20         257.08    0.0350 /0.0500  Main Channel
               100.62         257.45        0.0500
               115.61         258.57        0.0500
               139.16         260.43        0.0500
               152.01         261.95        0.0500
               171.27         264.63        0.0500
               188.40         267.90        0.0500
               211.95         274.18        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.49   257.05    .205E+04         0.4          0.68       89.65
       1.17   257.73    .248E+05         5.7          0.85       72.16
       1.85   258.41    .841E+05        25.2          1.10       55.60
       2.53   259.09    .180E+06        66.5          1.36       45.14
       3.21   259.77    .312E+06       135.7          1.60       38.36
       3.89   260.45    .481E+06       238.3          1.82       33.61
       4.57   261.13    .681E+06       383.5          2.07       29.60
       5.25   261.81    .911E+06       568.9          2.29       26.70
       5.93   262.49    .117E+07       800.5          2.51       24.36
       6.61   263.17    .146E+07      1079.0          2.72       22.49
       7.28   263.84    .177E+07      1413.4          2.94       20.85
       7.96   264.52    .210E+07      1797.0          3.14       19.50
       8.64   265.20    .246E+07      2241.6          3.35       18.28
       9.32   265.88    .283E+07      2739.9          3.55       17.25
      10.00   266.56    .323E+07      3295.7          3.75       16.34
      10.68   267.24    .364E+07      3908.9          3.94       15.54
      11.36   267.92    .408E+07      4578.5          4.12       14.84
      12.04   268.60    .453E+07      5320.1          4.32       14.18
      12.72   269.28    .499E+07      6109.1          4.50       13.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8364)  905.65     3.93    8.25  17.51      0.94      0.78
     OUTFLOW: ID= 1 (6250)  905.65     3.66   10.25  17.51      0.90      0.77

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0250):   192.88   1.508     8.00    25.98
      + ID2= 2 (6250):   905.65   3.662    10.25    17.51
        ================================================
        ID = 3 (8366):  1098.53   5.036    10.00    19.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8366):  1098.53   5.036    10.00    19.00
      + ID2= 2 (8370):   548.79   2.934     9.25    18.54
        ================================================
        ID = 3 (8368):  1647.32   7.940     9.75    18.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0252):   319.99   3.102     8.00    28.31
      + ID2= 2 (8368):  1647.32   7.940     9.75    18.85
        ================================================
        ID = 3 (8372):  1967.31  10.760     9.00    20.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2581.0) ------>
             Distance      Elevation       Manning
                 0.00         252.88        0.0500
                15.47         251.89        0.0500
                46.41         248.45        0.0500
                73.48         245.81        0.0500
                88.95         243.75        0.0500
               112.15         242.00        0.0500
               135.35         240.23        0.0500
               162.42         239.76        0.0500
               170.97         239.52    0.0500 /0.0350  Main Channel
               171.58         239.03        0.0350      Main Channel
               174.02         239.03        0.0350      Main Channel
               176.46         239.03        0.0350      Main Channel
               177.07         239.52    0.0350 /0.0500  Main Channel
               185.63         239.67        0.0500
               208.83         239.87        0.0500
               239.77         240.14        0.0500
               274.57         244.93        0.0500
               336.45         249.51        0.0500
               363.52         249.77        0.0500
               382.85         251.78        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.49   239.52    .135E+05         2.5          0.92       91.32
       1.14   240.17    .175E+06        25.6          0.73      114.22
       1.78   240.81    .532E+06       123.5          1.17       71.85
       2.43   241.46    .932E+06       285.3          1.54       54.48
       3.07   242.10    .138E+07       506.5          1.85       45.25
       3.72   242.75    .186E+07       786.8          2.12       39.42
       4.36   243.39    .239E+07      1127.3          2.37       35.33
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5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8372)	1967.31	10.76	9.00	20.39	0.72	0.84
OUTFLOW: ID= 1 (6258)	1967.31	9.73	11.25	20.39	0.69	0.85

ADD HYD (8374)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0258):	181.99	1.930	8.00	33.89
+ ID2= 2 (6258):	1967.31	9.734	11.25	20.39
ID = 3 (8374):	2149.30	11.262	11.00	21.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0260):	476.24	5.038	8.00	37.15
+ ID2= 2 (8374):	2149.30	11.262	11.00	21.53
ID = 3 (8376):	2625.54	15.711	10.25	24.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0262):	341.31	4.455	7.75	37.03
+ ID2= 2 (8376):	2625.54	15.711	10.25	24.37
ID = 3 (8378):	2966.85	19.393	10.00	25.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8378):	2966.85	19.393	10.00	25.82
+ ID2= 2 (8384):	1321.42	10.209	8.75	26.64
ID = 3 (8362):	4288.27	29.326	9.50	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8362)	4288.27	29.33	9.50	26.07	1.84	0.81
OUTFLOW: ID= 1 (6272)	4288.27	28.76	10.25	26.07	1.83	0.81

ADD HYD (8356)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0272):	157.38	2.090	7.50	30.09
+ ID2= 2 (6272):	4288.27	28.759	10.25	26.07
ID = 3 (8356):	4445.65	30.243	10.00	26.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8354):	1268.73	18.341	7.75	34.70
+ ID2= 2 (8356):	4445.65	30.243	10.00	26.22
ID = 3 (8352):	5714.38	45.383	8.75	28.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.00	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	220.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43

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      2.56   220.93    .708E+06     109.5          0.58     107.67
      3.25   221.62    .118E+07     224.3          0.71      87.36
      3.94   222.31    .168E+07     376.5          0.84      74.48
      4.63   223.00    .222E+07     567.9          0.96      65.26
      5.32   223.69    .279E+07     794.7          1.07      58.58
      6.02   224.39    .339E+07    1056.2          1.17      53.52
      6.71   225.08    .402E+07    1352.4          1.26      49.52
      7.40   225.77    .468E+07    1677.3          1.34      46.46
      8.09   226.46    .536E+07    2050.0          1.43      43.58
      8.79   227.16    .607E+07    2457.9          1.52      41.14
      9.48   227.85    .680E+07    2901.0          1.60      39.05
     10.17   228.54    .755E+07    3352.7          1.66      37.53
     10.86   229.23    .834E+07    3812.5          1.71      36.48
     11.55   229.92    .919E+07    4241.8          1.73      36.13
     12.25   230.62    .101E+08    4697.0          1.74      35.93
     12.94   231.31    .111E+08    5186.3          1.74      35.83

                                 <---- hydrograph ---->  <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8352) 5714.38    45.38    8.75  28.10      1.91      0.48
OUTFLOW: ID= 1 (6304) 5714.38    37.83   11.50  28.10      1.80      0.47


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| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.311    10.25    21.30
      + ID2= 2 (6304):  5714.38  37.830    11.50    28.10
        ================================================
        ID = 3 (8350):  6006.75  39.122    11.25    27.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  28.649     9.75    25.66
      + ID2= 2 (8350):  6006.75  39.122    11.25    27.77
        ================================================
        ID = 3 (8346):  9775.21  66.196    10.75    26.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.445    13.75    15.32
      + ID2= 2 (8346):  9775.21  66.196    10.75    26.96
        ================================================
        ID = 3 (8344): 10059.18  66.598    10.75    26.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (8344)    ********     66.598     10.75      26.63
OUTFLOW: ID= 1 (5509)    ********     45.744     15.25      26.63

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 68.69
               TIME SHIFT OF PEAK FLOW         (min)=270.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 76.3485

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-------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

    Unit Hyd Qpeak  (cms)=   2.894

    PEAK FLOW       (cms)=   2.902 (i)
    TIME TO PEAK    (hrs)=   9.750
    RUNOFF VOLUME    (mm)=  30.269
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.414

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

    Unit Hyd Qpeak  (cms)=   7.335

    PEAK FLOW       (cms)=   7.311 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  34.924
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.478

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3321.0) ------>
               Distance      Elevation       Manning
                   0.00         234.00        0.0380
                  25.85         227.20        0.0380
                  96.94         226.44        0.0380
                 168.03         227.38        0.0380
                 219.73         225.62        0.0380
                 342.52         221.57        0.0380
                 368.37         221.42        0.0380
                 374.83         221.23        0.0380
                 379.79         220.98     0.0380 /0.0300  Main Channel
                 380.29         220.47        0.0300       Main Channel
                 381.29         220.47        0.0300       Main Channel
                 382.79         220.47        0.0300       Main Channel
                 383.29         220.98     0.0300 /0.0380  Main Channel
                 394.22         221.22        0.0380
                 400.68         221.33        0.0380
                 407.14         221.44        0.0380
                 491.16         225.70        0.0380
                 568.71         227.55        0.0380
                 607.49         230.14        0.0380
                 639.80         234.08        0.0380

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.51    220.98    .554E+04        0.9         0.56      107.27
       1.20    221.67    .885E+05       12.1         0.49      122.32
       1.88    222.35    .309E+06       64.7         0.76       79.70
       2.57    223.04    .615E+06      165.4         0.97       61.99
       3.25    223.72    .101E+07      322.1         1.16       52.06
       3.94    224.41    .148E+07      542.9         1.33       45.51
       4.62    225.09    .204E+07      835.4         1.48       40.77
       5.31    225.78    .269E+07     1202.8         1.62       37.27
       5.99    226.46    .344E+07     1618.0         1.70       35.46
       6.68    227.15    .447E+07     1932.0         1.56       38.56
       7.36    227.83    .580E+07     2763.9         1.72       34.96
       8.05    228.52    .718E+07     3861.9         1.95       30.97
       8.73    229.20    .859E+07     5115.4         2.16       27.98
       9.42    229.89    .100E+08     6519.2         2.35       25.64
      10.10    230.57    .115E+08     8092.3         2.55       23.69
      10.79    231.26    .130E+08     9821.5         2.73       22.05
      11.47    231.94    .145E+08    11690.9         2.92       20.68
      12.16    232.63    .160E+08    13694.9         3.09       19.52
      12.84    233.31    .176E+08    15833.9         3.26       18.52

                                 <---- hydrograph ---->  <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0330)  468.30     7.31    7.50  34.92      0.90      0.52
OUTFLOW: ID= 1 (6332)  468.30     5.57    9.75  34.92      0.80      0.53


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| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   2.902     9.75    30.27
      + ID2= 2 (6332):   468.30   5.567     9.75    34.92
        ================================================
        ID = 3 (8322):   861.74   8.469     9.75    32.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0328) |   Area     (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   4.508 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  32.087
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0326) |   Area     (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   6.697 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  35.107
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0324) |   Area     (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   6.021 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0320) |   Area     (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   3.792 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  36.087
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.494

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3182) |   Area     (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   5.284 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.999
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.451

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3181) |   Area     (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.06         4.94
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    416.33        40.00

     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        50.01
           over (min)     =     15.00        30.00
     Storage Coeff.  (min)=      7.51 (ii)   21.62 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.13         0.33         5.342 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     71.10        32.21        63.71
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.44         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  77.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3800      0.7654
                          0.0510     0.4423   |   4.1500      0.8231
                          0.8700     0.5378   |   4.8750      0.8778
                          1.9590     0.6105   |   5.2750      0.8878
                          2.5620     0.6796   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000      5.342      6.00       63.71
     OUTFLOW: ID= 1 (5318)     26.000      2.943      6.25       63.63

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.08
               TIME SHIFT OF PEAK FLOW       (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7756

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40    5.284     8.00    33.00
       + ID2= 2 (5318):    26.00    2.943     6.25    63.63
         ================================================
         ID = 3 (8334):   483.40    6.378     6.25    34.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (3201.0) ------>
              Distance      Elevation       Manning
                 0.00         249.00        0.0380
                22.92         245.86        0.0380
                45.83         244.87        0.0380
                91.66         243.11        0.0380
               126.03         239.53        0.0380
               160.41         237.17        0.0380
               166.14         237.06        0.0380
               177.59         237.13        0.0380
               183.32         237.20        0.0380
               189.05         236.70    0.0380 /0.0350  Main Channel
               193.05         235.89        0.0350      Main Channel
               197.05         236.64    0.0350 /0.0380  Main Channel
               200.51         236.74        0.0380
               206.24         237.03        0.0380
               246.34         238.82        0.0380
               263.53         243.87        0.0380
               389.56         247.64        0.0380
               452.58         247.74        0.0380
               498.41         248.60        0.0380
               567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.37   236.26    .270E+04        0.4         0.58     107.96
      0.75   236.64    .108E+05        2.6         0.92      68.01
      1.48   237.37    .877E+05       27.4         1.17      53.35
      2.20   238.09    .277E+06      122.1         1.65      37.83
      2.93   238.82    .540E+06      299.7         2.08      30.01
      3.66   239.55    .857E+06      587.8         2.57      24.29
      4.39   240.28    .120E+07      977.8         3.04      20.52
      5.11   241.00    .158E+07     1458.1         3.46      18.02
```

5.84	241.73	.198E+07	2028.6	3.84	16.23
6.57	242.46	.240E+07	2690.5	4.19	14.86
7.29	243.18	.285E+07	3431.8	4.50	13.84
8.02	243.91	.335E+07	4149.1	4.64	13.44
8.75	244.64	.393E+07	4746.6	4.51	13.80
9.47	245.36	.463E+07	5618.6	4.53	13.75
10.20	246.09	.545E+07	6781.8	4.66	13.39
10.93	246.82	.635E+07	8274.5	4.87	12.79
11.66	247.55	.733E+07	9988.0	5.10	12.23
12.38	248.27	.853E+07	11422.0	5.01	12.45
13.11	249.00	.989E+07	13749.7	5.20	11.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8334)	483.40	6.38	6.25	34.65	0.86	0.95
OUTFLOW: ID= 1 (6320)	483.40	5.21	9.00	34.65	0.82	0.94

ADD HYD (8332)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0320):	278.74	3.792	8.00	36.09
	+ ID2= 2 (6320):	483.40	5.207	9.00	34.65
	ID = 3 (8332):	762.14	8.824	8.50	35.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0314)	Area (ha)= 165.20	Curve Number (CN)= 78.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.71		

Unit Hyd Qpeak (cms)= 3.978

PEAK FLOW (cms)= 3.404 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 32.624
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.446

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6316)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3161.0) ------>

Distance	Elevation	Manning	
0.00	248.54	0.0350	
27.93	248.34	0.0350	
41.89	246.61	0.0350	
62.83	243.09	0.0350	
132.65	239.00	0.0350	
188.50	236.74	0.0350	
195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0314)	165.20	3.40	6.75	32.62	0.74	1.34
OUTFLOW: ID= 1 (6316)	165.20	3.22	7.25	32.62	0.71	1.27

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 82.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 4.118 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 37.068
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0316):	232.34	4.118	7.25	37.07
	+ ID2= 2 (6316):	165.20	3.215	7.25	32.62
	ID = 3 (8338):	397.54	7.333	7.25	35.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 80.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 4.750 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 35.011
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.479

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 3.491 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 20.621
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 65.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 1.788 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 22.291
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.305

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0308):   529.30   3.491     8.25    20.62
      + ID2= 2 (0310):   138.28   1.788     7.00    22.29
        ====================================================
        ID = 3 (8342):   667.58   5.034     7.75    20.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation        Manning
                 0.00         265.94         0.0360
                38.07         265.43         0.0360
                59.82         263.98         0.0360
               103.32         254.59         0.0360
               157.70         252.16         0.0360
               217.52         250.45         0.0360
               233.84         247.69         0.0360
               234.71         247.27         0.0360
               239.71         246.38         0.0360
               244.71         246.12    0.0360 /0.0330  Main Channel
               247.71         245.17         0.0330      Main Channel
               249.71         245.19         0.0330      Main Channel
               251.71         245.64    0.0330 /0.0360  Main Channel
               259.71         246.67         0.0360
               282.78         247.12         0.0360
               315.41         251.60         0.0360
               424.17         256.13         0.0360
               478.55         257.04         0.0360
               516.62         259.37         0.0360
               538.37         266.00         0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.47   245.64    .111E+04       3.1          1.78       6.07
       1.54   246.71    .103E+05      53.9          3.39       3.19
       2.61   247.78    .414E+05     281.3          4.40       2.45
       3.68   248.85    .839E+05     749.1          5.79       1.87
       4.74   249.91    .136E+06    1463.2          6.97       1.55
       5.81   250.98    .201E+06    2354.8          7.61       1.42
       6.88   252.05    .295E+06    3533.0          7.76       1.39
       7.95   253.12    .427E+06    5303.9          8.05       1.34
       9.02   254.19    .594E+06    7856.5          8.58       1.26
      10.09   255.26    .792E+06   11449.2          9.37       1.15
      11.15   256.32    .101E+07   15862.4         10.15       1.06
      12.22   257.39    .127E+07   21074.5         10.75       1.01
      13.29   258.46    .155E+07   28184.1         11.78       0.92
      14.36   259.53    .185E+07   36386.2         12.77       0.85
      15.43   260.60    .215E+07   46110.6         13.89       0.78
      16.50   261.67    .246E+07   56822.5         14.95       0.72
      17.56   262.73    .278E+07   68498.1         15.97       0.68
      18.63   263.80    .310E+07   81118.8         16.94       0.64
      19.70   264.87    .344E+07   93603.2         17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8342)  667.58    5.03    7.75  20.97     0.51      1.81
    OUTFLOW: ID= 1 (6312)  667.58    5.03    8.00  20.97     0.51      1.81
```

```
--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44   4.750     8.00    35.01
      + ID2= 2 (6312):   667.58   5.033     8.00    20.97
        ====================================================
        ID = 3 (8340):  1027.02   9.783     8.00    25.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   7.333     7.25    35.22
      + ID2= 2 (8340):  1027.02   9.783     8.00    25.88
        ====================================================
        ID = 3 (8336):  1424.56  16.950     7.50    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14   8.824     8.50    35.17
      + ID2= 2 (8336):  1424.56  16.950     7.50    28.49
        ====================================================
        ID = 3 (8330):  2186.70  25.333     7.75    30.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation        Manning
                 0.00         234.38         0.0360
                33.57         232.48         0.0360
                67.14         230.14         0.0360
                83.93         228.80         0.0360
               134.29         227.62         0.0360
               209.82         225.10         0.0360
               218.21         224.86         0.0360
               226.61         224.47         0.0360
               234.00         223.86    0.0360 /0.0300  Main Channel
               234.10         223.66         0.0300      Main Channel
               235.00         223.66         0.0300      Main Channel
               235.90         223.66         0.0300      Main Channel
               236.00         223.86    0.0300 /0.0360  Main Channel
               243.39         224.92         0.0360
               251.78         224.89         0.0360
               335.71         225.64         0.0360
               562.32         226.53         0.0360
               637.85         228.36         0.0360
               705.00         229.80         0.0360
               830.89         234.00         0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.86    .145E+04       0.2          0.43     147.27
       0.73   224.39    .159E+05       2.8          0.68      93.11
       1.27   224.93    .561E+05      11.0          0.75      85.19
       1.80   225.46    .217E+06      45.6          0.80      79.20
       2.33   225.99    .566E+06     134.4          0.91      70.20
       2.87   226.53    .122E+07     338.1          1.06      59.97
       3.40   227.06    .206E+07     744.3          1.38      46.16
       3.94   227.60    .298E+07    1295.9          1.66      38.38
       4.47   228.13    .399E+07    1979.9          1.90      33.59
       5.00   228.66    .509E+07    2807.5          2.11      30.21
       5.54   229.20    .627E+07    3815.1          2.32      27.41
       6.07   229.73    .753E+07    4984.1          2.53      25.17
       6.60   230.26    .884E+07    6346.3          2.74      23.20
       7.14   230.80    .102E+08    7861.2          2.95      21.61
       7.67   231.33    .116E+08    9526.4          3.14      20.29
       8.21   231.87    .131E+08   11342.2          3.32      19.18
       8.74   232.40    .146E+08   13309.6          3.49      18.22
       9.27   232.93    .161E+08   15414.0          3.66      17.41
       9.81   233.47    .177E+08   17671.0          3.81      16.70

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.70    25.33    7.75  30.82     1.49      0.77
    OUTFLOW: ID= 1 (6324) 2186.70    21.73    9.50  30.82     1.43      0.76
```

```
--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0324):   615.64   6.021     8.75    34.06
      + ID2= 2 (6324):  2186.70  21.726     9.50    30.82
        ====================================================
        ID = 3 (8328):  2802.34  27.648     9.50    31.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   5.538 (i)
     TIME TO PEAK    (hrs)=   8.500
```

```
     RUNOFF VOLUME    (mm)=  35.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   5.538     8.50    35.08
      + ID2= 2 (8328):  2802.34  27.648     9.50    31.53
        ================================================
        ID = 3 (8326):  3315.47  32.995     9.50    32.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   6.697     8.75    35.11
      + ID2= 2 (8326):  3315.47  32.995     9.50    32.08
        ================================================
        ID = 3 (8324):  3994.38  39.647     9.25    32.59
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.50   218.64    .373E+05         3.2         0.33     192.37
       1.00   219.14    .752E+05        10.1         0.51     124.71
       1.52   219.66    .149E+06        22.2         0.57     112.06
       2.04   220.18    .279E+06        43.4         0.59     107.06
       2.56   220.70    .464E+06        77.0         0.63     100.52
       3.08   221.22    .705E+06       125.7         0.68      93.56
       3.61   221.75    .100E+07       192.7         0.73      86.62
       4.13   222.27    .135E+07       278.1         0.79      80.92
       4.65   222.79    .176E+07       385.9         0.84      75.86
       5.17   223.31    .222E+07       514.9         0.89      71.82
       5.69   223.83    .280E+07       662.7         0.90      70.40
       6.21   224.35    .345E+07       867.7         0.96      66.35
       6.73   224.87    .417E+07      1107.0         1.01      62.81
       7.25   225.39    .494E+07      1400.0         1.08      58.80
       7.78   225.92    .573E+07      1732.2         1.15      55.17
       8.30   226.44    .655E+07      2099.9         1.22      52.02
       8.82   226.96    .740E+07      2502.8         1.29      49.29
       9.34   227.48    .828E+07      2940.9         1.36      46.90
       9.86   228.00    .918E+07      3414.3         1.42      44.79

                                <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8324) 3994.38    39.65    9.25  32.59      1.95      0.59
     OUTFLOW: ID= 1 (6328) 3994.38    33.85   11.00  32.59      1.81      0.58
```

```
-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0328):   492.92   4.508     8.75    32.09
      + ID2= 2 (6328):  3994.38  33.850    11.00    32.59
        ================================================
        ID = 3 (8320):  4487.30  37.891    11.00    32.54
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.30  37.891    11.00    32.54
      + ID2= 2 (8322):   861.74   8.469     9.75    32.80
        ================================================
        ID = 3 (8318):  5349.04  46.022    10.75    32.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.18  45.744    15.25    26.63
      + ID2= 2 (8318):  5349.04  46.022    10.75    32.58
        ================================================
        ID = 3 (8316): 15408.22  86.971    11.75    28.69
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   1.209     6.75    18.32
      + ID2= 2 (8316): 15408.22  86.971    11.75    28.69
        ================================================
        ID = 3 (8312): 16028.32  87.875    11.75    28.29
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.90  27.843     6.50    36.29
      + ID2= 2 (8312): 16028.32  87.875    11.75    28.29
        ================================================
        ID = 3 (8308): 16627.22  89.765    11.50    28.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     74.0090
                         66.5450    18.5023   |  *******    ********
                         98.5430    37.0045   |  *******    ********

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8308)  ********     89.765     11.50      28.58
     OUTFLOW: ID= 1 (5510)  ********     85.396     13.25      28.58

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.13
               TIME SHIFT OF PEAK FLOW        (min)=105.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 29.4137
```

```
-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   3.370    22.25    27.75
      + ID2= 2 (5510): 16627.22  85.396    13.25    28.58
        ================================================
        ID = 3 (8240): 19412.22  88.298    13.50    28.47
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
```

```
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.23  42.683    12.25    17.78
      + ID2= 2 (8240): 19412.22  88.298    13.50    28.47
        ================================================
        ID = 3 (8238): 28936.45 130.148    12.75    24.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0342):  1004.58   3.660    10.00    16.26
      + ID2= 2 (8238): 28936.45 130.148    12.75    24.95
        ================================================
        ID = 3 (8236): 29941.03 133.430    12.75    24.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.80   8.040     6.00    24.37
      + ID2= 2 (8236): 29941.03 133.430    12.75    24.66
        ================================================
        ID = 3 (8234): 30226.83 133.766    12.75    24.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0344):   344.00   3.342     7.00    18.72
      + ID2= 2 (8234): 30226.83 133.766    12.75    24.65
        ================================================
        ID = 3 (8230): 30570.83 134.707    12.75    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8226):  1952.06  11.133     8.75    15.62
      + ID2= 2 (8230): 30570.83 134.707    12.75    24.59
        ================================================
        ID = 3 (8228): 32522.89 141.797    12.50    24.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):  1015.22   4.610     8.00    12.58
      + ID2= 2 (8228): 32522.89 141.797    12.50    24.05
        ================================================
        ID = 3 (8190): 33538.11 144.663    12.25    23.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  13 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\f574c8d3
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.57 |  3.25    2.51 |'  6.25   11.29 |  9.25    2.19
               0.50    1.57 |  3.50    2.51 |'  6.50   11.29 |  9.50    2.19
               0.75    1.57 |  3.75    2.51 |'  6.75    5.02 |  9.75    2.19
               1.00    1.57 |  4.00    2.51 |'  7.00    5.02 | 10.00    2.19
               1.25    1.57 |  4.25    3.76 |'  7.25    3.76 | 10.25    1.25
               1.50    1.57 |  4.50    3.76 |'  7.50    3.76 | 10.50    1.25
               1.75    1.57 |  4.75    5.02 |'  7.75    3.76 | 10.75    1.25
               2.00    1.57 |  5.00    5.02 |'  8.00    3.76 | 11.00    1.25
               2.25    1.88 |  5.25    7.52 |'  8.25    2.19 | 11.25    1.25
               2.50    1.88 |  5.50    7.52 |'  8.50    2.19 | 11.50    1.25
               2.75    1.88 |  5.75   30.10 |'  8.75    2.19 | 11.75    1.25
               3.00    1.88 |  6.00   82.76 |'  9.00    2.19 | 12.00    1.25

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=  12.651

    PEAK FLOW       (cms)=   3.392 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   9.295
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.148

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   3.252

    PEAK FLOW       (cms)=   0.631 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=   6.749
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.108

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

    Unit Hyd Qpeak  (cms)=   7.980

    PEAK FLOW       (cms)=   2.453 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.980
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.191

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

    Unit Hyd Qpeak  (cms)=   6.254

    PEAK FLOW       (cms)=   3.349 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  19.771
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.315

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   5.831

    PEAK FLOW       (cms)=   1.564 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=   9.910
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.158

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
```

```
     OUTFLOW: ID= 1 (5510)   ********    105.320     13.75      38.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.90
                   TIME SHIFT OF PEAK FLOW          (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 44.9262

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   4.639    22.25    38.20
       + ID2= 2 (5510): 16627.22 105.320    13.75    38.94
         ================================================
         ID = 3 (8240): 19412.22 109.428    14.00    38.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  56.167    11.75    25.09
       + ID2= 2 (8240): 19412.22 109.428    14.00    38.84
         ================================================
         ID = 3 (8238): 28936.45 163.719    13.00    34.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   5.230    10.00    23.19
       + ID2= 2 (8238): 28936.45 163.719    13.00    34.32
         ================================================
         ID = 3 (8236): 29941.03 168.365    12.75    33.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80  10.972     6.50    32.52
       + ID2= 2 (8236): 29941.03 168.365    12.75    33.94
         ================================================
         ID = 3 (8234): 30226.83 168.774    12.50    33.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.771     7.00    26.48
       + ID2= 2 (8234): 30226.83 168.774    12.50    33.93
         ================================================
         ID = 3 (8230): 30570.83 170.215    12.50    33.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  15.927     8.75    22.21
       + ID2= 2 (8230): 30570.83 170.215    12.50    33.84
         ================================================
         ID = 3 (8228): 32522.89 180.663    12.00    33.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   6.685     8.00    18.15
       + ID2= 2 (8228): 32522.89 180.663    12.00    33.15
         ================================================
         ID = 3 (8190): 33538.11 185.041    12.00    32.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  11 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\9255d239
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
               0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
               0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
               1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
               1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
               1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
               1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
               2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
               2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
               2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
               2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
               3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   5.609 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.056 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.232
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.018 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.394
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   5.278 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.777
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.381
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   2.583 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  16.221
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   2.683 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.307
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                0.00         287.00        0.0500
               23.66         283.72        0.0500
               70.98         280.94        0.0500
              112.38         280.23        0.0500
              171.52         276.80        0.0500
              260.24         274.46        0.0500
              266.16         274.26        0.0500
              272.07         274.12        0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82        0.0300      Main Channel
              277.99         273.82        0.0300      Main Channel
              279.49         273.82        0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27        0.0500
              289.81         274.57        0.0500
              325.30         275.75        0.0500
              396.28         278.98        0.0500
              449.51         280.97        0.0500
              496.83         283.90        0.0500
              585.54         287.92        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
       0.30   274.12   .273E+04        0.9          0.99      49.81
       0.98   274.80   .583E+05       20.8          1.05      46.71
       1.66   275.48   .283E+06       95.2          1.38      35.53
       2.33   276.15   .438E+06      256.0          1.73      28.50
       3.01   276.83   .755E+06      524.8          2.05      23.97
       3.69   277.51   .114E+07      935.8          2.43      20.26
       4.37   278.19   .157E+07     1472.0          2.76      17.82
       5.05   278.87   .206E+07     2140.7          3.06      16.06
       5.72   279.54   .261E+07     2938.6          3.33      14.79
       6.40   280.22   .321E+07     3887.6          3.57      13.77
       7.08   280.90   .390E+07     4795.4          3.63      13.56
       7.76   281.58   .468E+07     6196.2          3.91      12.58
       8.43   282.25   .550E+07     7803.9          4.19      11.74
       9.11   282.93   .637E+07     9601.9          4.45      11.05
       9.79   283.61   .728E+07    11594.8          4.70      10.46
      10.47   284.29   .823E+07    13845.3          4.96       9.91
      11.15   284.97   .922E+07    16293.4          5.21       9.43
      11.82   285.64   .103E+08    18952.0          5.45       9.02
      12.50   286.32   .113E+08    21824.3          5.69       8.65

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     2.68    9.00  16.31      0.36      0.99
     OUTFLOW: ID= 1 (6350)  590.18     2.62   10.25  16.31      0.36      0.99

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-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0350):   366.84    2.583     7.50    16.22
        + ID2= 2 (6350):   590.18    2.617    10.25    16.31
          ================================================
          ID = 3 (8220):   957.02    4.788     8.75    16.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0346):   350.93    5.278     7.25    30.78
        + ID2= 2 (8220):   957.02    4.788     8.75    16.27
          ================================================
          ID = 3 (8222):  1307.95    9.701     8.00    20.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
       0.60   239.41   .224E+04        2.2          1.52      17.12
       1.58   240.39   .216E+05       22.3          1.61      16.16
       2.55   241.36   .804E+05      101.0          1.96      13.27
       3.53   242.34   .173E+06      275.6          2.48      10.46
       4.50   243.31   .293E+06      553.9          2.95       8.80
       5.48   244.29   .438E+06      961.8          3.42       7.60
       6.45   245.26   .599E+06     1534.4          3.99       6.51
       7.43   246.24   .770E+06     2228.4          4.51       5.76
       8.41   247.22   .951E+06     3043.6          4.98       5.21
       9.38   248.19   .114E+07     3982.1          5.43       4.78
      10.36   249.17   .134E+07     5040.1          5.85       4.44
      11.33   250.14   .155E+07     6218.5          6.24       4.16
      12.31   251.12   .177E+07     7518.6          6.61       3.93
      13.29   252.10   .200E+07     8969.0          6.98       3.72
      14.26   253.07   .224E+07    10554.1          7.35       3.53
      15.24   254.05   .248E+07    12257.1          7.71       3.37
      16.21   255.02   .272E+07    14045.1          8.03       3.23
      17.19   256.00   .298E+07    15954.8          8.34       3.11
      18.16   256.97   .325E+07    17780.4          8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     9.70    8.00  20.17      0.97      1.55
     OUTFLOW: ID= 1 (6352) 1307.95     9.63    8.25  20.17      0.96      1.55

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-------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0352):   381.43    4.018     7.00    19.39
        + ID2= 2 (6352):  1307.95    9.633     8.25    20.17
          ================================================
          ID = 3 (8224):  1689.38   13.278     7.75    19.99
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<-------- DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	13.28	7.75	19.99	1.52	1.15
OUTFLOW: ID= 1 (6354)	1689.38	12.41	8.75	19.99	1.45	1.14

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| ADD HYD   (8226) |
|   1 +  2 =  3    |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	1.056	8.00	11.23
+ ID2= 2 (6354):	1689.38	12.412	8.75	19.99
ID = 3 (8226):	1952.06	13.442	8.75	18.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0344) |   Area     (ha)= 344.00   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=   4.034 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.484
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area     (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	65.69	168.91
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1250.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	21.15
over (min)	15.00	45.00
Storage Coeff. (min)=	13.95 (ii)	33.87 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.07	0.03

		TOTALS
PEAK FLOW (cms)=	6.78	5.80	9.169 (iii)
TIME TO PEAK (hrs)=	6.00	6.50	6.00
RUNOFF VOLUME (mm)=	78.80	19.31	27.04
TOTAL RAINFALL (mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT =	0.98	0.24	0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3401) |   Area     (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	23.55	27.65
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	584.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	49.39
over (min)	15.00	30.00
Storage Coeff. (min)=	8.84 (ii)	23.02 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.09	0.04

		TOTALS
PEAK FLOW (cms)=	2.78	1.79	3.900 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	78.80	22.56	34.37
TOTAL RAINFALL (mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT =	0.98	0.28	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |
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OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.3360	1.7877
0.1730	0.6348	7.2780	2.2185
1.8360	0.8250	9.1880	2.6486
2.1540	1.1051	9.5880	2.6586
3.3950	1.3506	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3401)	51.200	3.900	6.00	34.37
OUTFLOW: ID= 1 (5340)	51.200	1.657	6.50	34.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.48
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.8094

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |
-------------------
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3402):	234.60	9.169	6.00	27.04
+ ID2= 2 (5340):	51.20	1.657	6.50	34.35
ID = 3 (8232):	285.80	9.337	6.50	28.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0342)	Area (ha)=1004.58	Curve Number (CN)= 54.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.57		

Unit Hyd Qpeak (cms)= 6.686

PEAK FLOW (cms)= 4.420 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 19.616
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0422)	Area (ha)= 780.20	Curve Number (CN)= 54.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.95		

Unit Hyd Qpeak (cms)= 6.838

PEAK FLOW (cms)= 4.215 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 19.591
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.242

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0410)	Area (ha)= 572.01	Curve Number (CN)= 48.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.46		

Unit Hyd Qpeak (cms)= 6.698

PEAK FLOW (cms)= 3.210 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 16.276
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.201

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0408)	Area (ha)= 231.62	Curve Number (CN)= 58.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.64		

Unit Hyd Qpeak (cms)= 6.198

PEAK FLOW (cms)= 3.331 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 21.683
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0376)	Area (ha)= 463.85	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.07		

Unit Hyd Qpeak (cms)= 7.380

PEAK FLOW (cms)= 7.184 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 34.493
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0374)	Area (ha)= 545.70	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.51		

Unit Hyd Qpeak (cms)= 6.158

PEAK FLOW (cms)= 4.432 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 23.989
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.297

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0372)	Area (ha)= 110.42	Curve Number (CN)= 37.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.96		

Unit Hyd Qpeak (cms)= 1.954

PEAK FLOW (cms)= 0.576 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 11.182
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.138

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0370)	Area (ha)= 191.85	Curve Number (CN)= 63.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.67		

Unit Hyd Qpeak (cms)= 4.860

PEAK FLOW (cms)= 3.080 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 25.072
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.310

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0368)	Area (ha)= 159.48	Curve Number (CN)= 46.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 1.020 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 15.231
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.189

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0366)	Area (ha)= 462.62	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.06		

Unit Hyd Qpeak (cms)= 7.451

PEAK FLOW (cms)= 5.064 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 24.589
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.304

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0364)	Area (ha)= 155.27	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 1.891 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 19.909
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.246

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0364):   155.27   1.891     6.75    19.91
       + ID2= 2 (0366):   462.62   5.064     7.50    24.59
         ================================================
         ID = 3 (8302):   617.89   6.881     7.25    23.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.13        92.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    889.87        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        18.31
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     11.38 (ii)   32.47 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                        *TOTALS*
     PEAK FLOW      (cms)=      2.28         2.82          3.434 (iii)
     TIME TO PEAK   (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME   (mm)=     78.80        17.25         22.18
     TOTAL RAINFALL  (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT  =      0.98         0.21          0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW      (cms)=   1.973 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  10.392
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT  =   0.129

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW      (cms)=   1.427 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  15.028
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT  =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   1.973     7.50    10.39
       + ID2= 2 (0360):   138.37   1.427     6.75    15.03
         ================================================
         ID = 3 (8306):   568.24   3.321     7.00    11.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation        Manning
                  0.00         261.46         0.0550
                 27.86         254.23         0.0550
                 51.07         251.96         0.0550
                 74.29         250.77         0.0550
                 97.50         249.91         0.0550
                125.36         249.40         0.0550
                150.93         247.40         0.0550
                155.93         247.33     0.0550 /0.0350  Main Channel
                157.93         246.85         0.0350      Main Channel
                159.18         246.65         0.0350      Main Channel
                160.18         246.63         0.0350      Main Channel
                160.93         246.85         0.0350      Main Channel
                161.93         247.18     0.0350 /0.0550  Main Channel
                163.18         248.03         0.0550
                168.18         248.58         0.0550
                183.18         250.18         0.0550
                201.97         252.59         0.0550
                213.57         256.02         0.0550
                225.18         260.31         0.0550
                229.82         261.00         0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE      VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)          (m/s)       (min)
        0.55   247.18    .556E+04         1.9           1.03       49.95
        1.28   247.91    .336E+05        16.7           1.53       33.61
        2.00   248.63    .913E+05        53.6           1.81       28.40
        2.73   249.36    .185E+06       122.3           2.05       25.18
        3.46   250.09    .344E+06       224.6           2.02       25.52
        4.19   250.82    .574E+06       417.9           2.25       22.91
        4.91   251.54    .855E+06       699.1           2.53       20.38
        5.64   252.27    .118E+07      1075.3           2.82       18.26
        6.37   253.00    .153E+07      1559.9           3.15       16.38
        7.10   253.73    .191E+07      2137.6           3.46       14.89
        7.82   254.45    .231E+07      2815.2           3.77       13.67
        8.55   255.18    .272E+07      3608.5           4.10       12.58
        9.28   255.91    .315E+07      4488.2           4.41       11.69
       10.01   256.64    .358E+07      5458.0           4.71       10.95
       10.73   257.36    .403E+07      6512.4           4.99       10.32
       11.46   258.09    .449E+07      7649.8           5.27        9.78
       12.19   258.82    .496E+07      8869.5           5.53        9.32
       12.92   259.55    .544E+07     10171.2           5.78        8.91
       13.64   260.27    .593E+07     11554.8           6.02        8.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8306)  568.24     3.32    7.00  11.52      0.62      1.07
    OUTFLOW: ID= 1 (6362)  568.24     2.94    8.25  11.52      0.60      1.06

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--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78   3.434     6.00    22.18
       + ID2= 2 (6362):   568.24   2.938     8.25    11.52
         ================================================
         ID = 3 (8304):   687.02   4.850     6.50    13.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   6.881     7.25    23.41
       + ID2= 2 (8304):   687.02   4.850     6.50    13.36
         ================================================
         ID = 3 (8300):  1304.91  11.147     7.00    18.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3681.0) ------>
               Distance      Elevation        Manning
                  0.00         230.00         0.0370
                 18.48         223.26         0.0370
                 36.96         223.05         0.0370
                 64.67         222.94         0.0370
                110.87         222.86         0.0370
```

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              133.96        222.74        0.0370
              147.82        222.65        0.0370
              170.92        222.31        0.0370
              174.79        222.26    0.0370 /0.0300  Main Channel
              174.89        221.86        0.0300      Main Channel
              175.54        221.86        0.0300      Main Channel
              176.19        221.86        0.0300      Main Channel
              176.29        222.26    0.0300 /0.0370  Main Channel
              180.16        222.25        0.0370
              184.78        222.28        0.0370
              189.40        222.31        0.0370
              332.60        222.37        0.0370
              450.00        230.00        0.0370

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.40   222.26    .771E+03         0.3          0.52       41.74
       0.81   222.67    .784E+05        30.3          0.51       43.17
       1.21   223.07    .210E+06       123.2          0.77       28.42
       1.62   223.48    .384E+06       301.0          1.03       21.25
       2.03   223.89    .563E+06       550.2          1.28       17.06
       2.44   224.30    .747E+06       860.7          1.51       14.46
       2.84   224.70    .934E+06      1228.1          1.73       12.68
       3.25   225.11    .113E+07      1649.3          1.92       11.37
       3.66   225.52    .132E+07      2122.3          2.11       10.37
       4.07   225.93    .152E+07      2645.5          2.29        9.58
       4.47   226.33    .172E+07      3217.8          2.45        8.92
       4.88   226.74    .193E+07      3838.3          2.61        8.38
       5.29   227.15    .214E+07      4506.3          2.76        7.92
       5.70   227.56    .236E+07      5221.3          2.91        7.52
       6.10   227.96    .258E+07      5983.0          3.05        7.17
       6.51   228.37    .280E+07      6790.9          3.19        6.87
       6.92   228.78    .303E+07      7645.0          3.32        6.60
       7.33   229.19    .326E+07      8545.1          3.45        6.35
       7.73   229.59    .349E+07      9491.0          3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    11.15    7.00  18.12      0.55       0.52
     OUTFLOW: ID= 1 (6368) 1304.91    10.16    8.00  18.12      0.53       0.52


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| ADD HYD   (8298) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0368):   159.48    1.020     7.75    15.23
      + ID2= 2 (6368):  1304.91   10.162     8.00    18.12
        ==========================================
        ID = 3 (8298):  1464.39  11.178     8.00    17.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8296) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0370):   191.85    3.080     6.75    25.07
      + ID2= 2 (8298):  1464.39  11.178     8.00    17.81
        ==========================================
        ID = 3 (8296):  1656.24  13.707     7.75    18.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation       Manning
                0.00         225.00        0.0390
               30.80         219.38        0.0390
               61.61         219.30        0.0390
               77.01         219.27        0.0390
              469.76         219.14        0.0390
              477.46         219.13        0.0390
              485.16         219.10        0.0390
              492.86         219.09        0.0390
              495.56         219.09    0.0390 /0.0310  Main Channel
              495.66         218.51        0.0310      Main Channel
              500.56         218.51        0.0310      Main Channel
              505.46         218.51        0.0310      Main Channel
              505.56         219.09    0.0310 /0.0390  Main Channel
              508.26         219.09        0.0390
              515.96         219.10        0.0390
              523.67         219.21        0.0390
              562.17         219.32        0.0390
              654.58         219.43        0.0390
              731.59         219.46        0.0390
              762.39         225.00        0.0390

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.29   218.80    .431E+04         1.7          0.58       43.48
       0.58   219.09    .867E+04         5.1          0.89       28.32
       0.93   219.44    .200E+06        58.2          0.44       57.35
       1.28   219.79    .568E+06       278.6          0.74       33.99
       1.62   220.13    .939E+06       630.2          1.01       24.84
       1.97   220.48    .131E+07      1090.4          1.25       20.05
       2.32   220.83    .169E+07      1647.7          1.47       17.06
       2.67   221.18    .206E+07      2294.6          1.68       14.99
       3.01   221.52    .244E+07      3025.6          1.87       13.46
       3.36   221.87    .282E+07      3836.5          2.05       12.27
       3.71   222.22    .321E+07      4723.7          2.22       11.31
       4.06   222.57    .359E+07      5684.6          2.39       10.53
       4.40   222.91    .398E+07      6716.6          2.55        9.87
       4.75   223.26    .437E+07      7817.7          2.70        9.31
       5.10   223.61    .476E+07      8986.2          2.85        8.83
       5.45   223.96    .515E+07     10220.4          2.99        8.40
       5.79   224.30    .555E+07     11519.1          3.13        8.03
       6.14   224.65    .594E+07     12880.8          3.27        7.69
       6.49   225.00    .634E+07     14304.5          3.40        7.39

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    13.71    7.75  18.65      0.64       0.76
     OUTFLOW: ID= 1 (6372) 1656.24    13.13    8.50  18.65      0.63       0.77


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| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):   110.42    0.576     7.25    11.18
      + ID2= 2 (6372):  1656.24  13.134     8.50    18.65
        ==========================================
        ID = 3 (8294):  1766.66  13.657     8.50    18.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70    4.432     8.25    23.99
      + ID2= 2 (8294):  1766.66  13.657     8.50    18.18
        ==========================================
        ID = 3 (8292):  2312.36  18.064     8.50    19.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |    (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360    18.064     8.50      19.55
     OUTFLOW: ID= 1 (5505)   2312.360    13.246    11.25      19.55

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.32
               TIME SHIFT OF PEAK FLOW          (min)=165.00
               MAXIMUM  STORAGE   USED        (ha.m.)= 12.8339

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85    7.184     7.25    34.49
      + ID2= 2 (5505):  2312.36  13.246    11.25    19.55
        ==========================================
        ID = 3 (8272):  2776.21  17.737    10.25    22.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   4.047 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  29.979
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   3.012 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.867
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.233

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   3.688 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.072
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   2.265 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.891
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   2.901 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.835
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27   2.901     7.00    23.84
      + ID2= 2 (0388):   220.77   2.265     7.25    21.89
        ================================================
        ID = 3 (8286):   462.04   5.164     7.25    22.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.336 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.242
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.618 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  12.271
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.645 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.713
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01   1.618     6.50    12.27
      + ID2= 2 (0382):   216.59   2.645     6.75    18.71
        ================================================
        ID = 3 (8290):   398.60   4.252     6.75    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (3841.0) ------>
                 Distance      Elevation        Manning
                    0.00         294.40         0.0380
                   10.59         291.93         0.0380
                   21.17         289.19         0.0380
                   26.46         287.99         0.0380
                   31.76         286.79         0.0380
                   71.45         279.97         0.0380
                   74.10         279.79         0.0380
                   76.74         279.71         0.0380
                   78.99         279.64    0.0380 /0.0300  Main Channel
                   79.14         279.30         0.0300      Main Channel
                   79.39         279.30         0.0300      Main Channel
                   79.64         279.30         0.0300      Main Channel
                   79.79         279.64    0.0300 /0.0380  Main Channel
                   89.98         279.78         0.0380
                  119.09         281.86         0.0380
                  145.55         282.87         0.0380
                  198.48         284.85         0.0380
                  211.71         286.31         0.0380
                  230.23         287.59         0.0380
                  261.99         294.00         0.0380

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.34	279.64	.715E+03	0.2	0.85	63.42
1.10	280.40	.507E+05	21.9	1.40	38.54
1.85	281.15	.141E+06	91.8	2.10	25.69
2.61	281.91	.269E+06	218.9	2.63	20.46
3.36	282.66	.445E+06	407.1	2.96	18.23
4.12	283.42	.681E+06	698.3	3.31	16.26
4.87	284.17	.977E+06	1111.8	3.68	14.65
5.63	284.93	.133E+07	1674.3	4.06	13.27
6.39	285.69	.173E+07	2457.8	4.59	11.73
7.14	286.44	.215E+07	3378.8	5.07	10.63
7.90	287.20	.261E+07	4418.4	5.47	9.85
8.65	287.95	.310E+07	5676.3	5.92	9.11
9.41	288.71	.361E+07	7150.5	6.40	8.42
10.17	289.47	.414E+07	8783.1	6.86	7.86
10.92	290.22	.469E+07	10575.1	7.30	7.38
11.68	290.98	.525E+07	12520.4	7.72	6.98
12.43	291.73	.582E+07	14619.0	8.12	6.64
13.19	292.49	.642E+07	16863.2	8.50	6.34
13.94	293.24	.703E+07	19259.8	8.86	6.08

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8290)	398.60	4.25	6.75	15.77	0.48	0.92
OUTFLOW: ID= 1 (6384)	398.60	3.34	8.00	15.77	0.45	0.90

ADD HYD (8288)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8384):	199.07	1.336	7.25	14.24
+ ID2= 2 (6384):	398.60	3.339	8.00	15.77
ID = 3 (8288):	597.67	4.648	7.75	15.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8284)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8286):	462.04	5.164	7.25	22.91
+ ID2= 2 (8288):	597.67	4.648	7.75	15.26
ID = 3 (8284):	1059.71	9.705	7.50	18.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8280)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0390):	420.00	3.688	7.50	20.07
+ ID2= 2 (8284):	1059.71	9.705	7.50	18.59
ID = 3 (8280):	1479.71	13.393	7.50	19.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0392)	Area (ha)= 167.22	Curve Number (CN)= 62.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.74			

Unit Hyd Qpeak (cms)= 3.837

PEAK FLOW (cms)= 2.409 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 24.429
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.302

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0378)	Area (ha)= 606.72	Curve Number (CN)= 55.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 1.18			

Unit Hyd Qpeak (cms)= 8.771

PEAK FLOW (cms)= 4.960 (i)
TIME TO PEAK (hrs)= 7.750

RUNOFF VOLUME (mm)= 20.097
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.249

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0378):	606.72	4.960	7.75	20.10
+ ID2= 2 (0392):	167.22	2.409	7.00	24.43
ID = 3 (8282):	773.94	7.226	7.25	21.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8278)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8280):	1479.71	13.393	7.50	19.01
+ ID2= 2 (8282):	773.94	7.226	7.25	21.03
ID = 3 (8278):	2253.65	20.600	7.50	19.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3941.0) ------>

Distance	Elevation	Manning	
0.00	283.00	0.0380	
13.48	282.87	0.0380	
53.92	280.08	0.0380	
74.13	276.62	0.0380	
97.72	265.45	0.0380	
114.57	256.93	0.0380	
131.42	253.04	0.0380	
134.79	252.58	0.0380	
138.53	251.74	0.0380 /0.0300	Main Channel
139.03	251.20	0.0300	Main Channel
141.53	251.20	0.0300	Main Channel
144.03	251.20	0.0300	Main Channel
144.53	251.74	0.0300 /0.0380	Main Channel
148.27	252.69	0.0380	
151.64	252.97	0.0380	
185.34	255.08	0.0380	
219.03	257.54	0.0380	
262.84	259.43	0.0380	
310.02	262.80	0.0380	
333.60	283.00	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	251.74	.827E+04	4.5	1.51	30.71
2.19	253.39	.758E+05	73.2	2.69	17.27
3.83	255.03	.282E+06	331.8	3.27	14.17
5.48	256.68	.633E+06	917.3	4.03	11.51
7.12	258.32	.112E+07	1889.5	4.69	9.90
8.77	259.97	.179E+07	3410.2	5.31	8.73
10.41	261.61	.259E+07	5627.6	6.05	7.66
12.06	263.26	.351E+07	8605.1	6.83	6.79
13.70	264.90	.447E+07	12544.9	7.81	5.94
15.35	266.55	.546E+07	17101.4	8.71	5.32
16.99	268.19	.648E+07	22251.7	9.56	4.85
18.64	269.84	.752E+07	27979.0	10.36	4.48
20.28	271.48	.858E+07	34269.0	11.11	4.17
21.93	273.13	.967E+07	41119.8	11.83	3.92
23.57	274.77	.108E+08	48495.9	12.51	3.71
25.22	276.42	.119E+08	56418.1	13.17	3.52
26.86	278.06	.131E+08	64410.6	13.69	3.39
28.51	279.71	.143E+08	73002.1	14.18	3.27
30.15	281.35	.156E+08	81379.3	14.50	3.20

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8278)	2253.65	20.60	7.50	19.71	0.93	1.68
OUTFLOW: ID= 1 (6394)	2253.65	20.08	8.00	19.71	0.91	1.68

ADD HYD (8276)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0394):   325.45   3.012     7.25    18.87
      + ID2= 2 (6394):  2253.65  20.077     8.00    19.71
        ================================================
        ID = 3 (8276):  2579.10  22.946     8.00    19.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3961.0) ------>
             Distance      Elevation       Manning
                0.00         263.00        0.0410
               11.75         257.14        0.0410
               23.50         253.97        0.0410
               41.13         247.83        0.0410
               76.38         232.09        0.0410
              135.13         229.07        0.0410
              149.82         228.97        0.0410
              152.75         228.96    0.0410 /0.0300  Main Channel
              154.19         228.73        0.0300      Main Channel
              154.69         228.20        0.0300      Main Channel
              155.69         228.20        0.0300      Main Channel
              156.69         228.20        0.0300      Main Channel
              157.19         228.73        0.0300      Main Channel
              158.63         228.95    0.0300 /0.0410  Main Channel
              161.57         228.96        0.0410
              164.51         229.71        0.0410
              196.82         241.70        0.0410
              223.26         249.21        0.0410
              246.76         255.13        0.0410
              290.82         263.51        0.0410

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98      58.06
       2.54   230.74    .277E+06       145.1          1.78      31.76
       4.33   232.53    .786E+06       609.1          2.63      21.50
       6.13   234.33    .140E+07      1481.5          3.59      15.77
       7.92   236.12    .207E+07      2677.3          4.39      12.90
       9.71   237.91    .280E+07      4184.8          5.09      11.14
      11.50   239.70    .357E+07      6001.4          5.71       9.93
      13.29   241.49    .441E+07      8129.1          6.27       9.03
      15.09   243.29    .530E+07     10549.4          6.77       8.37
      16.88   245.08    .625E+07     13300.6          7.24       7.83
      18.67   246.87    .726E+07     16396.2          7.68       7.38
      20.46   248.66    .834E+07     19809.8          8.07       7.02
      22.26   250.46    .949E+07     23532.5          8.43       6.72
      24.05   252.25    .107E+08     27641.2          8.77       6.46
      25.84   254.04    .120E+08     32155.2          9.10       6.22
      27.63   255.83    .134E+08     36901.0          9.37       6.05
      29.42   257.62    .149E+08     42147.7          9.64       5.88
      31.22   259.42    .164E+08     48149.1          9.97       5.68
      33.01   261.21    .181E+08     54644.8         10.29       5.51

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    22.95    8.00  19.60      1.01      1.04
    OUTFLOW: ID= 1 (6396) 2579.10    20.73    9.00  19.60      0.98      1.04


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   4.047     7.50    29.98
      + ID2= 2 (6396):  2579.10  20.733     9.00    19.60
        ================================================
        ID = 3 (8274):  2884.31  24.211     9.00    20.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  17.737    10.25    22.05
      + ID2= 2 (8274):  2884.31  24.211     9.00    20.70
        ================================================
        ID = 3 (8270):  5660.52  41.092     9.25    21.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520     41.092      9.25       21.36
    OUTFLOW: ID= 1 (5506)   5660.520     32.437     12.00       21.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.94
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 27.4808

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0406) |   Area     (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.779 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  27.183
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0404) |   Area     (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.795 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.696
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0402) |   Area     (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.567 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.900
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0400) |   Area     (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.483 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.889
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0398) |   Area     (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   3.522 (i)
```

```
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.985
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   3.522     7.00    19.99
      + ID2= 2 (0400):    93.97   1.483     6.50    17.89
        ================================================
        ID = 3 (8268):   422.16   4.864     6.75    19.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4021.0) ------>
             Distance      Elevation       Manning
                0.00         238.50        0.0360
               11.50         238.00        0.0360
               23.00         237.93        0.0360
               34.49         236.39        0.0360
               63.24         233.98        0.0360
               97.73         228.15        0.0360
              123.60         227.08        0.0360
              126.48         226.61        0.0360
              127.60         226.47    0.0360 /0.0330  Main Channel
              127.85         225.25        0.0330      Main Channel
              129.35         225.25        0.0330      Main Channel
              130.85         225.25        0.0330      Main Channel
              131.10         226.47    0.0330 /0.0360  Main Channel
              132.22         226.59        0.0360
              143.72         227.42        0.0360
              169.59         227.88        0.0360
              192.59         231.19        0.0360
              218.46         233.02        0.0360
              241.45         235.50        0.0360
              284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
       0.41   225.66    .391E+04         1.7          1.36      38.31
       0.81   226.06    .804E+04         5.0          1.93      27.02
       1.22   226.47    .124E+05         9.1          2.30      22.61
       1.84   227.09    .308E+05        23.3          2.36      22.03
       2.46   227.71    .904E+05        62.0          2.14      24.31
       3.09   228.34    .223E+06       188.3          2.63      19.75
       3.71   228.96    .379E+06       410.2          3.38      15.39
       4.33   229.58    .550E+06       711.5          4.04      12.89
       4.95   230.20    .737E+06      1091.3          4.62      11.25
       5.58   230.83    .939E+06      1550.6          5.15      10.10
       6.20   231.45    .116E+07      2072.4          5.59       9.31
       6.82   232.07    .140E+07      2659.2          5.93       8.77
       7.44   232.69    .167E+07      3345.8          6.27       8.30
       8.07   233.32    .195E+07      4159.0          6.64       7.83
       8.69   233.94    .226E+07      5100.8          7.03       7.39
       9.31   234.56    .259E+07      6081.3          7.32       7.11
       9.93   235.18    .295E+07      7183.1          7.60       6.84
      10.56   235.81    .334E+07      8145.2          7.62       6.83
      11.18   236.43    .379E+07      9116.0          7.51       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.86    6.75  19.52      0.80      1.90
     OUTFLOW: ID= 1 (6402)  422.16     4.63    7.25  19.52      0.77      1.84
```

```
-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00   2.567     7.50    23.90
      + ID2= 2 (6402):   422.16   4.628     7.25    19.52
        ================================================
        ID = 3 (8266):   666.16   7.186     7.25    21.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   1.795     7.25    15.70
      + ID2= 2 (8266):   666.16   7.186     7.25    21.12
        ================================================
        ID = 3 (8264):   912.62   8.981     7.25    19.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   2.779     6.50    27.18
      + ID2= 2 (8264):   912.62   8.981     7.25    19.66
        ================================================
        ID = 3 (8262):  1055.27  11.503     7.25    20.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  32.437    12.00    21.36
      + ID2= 2 (8262):  1055.27  11.503     7.25    20.68
        ================================================
        ID = 3 (8260):  6715.79  37.738    10.25    21.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   3.331     6.75    21.68
      + ID2= 2 (8260):  6715.79  37.738    10.25    21.25
        ================================================
        ID = 3 (8258):  6947.41  39.031    10.25    21.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   3.210     8.25    16.28
      + ID2= 2 (8258):  6947.41  39.031    10.25    21.27
        ================================================
        ID = 3 (8256):  7519.42  41.844    10.25    20.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (8256)   7519.421     41.844     10.25       20.89
     OUTFLOW: ID= 1 (5507)   7519.421     40.140     11.75       20.89

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.93
               TIME SHIFT OF PEAK FLOW         (min)= 90.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 12.6987
```

```
-------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   1.800 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.821
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.233
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0418)  |   Area    (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=   2.136 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  26.026
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0416)  |   Area    (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=   4.419 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  26.090
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0412)  |   Area    (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=   2.551 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.387
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (4141)  |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.73        27.97
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    539.75        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        62.65
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     8.43 (ii)   21.33 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     1.95         2.39         3.467 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=    78.80        31.64         39.66
     TOTAL RAINFALL   (mm)=    80.80        80.80         80.80
     RUNOFF COEFFICIENT   =     0.98         0.39          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| RESERVOIR (5414)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   3.4720      1.9177
                        0.3820     0.3152   |   3.8720      1.9277
                        1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)    43.700     3.467     6.00       39.66
     OUTFLOW: ID= 1 (5414)    43.700     1.932     6.50       39.65

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.72
               TIME SHIFT OF PEAK FLOW          (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.5610

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (4142)  |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min  |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30       114.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    980.82        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        50.20
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.06 (ii)   26.15 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     3.39         7.05         8.447 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=    78.80        28.93         33.92
     TOTAL RAINFALL   (mm)=    80.80        80.80         80.80
     RUNOFF COEFFICIENT   =     0.98         0.36          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254)  |
|   1 +  2 =   3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4142):   144.30   8.447     6.25    33.92
      + ID2= 2 (5414):    43.70   1.932     6.50    39.65
        ================================================
        ID = 3 (8254):   188.00  10.322     6.25    35.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (8252)  |
|   1 +  2 =   3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70   2.551     7.00    19.39
      + ID2= 2 (8254):   188.00  10.322     6.25    35.25
        ================================================
        ID = 3 (8252):   426.70  12.418     6.25    26.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (4161.0) ------>
            Distance      Elevation       Manning
               0.00         270.07        0.0340
              20.67         267.91        0.0340
              62.01         264.33        0.0340
             113.69         259.75        0.0340
             165.37         253.30        0.0340
             227.38         246.29        0.0340
             232.55         246.03        0.0340
             237.72         246.16        0.0340
             241.39         246.02    0.0340 /0.0300  Main Channel
             241.64         245.75        0.0300      Main Channel
             242.89         245.75        0.0300      Main Channel
             244.14         245.75        0.0300      Main Channel
             244.39         246.02    0.0300 /0.0340  Main Channel
             248.06         246.20        0.0340
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              253.22        246.28        0.0340
              258.39        246.63        0.0340
              346.25        252.57        0.0340
              413.43        257.77        0.0340
              465.11        261.78        0.0340
              511.62        270.00        0.0340

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.27   246.02   .295E+04        0.6         0.75       88.26
        1.53   247.28   .168E+06       69.7         1.65       40.13
        2.79   248.54   .490E+06      299.5         2.42       27.28
        4.06   249.81   .962E+06      740.1         3.05       21.67
        5.32   251.07   .158E+07     1440.0         3.61       18.33
        6.58   252.33   .235E+07     2443.8         4.12       16.06
        7.84   253.59   .327E+07     3811.2         4.63       14.30
        9.10   254.85   .432E+07     5565.1         5.11       12.94
       10.37   256.12   .550E+07     7721.3         5.57       11.88
       11.63   257.38   .682E+07    10309.9         6.00       11.02
       12.89   258.64   .827E+07    13360.6         6.42       10.31
       14.15   259.90   .985E+07    16884.5         6.81        9.72
       15.42   261.17   .116E+08    20818.4         7.14        9.26
       16.68   262.43   .134E+08    25510.4         7.53        8.78
       17.94   263.69   .154E+08    30958.0         7.97        8.30
       19.20   264.95   .175E+08    36988.3         8.38        7.89
       20.46   266.21   .197E+08    43617.1         8.78        7.53
       21.73   267.48   .220E+08    50868.1         9.17        7.22
       22.99   268.74   .244E+08    58854.0         9.56        6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.70    12.42    6.25  26.38      0.49      0.83
     OUTFLOW: ID= 1 (6416)  426.70     5.93    7.25  26.38      0.37      0.78


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| ADD HYD   (8250) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   4.419     8.00    26.09
       + ID2= 2 (6416):   426.70   5.929     7.25    26.38
         ================================================
         ID = 3 (8250):   866.00  10.218     7.25    26.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   182.79   2.136     7.50    26.03
       + ID2= 2 (8250):   866.00  10.218     7.25    26.23
         ================================================
         ID = 3 (8248):  1048.79  12.352     7.25    26.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.800     7.00    18.82
       + ID2= 2 (8248):  1048.79  12.352     7.25    26.20
         ================================================
         ID = 3 (8246):  1224.61  14.132     7.25    25.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  40.140    11.75    20.89
       + ID2= 2 (8246):  1224.61  14.132     7.25    25.14
         ================================================
         ID = 3 (8244):  8744.03  48.352    10.50    21.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0422):   780.20   4.215     9.00    19.59
       + ID2= 2 (8244):  8744.03  48.352    10.50    21.48
         ================================================
         ID = 3 (8242):  9524.23  52.389    10.50    21.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  ******     197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)    9524.231    52.389     10.50      21.33
     OUTFLOW: ID= 1 (5508)    9524.231    50.303     12.00      21.33

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.02
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED        (ha.m.)= 20.2951

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area     (ha)=2785.00   Curve Number    (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.992 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  32.865
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area     (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      194.58        331.32
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1872.43         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         67.85
                over (min)       15.00         45.00
     Storage Coeff.  (min)=       17.78 (ii)    30.27 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       17.87         23.62       29.867 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50        6.50
     RUNOFF VOLUME    (mm)=       78.80         33.63       41.31
     TOTAL RAINFALL   (mm)=       80.80         80.80       80.80
     RUNOFF COEFFICIENT   =        0.98          0.42        0.51

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area     (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       35.77         37.23
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      697.61         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         84.70
                over (min)       15.00         30.00
     Storage Coeff.  (min)=        9.83 (ii)    21.26 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
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     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.22         4.33          7.010 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        36.58          46.29
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.45           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3350      1.2400
                          0.3230     0.3074   |   4.3560      1.3520
                          0.9360     0.5374   |   5.3290      1.4590
                          1.7590     0.8302   |   5.7290      1.4690
                          2.4110     1.0550   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)     73.000     7.010      6.00      46.29
     OUTFLOW: ID= 1 (5338)     73.000     3.356      6.50      46.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.87
                TIME SHIFT OF PEAK FLOW       (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2583

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   525.90  29.867     6.50    41.31
       + ID2= 2 (5338):    73.00   3.356     6.50    46.29
         ==============================================
         ID = 3 (8310):   598.90  33.223     6.50    41.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   0.993 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  20.856
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.258

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83         16.17
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    469.04         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         51.83
           over (min)          15.00         30.00
     Storage Coeff.  (min)=     7.75 (ii)     21.66 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=     2.74          1.13          3.444 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=    78.80         24.48          41.32
     TOTAL RAINFALL   (mm)=    80.80         80.80          80.80
     RUNOFF COEFFICIENT   =     0.98          0.30           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6540      0.4604
                          0.0390     0.1699   |   0.8330      0.5249
                          0.1860     0.2610   |   1.0130      0.5896
                          0.3750     0.3534   |   1.4130      0.5996
                          0.4340     0.3813   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     3.444      6.00      41.32
     OUTFLOW: ID= 1 (5334)     33.000     1.579      6.50      41.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.84
                TIME SHIFT OF PEAK FLOW       (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6194

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   587.10   0.993    15.25    20.86
       + ID2= 2 (5334):    33.00   1.579     6.50    41.29
         ==============================================
         ID = 3 (8314):   620.10   1.884     6.50    21.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.538 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  18.507
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   5.156 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  45.890
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.568

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.992 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.664
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.746 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  45.199
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.559

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38   5.992     8.00    37.66
      + ID2= 2 (0284):    78.93   2.746     6.50    45.20
        ================================================
        ID = 3 (8388):   528.31   8.107     7.25    38.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.31  220.01    .382E+04       0.8         0.57       82.89
       1.06  220.76    .525E+05      12.1         0.66       72.51
       1.81  221.51    .240E+06      88.6         1.05       45.21
       2.56  222.26    .510E+06     261.7         1.46       32.47
       3.31  223.01    .843E+06     533.8         1.81       26.34
       4.06  223.76    .124E+07     913.6         2.10       22.64
       4.81  224.51    .171E+07    1399.0         2.34       20.33
       5.56  225.26    .225E+07    2051.0         2.60       18.27
       6.31  226.01    .285E+07    2907.0         2.91       16.35
       7.06  226.76    .352E+07    3902.5         3.16       15.04
       7.82  227.52    .426E+07    5069.9         3.39       14.01
       8.57  228.27    .507E+07    6433.0         3.62       13.13
       9.32  229.02    .593E+07    8069.2         3.89       12.24
      10.07  229.77    .681E+07    9926.7         4.16       11.44
      10.82  230.52    .772E+07   11962.8         4.42       10.75
      11.57  231.27    .864E+07   14167.1         4.68       10.17
      12.32  232.02    .959E+07   16537.1         4.92        9.66
      13.07  232.77    .105E+08   19070.7         5.16        9.22
      13.82  233.52    .115E+08   21790.4         5.39        8.82

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8388)  528.31     8.11    7.25  38.79      0.80      0.62
    OUTFLOW: ID= 1 (6286)  528.31     6.86    9.00  38.79      0.71      0.62

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51   5.156     7.50    45.89
      + ID2= 2 (6286):   528.31   6.862     9.00    38.79
        ================================================
        ID = 3 (8386):   788.82  11.552     8.50    41.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.272 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  22.015
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   2.189 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.764
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.875 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.769
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0298):   330.51   1.875     8.00    14.77
      + ID2= 2 (0300):   258.93   2.189     7.50    18.76
        ================================================
        ID = 3 (8395):   589.44   4.038     7.75    16.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.362 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  38.847
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   4.704 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  38.611
     TOTAL RAINFALL   (mm)=  80.800
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     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.362     9.25    38.85
       + ID2= 2 (0290):   269.18   4.704     7.25    38.61
         ================================================
         ID = 3 (8397):   610.01   7.793     8.00    38.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   4.643 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  36.515
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.452

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   7.336 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.254
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.004 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.217
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   7.336     8.00    29.25
       + ID2= 2 (0294):   274.15   3.004     7.00    21.22
         ================================================
         ID = 3 (8398):  1012.64  10.132     8.00    27.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2961.0) ------>
             Distance      Elevation       Manning
                0.00         243.98        0.0400
               42.59         243.18        0.0400
               85.17         241.81        0.0400
              120.66         240.50        0.0400
              156.15         239.56        0.0400
              198.74         236.15        0.0400
              237.78         234.01        0.0400
              241.33         233.82        0.0400
              248.77         233.12   0.0400 /0.0400  Main Channel
              249.87         232.32        0.0400     Main Channel
              250.37         231.80        0.0400     Main Channel
              250.87         232.23        0.0400     Main Channel
              251.97         233.10   0.0400 /0.0400  Main Channel
              255.37         233.22        0.0400
              259.07         233.87        0.0400
              262.62         234.12        0.0400
              266.17         234.23        0.0400
              283.91         234.73        0.0400
              337.15         241.75        0.0400
              351.34         244.00        0.0400

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.43    232.23    .510E+03        0.1          0.53       81.07
           0.87    232.67    .213E+04        0.7          0.83       51.49
           1.30    233.10    .501E+04        2.2          1.10       38.75
           1.98    233.78    .242E+05       12.6          1.34       31.93
           2.66    234.46    .738E+05       42.1          1.46       29.21
           3.34    235.14    .177E+06      127.9          1.84       23.13
           4.02    235.82    .314E+06      281.4          2.29       18.61
           4.70    236.50    .481E+06      509.4          2.71       15.73
           5.38    237.18    .672E+06      815.6          3.11       13.73
           6.06    237.86    .886E+06     1200.7          3.46       12.30
           6.74    238.54    .112E+07     1669.4          3.80       11.23
           7.42    239.22    .139E+07     2226.9          4.11       10.38
           8.10    239.90    .168E+07     2808.4          4.28        9.95
           8.78    240.58    .202E+07     3470.4          4.40        9.68
           9.46    241.26    .240E+07     4331.7          4.61        9.24
          10.14    241.94    .283E+07     5335.2          4.83        8.84
          10.82    242.62    .330E+07     6482.6          5.03        8.48
          11.50    243.30    .381E+07     7764.1          5.21        8.18
          12.18    243.98    .439E+07     9101.2          5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64    10.13    8.00   27.08     1.82      1.27
     OUTFLOW: ID= 1 (6296) 1012.64     9.86    8.50   27.08     1.80      1.26

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-------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   4.643     7.50    36.52
       + ID2= 2 (6296):  1012.64   9.865     8.50    27.08
         ================================================
         ID = 3 (8396):  1306.29  14.310     8.25    29.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  14.310     8.25    29.20
       + ID2= 2 (8397):   610.01   7.793     8.00    38.74
         ================================================
         ID = 3 (8394):  1916.30  22.076     8.00    32.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  22.076     8.00    32.24
       + ID2= 2 (8395):   589.44   4.038     7.75    16.52
         ================================================
         ID = 3 (8392):  2505.74  26.095     8.00    28.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation       Manning
                0.00         228.10        0.0400
               18.47         227.12        0.0400
               36.95         226.12        0.0400
               46.18         225.84        0.0400
               55.42         225.58        0.0400
```

```
                272.47        222.88        0.0400
                277.09        222.76        0.0400
                281.71        222.58        0.0400
                288.54        222.18    0.0400 /0.0300  Main Channel
                288.64        221.00        0.0300      Main Channel
                290.94        221.00        0.0300      Main Channel
                291.04        221.00        0.0300      Main Channel
                291.54        222.75    0.0300 /0.0400  Main Channel
                300.18        222.83        0.0400
                304.80        223.04        0.0400
                309.42        223.25        0.0400
                318.65        223.69        0.0400
                360.22        225.57        0.0400
                397.16        227.60        0.0400
                457.20        228.35        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29    221.29    .228E+04       0.2          0.32     165.63
       0.59    221.59    .465E+04       0.7          0.45     116.15
       0.88    221.88    .713E+04       1.2          0.54      96.87
       1.18    222.18    .971E+04       1.9          0.61      86.20
       1.57    222.57    .175E+05       3.3          0.59      88.86
       1.97    222.97    .427E+05       6.4          0.47     111.39
       2.36    223.36    .115E+06      16.1          0.44     119.14
       2.76    223.76    .237E+06      37.1          0.49     106.49
       3.15    224.15    .409E+06      72.9          0.56      93.40
       3.55    224.55    .631E+06     127.0          0.63      82.76
       3.94    224.94    .903E+06     202.4          0.70      74.37
       4.34    225.34    .123E+07     301.8          0.77      67.68
       4.73    225.73    .160E+07     433.5          0.85      61.37
       5.13    226.13    .200E+07     602.2          0.95      55.29
       5.52    226.52    .242E+07     804.7          1.05      50.13
       5.92    226.92    .286E+07    1034.2          1.14      46.11
       6.31    227.31    .332E+07    1290.5          1.22      42.88
       6.71    227.71    .380E+07    1560.9          1.29      40.55
       7.10    228.10    .432E+07    1835.6          1.34      39.19

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8392) 2505.74    26.10    8.00  28.54      2.55      0.46
     OUTFLOW: ID= 1 (6302) 2505.74    20.61   10.25  28.54      2.45      0.45


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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   3.272     8.50     22.02
      + ID2= 2 (6302):  2505.74  20.608    10.25     28.54
        ================================================
        ID = 3 (8390):  2979.64  23.639    10.00     27.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  11.552     8.50     41.13
      + ID2= 2 (8390):  2979.64  23.639    10.00     27.50
        ================================================
        ID = 3 (8348):  3768.46  34.216     9.50     30.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0304) |   Area     (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.571 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  25.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0280) |   Area     (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   7.151 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  43.109
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0278) |   Area     (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   7.318 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.435
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.538

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0276) |   Area     (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.373 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  39.356
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.487

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0274) |   Area     (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   6.216 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0274):   392.49   6.216     7.50     35.48
      + ID2= 2 (0276):    90.89   2.373     6.75     39.36
        ================================================
        ID = 3 (8360):   483.38   8.455     7.00     36.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0278):   485.49   7.318     8.00     43.44
      + ID2= 2 (8360):   483.38   8.455     7.00     36.21
        ================================================
        ID = 3 (8358):   968.87  15.469     7.50     39.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
```

```
              0.00        241.14        0.0500
             13.32        240.80        0.0500
             39.95        240.07        0.0500
             96.54        236.21        0.0500
            113.19        234.15        0.0500
            123.18        232.35        0.0500
            143.15        225.80        0.0500
            149.81        225.62        0.0500
            153.14        225.40        0.0500
            157.30        224.76    0.0500 /0.0300  Main Channel
            159.80        224.26        0.0300      Main Channel
            162.30        224.85        0.0300      Main Channel
            162.55        224.97    0.0300 /0.0500  Main Channel
            167.80        225.05        0.0500
            186.43        229.14        0.0500
            213.06        234.75        0.0500
            236.37        237.09        0.0500
            266.33        237.31        0.0500
            292.96        237.83        0.0500
            329.58        241.50        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   224.76    .263E+04       0.8          0.65       58.31
      1.36   225.62    .278E+05      13.4          1.10       34.54
      2.22   226.48    .855E+05      52.6          1.40       27.09
      3.09   227.35    .157E+06     120.4          1.74       21.78
      3.95   228.21    .242E+06     216.3          2.04       18.64
      4.81   229.07    .340E+06     341.8          2.29       16.56
      5.67   229.93    .450E+06     498.3          2.52       15.06
      6.53   230.79    .574E+06     688.3          2.73       13.90
      7.40   231.66    .711E+06     913.8          2.93       12.97
      8.26   232.52    .861E+06    1173.4          3.11       12.23
      9.12   233.38    .103E+07    1461.3          3.24       11.72
      9.98   234.24    .121E+07    1793.3          3.37       11.26
     10.85   235.11    .142E+07    2141.0          3.45       11.02
     11.71   235.97    .165E+07    2530.4          3.50       10.86
     12.57   236.83    .192E+07    2954.0          3.51       10.81
     13.43   237.69    .226E+07    3160.3          3.18       11.93
     14.29   238.55    .271E+07    3869.4          3.26       11.67
     15.16   239.42    .320E+07    4740.3          3.38       11.24
     16.02   240.28    .373E+07    5688.4          3.48       10.92

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8358)  968.87    15.47    7.50  39.83      1.41      1.11
OUTFLOW: ID= 1 (6280)  968.87    15.03    8.25  39.83      1.40      1.11


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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0280):   299.86    7.151     7.00    43.11
     + ID2= 2 (6280):   968.87   15.029     8.25    39.83
       ================================================
       ID = 3 (8354):  1268.73   21.461     7.75    40.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.475 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.486
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.097 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.870
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.518

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   3.621 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  35.162
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   3.033 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.013
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   3.140 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  26.119
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0264):   353.96   3.033     8.00    30.01
     + ID2= 2 (0266):   508.09   3.140     9.00    26.12
       ================================================
       ID = 3 (8380):   862.05   6.146     8.50    27.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

          <------ DATA FOR SECTION (2681.0) ------>
         Distance      Elevation       Manning
            0.00         274.03        0.0500
           10.55         272.73        0.0500
           21.10         271.28        0.0500
           50.12         266.83        0.0500
           87.04         260.36        0.0500
           92.32         260.06        0.0500
           94.95         259.93        0.0500
          101.00         256.87        0.0500
          103.00         256.58    0.0500 /0.0350  Main Channel
          104.00         256.32        0.0350      Main Channel
          106.00         256.05        0.0350      Main Channel
          108.00         256.25        0.0350      Main Channel
          110.78         256.65    0.0350 /0.0500  Main Channel
          113.42         256.81        0.0500
          116.06         257.00        0.0500
          155.62         260.24        0.0500
          187.27         263.35        0.0500
          211.01         267.22        0.0500
          224.20         269.60        0.0500
          261.13         272.68        0.0500
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8380)	862.05	6.15	8.50	27.72	0.67	1.05
OUTFLOW: ID= 1 (6268)	862.05	5.97	9.75	27.72	0.67	1.04

ADD HYD (8382) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0268):	215.76	3.621	7.00	35.16
+ ID2= 2 (6268):	862.05	5.975	9.75	27.72
ID = 3 (8382):	1077.81	8.703	8.50	29.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel
69.68	233.95	0.0300	Main Channel
71.21	234.48	0.0300 /0.0500	Main Channel
81.38	236.44	0.0500	
95.63	236.66	0.0500	
120.04	237.00	0.0500	
148.53	241.77	0.0500	
158.70	242.34	0.0500	
187.18	244.03	0.0500	
201.42	244.36	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8382)	1077.81	8.70	8.50	29.21	1.22	1.59
OUTFLOW: ID= 1 (6270)	1077.81	8.58	9.25	29.21	1.21	1.59

ADD HYD (8384) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0270):	243.61	4.097	7.25	41.87
+ ID2= 2 (6270):	1077.81	8.581	9.25	29.21
ID = 3 (8384):	1321.42	12.139	8.75	31.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0262) | ID= 1 DT=15.0 min | Area (ha)= 341.31 Curve Number (CN)= 82.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 5.213 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 43.196
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.535

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0260) | ID= 1 DT=15.0 min | Area (ha)= 476.24 Curve Number (CN)= 82.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 4.360

PEAK FLOW (cms)= 5.896 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 43.337
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.536

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0258) | ID= 1 DT=15.0 min | Area (ha)= 181.99 Curve Number (CN)= 79.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 2.269 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 39.727
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.492

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0252) | ID= 1 DT=15.0 min | Area (ha)= 319.99 Curve Number (CN)= 73.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.04

Unit Hyd Qpeak (cms)= 3.761

PEAK FLOW (cms)= 3.678 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 33.488
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.414

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0256) | ID= 1 DT=15.0 min | Area (ha)= 145.79 Curve Number (CN)= 67.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.04

Unit Hyd Qpeak (cms)= 1.707

```
     PEAK FLOW       (cms)=   1.403 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.295
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.350

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   2.406 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.083
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2561.0) ------>
             Distance      Elevation       Manning
                0.00        276.87        0.0400
               11.68        273.71        0.0400
               23.36        271.35        0.0400
               29.19        270.30        0.0400
               35.03        269.44        0.0400
               55.47        267.90        0.0400
               78.82        266.24        0.0400
               90.50        265.63        0.0400
              102.18        265.40        0.0400
              105.10        264.95    0.0400 /0.0350  Main Channel
              108.02        264.39        0.0350      Main Channel
              110.94        264.72        0.0350      Main Channel
              113.86        265.19    0.0350 /0.0400  Main Channel
              116.78        265.49        0.0400
              143.05        268.24        0.0400
              172.25        270.53        0.0400
              207.28        271.95        0.0400
              233.55        273.72        0.0400
              256.91        274.98        0.0400
              280.02        275.97        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95   .723E+04        1.9         0.90      62.51
       1.14   265.53   .307E+05       13.5         1.49      37.92
       1.72   266.11   .951E+05       48.6         1.73      32.62
       2.30   266.69   .191E+06      117.8         2.09      27.03
       2.88   267.27   .314E+06      225.2         2.43      23.24
       3.46   267.85   .464E+06      375.5         2.74      20.59
       4.04   268.43   .641E+06      573.2         3.03      18.62
       4.62   269.01   .846E+06      821.9         3.29      17.15
       5.20   269.59   .108E+07     1135.0         3.56      15.87
       5.78   270.17   .134E+07     1525.1         3.86      14.64
       6.36   270.75   .162E+07     1971.1         4.12      13.71
       6.94   271.33   .194E+07     2474.0         4.33      13.04
       7.52   271.91   .228E+07     3065.0         4.55      12.42
       8.10   272.49   .266E+07     3773.4         4.80      11.75
       8.68   273.07   .306E+07     4566.3         5.05      11.17
       9.26   273.65   .348E+07     5443.7         5.30      10.66
       9.84   274.23   .393E+07     6389.6         5.51      10.25
      10.42   274.81   .440E+07     7426.2         5.72       9.88
      11.00   275.39   .490E+07     8490.1         5.86       9.63

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     2.41    8.00  20.08      0.58      0.92
     OUTFLOW: ID= 1 (6256)  403.00     2.26    9.75  20.08      0.58      0.91


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.403     8.00     28.30
       + ID2= 2 (6256):   403.00   2.263     9.75     20.08
         ================================================
         ID = 3 (8370):   548.79   3.538     9.00     22.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   1.797 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.845
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   3.349 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  20.153
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   1.592 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.873
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   3.349     10.00     20.15
       + ID2= 2 (0248):   146.04   1.592      7.25     25.87
         ================================================
         ID = 3 (8364):   905.65   4.741      8.25     21.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                0.00        269.96        0.0500
                8.56        268.55        0.0500
               17.13        266.91        0.0500
               21.41        266.13        0.0500
               40.68        263.15        0.0500
               62.09        260.75        0.0500
               85.64        258.02        0.0500
               88.20        257.69        0.0500
               93.20        257.05    0.0500 /0.0350  Main Channel
               93.45        256.88        0.0350      Main Channel
               94.20        256.56        0.0350      Main Channel
               94.95        256.83        0.0350      Main Channel
               95.20        257.08    0.0350 /0.0500  Main Channel
              100.62        257.45        0.0500
              115.61        258.57        0.0500
              139.16        260.43        0.0500
              152.01        261.95        0.0500
              171.27        264.63        0.0500
              188.40        267.90        0.0500
              211.95        274.18        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	4.74	8.25	21.08	1.04	0.81
OUTFLOW: ID= 1 (6250)	905.65	4.43	10.25	21.08	1.00	0.80

ADD HYD (8366)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):	192.88	1.797	8.00	30.85
+ ID2= 2 (6250):	905.65	4.429	10.25	21.08
ID = 3 (8366):	1098.53	6.064	9.75	22.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):	1098.53	6.064	9.75	22.79
+ ID2= 2 (8370):	548.79	3.538	9.00	22.26
ID = 3 (8368):	1647.32	9.574	9.50	22.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	319.99	3.678	8.00	33.49
+ ID2= 2 (8368):	1647.32	9.574	9.50	22.62
ID = 3 (8372):	1967.31	12.931	9.00	24.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	12.93	9.00	24.38	0.78	0.82
OUTFLOW: ID= 1 (6258)	1967.31	11.62	11.25	24.38	0.75	0.83

ADD HYD (8374)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):	181.99	2.269	8.00	39.73
+ ID2= 2 (6258):	1967.31	11.623	11.25	24.38
ID = 3 (8374):	2149.30	13.409	11.00	25.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):	476.24	5.896	8.00	43.34
+ ID2= 2 (8374):	2149.30	13.409	11.00	25.68
ID = 3 (8376):	2625.54	18.584	10.25	28.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0262):	341.31	5.213	7.75	43.20
+ ID2= 2 (8376):	2625.54	18.584	10.25	28.89
ID = 3 (8378):	2966.85	22.865	10.00	30.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8378):	2966.85	22.865	10.00	30.53
+ ID2= 2 (8384):	1321.42	12.139	8.75	31.54
ID = 3 (8362):	4288.27	34.648	9.50	30.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning
0.00	231.01	0.0450
23.01	223.65	0.0450
34.51	222.46	0.0450
51.77	222.11	0.0450
69.02	221.87	0.0450

```
              161.06        221.92        0.0450
              166.81        221.91        0.0450
              172.56        221.89        0.0450
              180.57        221.40    0.0450 /0.0300  Main Channel
              181.57        220.60        0.0300      Main Channel
              184.07        220.16        0.0300      Main Channel
              195.57        221.85    0.0300 /0.0450  Main Channel
              201.32        221.82        0.0450
              207.07        221.77        0.0450
              212.83        221.72        0.0450
              253.09        222.52        0.0450
              408.40        222.65        0.0450
              460.17        223.20        0.0450
              517.69        224.84        0.0450
              569.46        232.57        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.41   220.57   .189E+04        0.5         0.49      60.18
       0.83   220.99   .697E+04        3.2         0.82      35.79
       1.24   221.40   .145E+05        8.8         1.07      27.45
       1.84   222.00   .643E+05       29.3         0.81      36.61
       2.44   222.60   .282E+06      132.9          0.83      35.41
       3.04   223.20   .707E+06      413.7          1.04      28.50
       3.64   223.80   .118E+07      876.8          1.31      22.46
       4.24   224.40   .168E+07     1494.8          1.57      18.75
       4.84   225.00   .221E+07     2264.1          1.82      16.23
       5.44   225.60   .274E+07     3196.3          2.06      14.29
       6.04   226.20   .328E+07     4258.6          2.30      12.84
       6.65   226.81   .383E+07     5444.7          2.52      11.72
       7.25   227.41   .438E+07     6749.7          2.73      10.82
       7.85   228.01   .494E+07     8169.4          2.93      10.08
       8.45   228.61   .551E+07     9700.7          3.12       9.46
       9.05   229.21   .608E+07    11340.8          3.30       8.94
       9.65   229.81   .666E+07    13087.4          3.48       8.48
      10.25   230.41   .724E+07    14938.5          3.65       8.08
      10.85   231.01   .783E+07    16892.4          3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.27    34.65    9.50  30.84      1.87      0.81
     OUTFLOW: ID= 1 (6272) 4288.27    34.18   10.25  30.84      1.87      0.81


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------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38   2.475     7.50     35.49
      + ID2= 2 (6272):  4288.27  34.180    10.25     30.84
        ================================================
        ID = 3 (8356):  4445.65  35.965    10.00     31.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  21.461     7.75     40.61
      + ID2= 2 (8356):  4445.65  35.965    10.00     31.01
        ================================================
        ID = 3 (8352):  5714.38  54.080     9.00     33.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
              <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.48   218.85   .121E+05        1.2         0.36     173.94
       1.17   219.54   .839E+05        9.8         0.44     142.60
       1.86   220.23   .323E+06       41.0         0.47     131.43
       2.56   220.93   .708E+06      109.5         0.58     107.67
       3.25   221.62   .118E+07      224.3         0.71      87.36
       3.94   222.31   .168E+07      376.5         0.84      74.48
       4.63   223.00   .222E+07      567.9         0.96      65.26
       5.32   223.69   .279E+07      794.7         1.07      58.58
       6.02   224.39   .339E+07     1056.2         1.17      53.52
       6.71   225.08   .402E+07     1352.4         1.26      49.52
       7.40   225.77   .468E+07     1677.3         1.34      46.46
       8.09   226.46   .536E+07     2050.0         1.43      43.58
       8.79   227.16   .607E+07     2457.9         1.52      41.14
       9.48   227.85   .680E+07     2901.0         1.60      39.05
      10.17   228.54   .755E+07     3352.7         1.66      37.53
      10.86   229.23   .834E+07     3812.5         1.71      36.48
      11.55   229.92   .919E+07     4241.8         1.73      36.13
      12.25   230.62   .101E+08     4697.0         1.74      35.93
      12.94   231.31   .111E+08     5186.3         1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.38    54.08    9.00  33.14      2.00      0.49
     OUTFLOW: ID= 1 (6304) 5714.38    44.75   11.50  33.14      1.90      0.48


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------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.571    10.25     25.48
      + ID2= 2 (6304):  5714.38  44.745    11.50     33.14
        ================================================
        ID = 3 (8350):  6006.75  46.284    11.50     32.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  34.216     9.50     30.36
      + ID2= 2 (8350):  6006.75  46.284    11.50     32.77
        ================================================
        ID = 3 (8346):  9775.21  78.525    10.50     31.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.538    13.75     18.51
      + ID2= 2 (8346):  9775.21  78.525    10.50     31.84
        ================================================
        ID = 3 (8344): 10059.18  79.003    10.50     31.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********    79.003     10.50      31.46
     OUTFLOW: ID= 1 (5509)   ********    50.565     15.50      31.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.00
                TIME SHIFT OF PEAK FLOW          (min)=300.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 96.9336
```

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.428 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  35.702
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   8.597 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  40.876
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION (3321.0) ------>
             Distance       Elevation       Manning
                0.00          234.00        0.0380
               25.85          227.20        0.0380
               96.94          226.44        0.0380
              168.03          227.38        0.0380
              219.73          225.62        0.0380
              342.52          221.57        0.0380
              368.37          221.42        0.0380
              374.83          221.23        0.0380
              379.79          220.98    0.0380 /0.0300  Main Channel
              380.29          220.47        0.0300      Main Channel
              381.29          220.47        0.0300      Main Channel
              382.79          220.47        0.0300      Main Channel
              383.29          220.98    0.0300 /0.0380  Main Channel
              394.22          221.22        0.0380
              400.68          221.33        0.0380
              407.14          221.44        0.0380
              491.16          225.70        0.0380
              568.71          227.55        0.0380
              607.49          230.14        0.0380
              639.80          234.08        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)         (m/s)       (min)
       0.51   220.98    .554E+04        0.9          0.56       107.27
       1.20   221.67    .885E+05       12.1          0.49       122.32
       1.88   222.35    .309E+06       64.7          0.76        79.70
       2.57   223.04    .615E+06      165.4          0.97        61.99
       3.25   223.72    .101E+07      322.1          1.16        52.06
       3.94   224.41    .148E+07      542.9          1.33        45.51
       4.62   225.09    .204E+07      835.4          1.48        40.77
       5.31   225.78    .269E+07     1202.8          1.62        37.27
       5.99   226.46    .344E+07     1618.0          1.70        35.46
       6.68   227.15    .447E+07     1932.0          1.56        38.56
       7.36   227.83    .580E+07     2763.9          1.72        34.96
       8.05   228.52    .718E+07     3861.9          1.95        30.97
       8.73   229.20    .859E+07     5115.4          2.16        27.98
       9.42   229.89    .100E+08     6519.2          2.35        25.64
      10.10   230.57    .115E+08     8092.3          2.55        23.69
      10.79   231.26    .130E+08     9821.5          2.73        22.05
      11.47   231.94    .145E+08    11690.0          2.92        20.68
      12.16   232.63    .160E+08    13694.9          3.09        19.52
      12.84   233.31    .176E+08    15833.9          3.26        18.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     8.60    7.25  40.88      0.98      0.51
     OUTFLOW: ID= 1 (6332)  468.30     6.50    9.50  40.88      0.85      0.53


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-------------------

| ADD HYD   (8322) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
---------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   3.428     9.50     35.70
      + ID2= 2 (6332):   468.30   6.501     9.50     40.88
        ================================================
        ID = 3 (8322):   861.74   9.928     9.50     38.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   5.314 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  37.735
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   7.858 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  41.091
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.509

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   7.077 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  39.932
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.494

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   4.443 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  42.167
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   6.226 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  38.748
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB           |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.06         4.94
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    416.33        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        58.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      7.21 (ii)    20.44 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      5.72         0.41          5.977 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        37.88         71.03
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.47          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800     0.7654
                         0.0510     0.4423   |   4.1500     0.8231
                         0.8700     0.5378   |   4.8750     0.8778
                         1.9590     0.6105   |   5.2750     0.8878
                         2.5620     0.6796   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)     26.000     5.977     6.00      71.03
     OUTFLOW: ID= 1 (5318)     26.000     3.426     6.25      70.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.33
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8392

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-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   457.40   6.226     8.00     38.75
       + ID2= 2 (5318):    26.00   3.426     6.25     70.94
         ================================================
         ID = 3 (8334):   483.40   7.520     6.25     40.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3201.0) ------>
             Distance      Elevation       Manning
                 0.00         249.00        0.0380
                22.92         245.86        0.0380
                45.83         244.87        0.0380
                91.66         243.11        0.0380
               126.03         239.53        0.0380
               160.41         237.17        0.0380
               166.14         237.06        0.0380
               177.59         237.13        0.0380
               183.32         237.20        0.0380
               189.05         236.70    0.0380 /0.0350  Main Channel
               193.05         235.89        0.0350      Main Channel
               197.05         236.64    0.0350 /0.0380  Main Channel
               200.51         236.74        0.0380
               206.24         237.03        0.0380
               246.34         238.82        0.0380
               263.53         243.87        0.0380
               389.56         247.64        0.0380
               452.58         247.74        0.0380
               498.41         248.60        0.0380
               567.16         249.84        0.0380

             <-------------------- TRAVEL TIME TABLE ---------------------->
              DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
                (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
               0.37   236.26    .270E+04         0.4          0.58      107.96
               0.75   236.64    .108E+05         2.6          0.92       68.01
               1.48   237.37    .877E+05        27.4          1.17       53.35
               2.20   238.09    .277E+06       122.1          1.65       37.83
               2.93   238.82    .540E+06       299.7          2.08       30.01
               3.66   239.55    .857E+06       587.8          2.57       24.29
               4.39   240.28    .120E+07       977.8          3.04       20.52
               5.11   241.00    .158E+07      1458.1          3.46       18.02
               5.84   241.73    .198E+07      2028.6          3.84       16.23
               6.57   242.46    .240E+07      2690.5          4.19       14.86
               7.29   243.18    .285E+07      3431.8          4.50       13.84
               8.02   243.91    .335E+07      4149.1          4.64       13.44
               8.75   244.64    .393E+07      4746.6          4.51       13.80
               9.47   245.36    .463E+07      5618.6          4.53       13.75
              10.20   246.09    .545E+07      6781.8          4.66       13.39
              10.93   246.82    .635E+07      8274.5          4.87       12.79
              11.66   247.55    .733E+07      9988.0          5.10       12.23
              12.38   248.27    .853E+07     11422.0          5.01       12.45
              13.11   249.00    .989E+07     13749.7          5.20       11.98

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40     7.52    6.25  40.48      0.89      0.96
     OUTFLOW: ID= 1 (6320)  483.40     6.12    9.00  40.48      0.85      0.95

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-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   278.74   4.443     8.00     42.17
       + ID2= 2 (6320):   483.40   6.122     9.00     40.48
         ================================================
         ID = 3 (8332):   762.14  10.364     8.50     41.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   4.019 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  38.307
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.474

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3161.0) ------>
             Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
               207.98         235.25        0.0310      Main Channel
               209.98         235.53        0.0310      Main Channel
               210.48         236.00    0.0310 /0.0350  Main Channel
               216.42         236.73        0.0350
               258.31         239.09        0.0350
               328.12         239.84        0.0350
               439.83         241.47        0.0350
               530.58         242.08        0.0350
               586.43         242.93        0.0350
               691.16         248.00        0.0350

             <-------------------- TRAVEL TIME TABLE ---------------------->
              DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
                (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
               0.37   235.62    .215E+04         0.7          0.77       53.88
               0.75   236.00    .634E+04         3.5          1.36       30.45
               1.46   236.71    .297E+05        19.3          1.62       25.66
               2.16   237.41    .103E+06        75.8          1.84       22.60
```

2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0314)	165.20	4.02	6.75	38.31	0.77	1.37
OUTFLOW:	ID= 1 (6316)	165.20	3.84	7.25	38.31	0.77	1.37

CALIB					
NASHYD (0316)	Area	(ha)=	232.34	Curve Number	(CN)= 82.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 4.823 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 43.236
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.535

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0316):	232.34	4.823	7.25	43.24	
+ ID2= 2 (6316):	165.20	3.837	7.25	38.31	
ID = 3 (8338):	397.54	8.660	7.25	41.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0312)	Area	(ha)=	359.44	Curve Number	(CN)= 80.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 5.575 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 40.979
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0308)	Area	(ha)=	529.30	Curve Number	(CN)= 62.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 4.194 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 24.698
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0310)	Area	(ha)=	138.28	Curve Number	(CN)= 65.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 2.144 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 26.616
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0308):	529.30	4.194	8.25	24.70	
+ ID2= 2 (0310):	138.28	2.144	7.00	26.62	
ID = 3 (8342):	667.58	6.044	7.75	25.10	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)					
IN= 2 ---> OUT= 1	Routing time step (min)=		15.00		

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning		
0.00	265.94	0.0360		
38.07	265.43	0.0360		
59.82	263.98	0.0360		
103.32	254.59	0.0360		
157.70	252.16	0.0360		
217.52	250.45	0.0360		
233.84	247.69	0.0360		
234.71	247.27	0.0360		
239.71	246.38	0.0360		
244.71	246.12	0.0360 /0.0330	Main Channel	
247.71	245.17	0.0330	Main Channel	
249.71	245.19	0.0330	Main Channel	
251.71	245.64	0.0330 /0.0360	Main Channel	
259.71	246.67	0.0360		
282.78	247.12	0.0360		
315.41	251.60	0.0360		
424.17	256.13	0.0360		
478.55	257.04	0.0360		
516.62	259.37	0.0360		
538.37	266.00	0.0360		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (8342)	667.58	6.04	7.75	25.10	0.53	1.83
OUTFLOW:	ID= 1 (6312)	667.58	6.04	8.00	25.10	0.53	1.83

ADD HYD (8340)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0312):	359.44	5.575	8.00	40.98	
+ ID2= 2 (6312):	667.58	6.040	8.00	25.10	
ID = 3 (8340):	1027.02	11.615	8.00	30.65	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54   8.660     7.25    41.19
      + ID2= 2 (8340):  1027.02  11.615     8.00    30.65
        ================================================
        ID = 3 (8336):  1424.56  20.099     7.50    33.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8330) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14  10.364     8.50    41.10
      + ID2= 2 (8336):  1424.56  20.099     7.50    33.59
        ================================================
        ID = 3 (8330):  2186.70  29.999     7.75    36.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3241.0) ------>
            Distance      Elevation       Manning
               0.00         234.38        0.0360
              33.57         232.48        0.0360
              67.14         230.14        0.0360
              83.93         228.80        0.0360
             134.29         227.62        0.0360
             209.82         225.10        0.0360
             218.21         224.86        0.0360
             226.61         224.47        0.0360
             234.00         223.86    0.0360 /0.0300  Main Channel
             234.10         223.66        0.0300      Main Channel
             235.00         223.66        0.0300      Main Channel
             235.90         223.66        0.0300      Main Channel
             236.00         223.86    0.0300 /0.0360  Main Channel
             243.39         224.92        0.0360
             251.78         224.89        0.0360
             335.71         225.64        0.0360
             562.32         226.53        0.0360
             637.85         228.36        0.0360
             705.00         229.80        0.0360
             830.89         234.00        0.0360

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   223.86    .145E+04       0.2          0.43     147.27
      0.73   224.39    .159E+05       2.8          0.68      93.11
      1.27   224.93    .561E+05      11.0          0.75      85.19
      1.80   225.46    .217E+06      45.6          0.80      79.20
      2.33   225.99    .566E+06     134.4          0.91      70.20
      2.87   226.53    .122E+07     338.1          1.06      59.97
      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.    MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.70    30.00    7.75  36.21      1.56      0.78
     OUTFLOW: ID= 1 (6324) 2186.70    25.63    9.50  36.21      1.49      0.77


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| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6324):   615.64   7.077     8.50    39.93
      + ID2= 2 (6324):  2186.70  25.633     9.50    36.21
        ================================================
        ID = 3 (8328):  2802.34  32.579     9.50    37.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number    (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   6.502 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  41.063
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.508

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13   6.502     8.25    41.06
      + ID2= 2 (8328):  2802.34  32.579     9.50    37.03
        ================================================
        ID = 3 (8326):  3315.47  38.885     9.25    37.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91   7.858     8.75    41.09
      + ID2= 2 (8326):  3315.47  38.885     9.25    37.65
        ================================================
        ID = 3 (8324):  3994.38  46.684     9.25    38.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3281.0) ------>
            Distance      Elevation       Manning
               0.00         228.00        0.0380
              18.58         224.97        0.0380
              78.98         223.52        0.0380
             125.44         223.28        0.0380
             171.90         221.71        0.0380
             213.72         219.65        0.0380
             218.36         219.40        0.0380
             223.01         219.19        0.0380
             225.95         219.14    0.0380 /0.0320  Main Channel
             226.45         218.14        0.0320      Main Channel
             236.95         218.14        0.0320      Main Channel
             245.85         218.14        0.0320      Main Channel
             245.95         219.14    0.0320 /0.0380  Main Channel
             246.24         219.16        0.0380
             250.88         219.24        0.0380
             255.53         219.39        0.0380
             325.22         221.47        0.0380
             367.03         223.14        0.0380
             404.20         225.17        0.0380
             459.95         228.04        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   218.64    .373E+05       3.2          0.33     192.37
      1.00   219.14    .752E+05      10.1          0.51     124.71
      1.52   219.66    .149E+06      22.2          0.57     112.06
      2.04   220.18    .279E+06      43.4          0.59     107.06
      2.56   220.70    .464E+06      77.0          0.63     100.52
      3.08   221.22    .705E+06     125.7          0.68      93.56
      3.61   221.75    .100E+07     192.7          0.73      86.62
      4.13   222.27    .135E+07     278.1          0.79      80.92
      4.65   222.79    .176E+07     385.9          0.84      75.86
      5.17   223.31    .222E+07     514.9          0.89      71.82
      5.69   223.83    .280E+07     662.7          0.90      70.40
      6.21   224.35    .345E+07     867.7          0.96      66.35
      6.73   224.87    .417E+07    1107.0          1.01      62.81
      7.25   225.39    .494E+07    1400.0          1.08      58.80
      7.78   225.92    .573E+07    1732.2          1.15      55.17
      8.30   226.44    .655E+07    2099.9          1.22      52.02
      8.82   226.96    .740E+07    2502.8          1.29      49.29
      9.34   227.48    .828E+07    2940.9          1.36      46.90
      9.86   228.00    .918E+07    3414.3          1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
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                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8324) 3994.38    46.68    9.25  38.24      2.09      0.60
     OUTFLOW: ID= 1 (6328) 3994.38    39.91   11.00  38.24      1.96      0.59


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| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   5.314     8.75    37.73
       + ID2= 2 (6328):  3994.38  39.913    11.00    38.24
         ================================================
         ID = 3 (8320):  4487.30  44.685    10.75    38.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  44.685    10.75    38.18
       + ID2= 2 (8322):   861.74   9.928     9.50    38.51
         ================================================
         ID = 3 (8318):  5349.04  54.210    10.75    38.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  50.565    15.50    31.46
       + ID2= 2 (8318):  5349.04  54.210    10.75    38.23
         ================================================
         ID = 3 (8316): 15408.22  97.899    11.75    33.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   1.884     6.50    21.94
       + ID2= 2 (8316): 15408.22  97.899    11.75    33.81
         ================================================
         ID = 3 (8312): 16028.32  98.974    11.75    33.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  33.223     6.50    41.92
       + ID2= 2 (8312): 16028.32  98.974    11.75    33.35
         ================================================
         ID = 3 (8308): 16627.22 101.128    11.50    33.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000    0.0000    |  *******     74.0090
                        66.5450   18.5023   |  *******    ********
                        98.5430   37.0045   |  *******    ********

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8308)  ********    101.128     11.50      33.66
     OUTFLOW: ID= 1 (5510)  ********     96.575     13.25      33.66

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.50
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 35.8687

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   3.992    22.25    32.86
       + ID2= 2 (5510): 16627.22  96.575    13.25    33.66
         ================================================
         ID = 3 (8240): 19412.22 100.014    13.25    33.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  50.303    12.00    21.33
       + ID2= 2 (8240): 19412.22 100.014    13.25    33.55
         ================================================
         ID = 3 (8238): 28936.45 149.326    12.75    29.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   4.420    10.00    19.62
       + ID2= 2 (8238): 28936.45 149.326    12.75    29.53
         ================================================
         ID = 3 (8236): 29941.03 153.277    12.75    29.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80   9.337     6.50    28.35
       + ID2= 2 (8236): 29941.03 153.277    12.75    29.20
         ================================================
         ID = 3 (8234): 30226.83 153.639    12.75    29.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.034     7.00    22.48
       + ID2= 2 (8234): 30226.83 153.639    12.75    29.19
         ================================================
         ID = 3 (8230): 30570.83 154.850    12.50    29.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  13.442     8.75    18.81
       + ID2= 2 (8230): 30570.83 154.850    12.50    29.11
         ================================================
         ID = 3 (8228): 32522.89 163.469    12.25    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   5.609     8.00    15.27
       + ID2= 2 (8228): 32522.89 163.469    12.25    28.09
         ================================================
         ID = 3 (8190): 33538.11 166.987    12.25    28.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:  12 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   2.534     8.00     6.98
       + ID2= 2 (8228): 32522.89  87.695    12.50    14.27
         ================================================
         ID = 3 (8190): 33538.11  89.249    12.50    14.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   6 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\2687e965
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   6.685 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.151
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.265 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.427
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.770 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.930
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.259

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   6.173 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.852
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.405

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   3.076 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.261
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   3.191 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  19.364
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                 0.00         287.00        0.0500
                23.66         283.72        0.0500
                70.98         280.94        0.0500
               112.38         280.23        0.0500
               171.52         276.80        0.0500
               260.24         274.46        0.0500
               266.16         274.26        0.0500
               272.07         274.12        0.0500
               276.49         274.12    0.0500 /0.0300  Main Channel
               276.99         273.82        0.0300      Main Channel
               277.99         273.82        0.0300      Main Channel
               279.49         273.82        0.0300      Main Channel
               280.49         274.27    0.0300 /0.0500  Main Channel
               283.90         274.27        0.0500
               289.81         274.57        0.0500
               325.30         275.75        0.0500
               396.28         278.98        0.0500
               449.51         280.97        0.0500
               496.83         283.90        0.0500
               585.54         287.92        0.0500

          <---------- TRAVEL TIME TABLE ---------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
           0.30   274.12    .273E+04       0.9          0.99       49.81
           0.98   274.80    .583E+05      20.8          1.05       46.71
           1.66   275.48    .203E+06      95.2          1.38       35.53
           2.33   276.15    .438E+06     256.0          1.73       28.50
           3.01   276.83    .755E+06     524.8          2.05       23.97
           3.69   277.51    .114E+07     935.8          2.43       20.26
           4.37   278.19    .157E+07    1472.0          2.76       17.82
           5.05   278.87    .206E+07    2140.7          3.06       16.06
           5.72   279.54    .261E+07    2938.6          3.33       14.79
           6.40   280.22    .321E+07    3887.6          3.57       13.77
           7.08   280.90    .390E+07    4795.4          3.63       13.56
           7.76   281.58    .468E+07    6196.2          3.91       12.58
           8.43   282.25    .550E+07    7803.9          4.19       11.74
           9.11   282.93    .637E+07    9601.9          4.45       11.05
           9.79   283.61    .728E+07   11594.8          4.70       10.46
          10.47   284.29    .823E+07   13845.3          4.96        9.91
```

11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	3.19	9.00	19.36	0.38	0.99
OUTFLOW: ID= 1 (6350)	590.18	3.11	10.25	19.36	0.37	0.99

ADD HYD (8220)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0350):	366.84	3.076	7.50	19.26
+ ID2= 2 (6350):	590.18	3.111	10.25	19.36
ID = 3 (8220):	957.02	5.697	8.75	19.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):	350.93	6.173	7.25	35.85
+ ID2= 2 (8220):	957.02	5.697	8.75	19.32
ID = 3 (8222):	1307.95	11.432	8.00	23.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning	
0.00	257.95	0.0500	
7.83	257.34	0.0500	
15.66	256.19	0.0500	
21.53	254.01	0.0500	
41.11	244.06	0.0500	
76.35	241.38	0.0500	
111.58	239.74	0.0500	
113.54	239.61	0.0500	
113.75	239.41	0.0500 /0.0300	Main Channel
113.85	238.81	0.0300	Main Channel
115.50	238.81	0.0300	Main Channel
116.15	238.81	0.0300	Main Channel
116.25	239.41	0.0300	Main Channel
117.46	239.52	0.0500	
119.41	239.72	0.0500	
121.37	240.04	0.0500	
131.16	241.84	0.0500	
156.61	247.03	0.0500	
176.19	251.46	0.0500	
193.80	258.79	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	11.43	8.00	23.76	1.05	1.56
OUTFLOW: ID= 1 (6352)	1307.95	11.35	8.25	23.76	1.05	1.56

ADD HYD (8224)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	4.770	7.00	22.93
+ ID2= 2 (6352):	1307.95	11.354	8.25	23.76
ID = 3 (8224):	1689.38	15.685	7.75	23.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	15.68	7.75	23.57	1.65	1.16
OUTFLOW: ID= 1 (6354)	1689.38	14.70	8.75	23.57	1.62	1.16

ADD HYD (8226)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0354):	262.68	1.265	8.00	13.43
+ ID2= 2 (6354):	1689.38	14.695	8.75	23.57
ID = 3 (8226):	1952.06	15.927	8.75	22.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0344) | Area (ha)= 344.00 Curve Number (CN)= 59.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 6.790

PEAK FLOW (cms)= 4.771 (i)
TIME TO PEAK (hrs)= 7.000

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     RUNOFF VOLUME    (mm)=  26.476
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3402)  |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min  |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.69       168.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1250.60        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        25.11
               over (min)      15.00        45.00
     Storage Coeff.  (min)=    13.46 (ii)   32.05 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
     Unit Hyd. peak  (cms)=     0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     7.54         7.07       10.471 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=    86.50        22.80       31.08
     TOTAL RAINFALL   (mm)=    88.50        88.50       88.50
     RUNOFF COEFFICIENT   =     0.98         0.26        0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3401)  |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min  |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.55        27.65
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    584.24        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        58.14
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     8.52 (ii)   21.81 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     3.08         2.17        4.437 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=    86.50        26.50       39.10
     TOTAL RAINFALL   (mm)=    88.50        88.50       88.50
     RUNOFF COEFFICIENT   =     0.98         0.30        0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.3360      1.7877
                         0.1730     0.6348   |   7.2780      2.2185
                         1.8360     0.8250   |   9.1880      2.6486
                         2.1540     1.1051   |   9.5880      2.6586
                         3.3950     1.3506   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)     51.200     4.437      6.00      39.10
     OUTFLOW: ID= 1 (5340)     51.200     1.889      6.50      39.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.58
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8780

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-------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3402):   234.60  10.471     6.00    31.08
        + ID2= 2 (5340):    51.20   1.889     6.50    39.08
          ================================================
          ID = 3 (8232):   285.80  10.972     6.50    32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0342)  |   Area    (ha)=1004.58   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=   5.230 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  23.193
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0422)  |   Area    (ha)= 780.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=   4.992 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  23.163
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410)  |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   3.821 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.326
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408)  |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   3.942 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.554
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.289

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0376)  |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   8.365 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  39.991
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.452
```

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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   5.223 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  28.198
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.691 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.367
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   3.631 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.417
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   1.216 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  18.110
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   5.968 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.878
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.326

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   2.245 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  23.520
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   155.27   2.245     6.75    23.52
      + ID2= 2 (0366):   462.62   5.968     7.50    28.88
        ================================================
        ID = 3 (8302):   617.89   8.124     7.25    27.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         21.80
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      10.97 (ii)    30.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=       2.53          3.45          4.005 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      86.50         20.43         25.72
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.23          0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   2.367 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.436
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.703 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.868
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   2.367     7.50    12.44
       + ID2= 2 (0360):   138.37   1.703     6.75    17.87
         ================================================
         ID = 3 (8306):   568.24   3.976     7.00    13.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3621.0) ------>
             Distance      Elevation       Manning
                0.00         261.46        0.0550
               27.86         254.23        0.0550
               51.07         251.96        0.0550
               74.29         250.77        0.0550
               97.50         249.91        0.0550
              125.36         249.40        0.0550
              150.93         247.40        0.0550
              155.93         247.33    0.0550 /0.0350  Main Channel
              157.93         246.85        0.0350      Main Channel
              159.18         246.65        0.0350      Main Channel
              160.18         246.63        0.0350      Main Channel
              160.93         246.85        0.0350      Main Channel
              161.93         247.18    0.0350 /0.0550  Main Channel
              163.18         248.03        0.0550
              168.18         248.58        0.0550
              183.18         250.18        0.0550
              201.97         252.59        0.0550
              213.57         256.02        0.0550
              225.18         260.31        0.0550
              229.82         261.00        0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)     (min)
       0.55   247.18    .556E+04         1.9         1.03     49.95
       1.28   247.91    .336E+05        16.7         1.53     33.61
       2.00   248.63    .913E+05        53.6         1.81     28.40
       2.73   249.36    .185E+06       122.3         2.05     25.18
       3.46   250.09    .344E+06       224.6         2.02     25.52
       4.19   250.82    .574E+06       417.9         2.25     22.91
       4.91   251.54    .855E+06       699.1         2.53     20.38
       5.64   252.27    .118E+07      1075.3         2.82     18.26
       6.37   253.00    .153E+07      1559.9         3.15     16.38
       7.10   253.73    .191E+07      2137.6         3.46     14.89
       7.82   254.45    .231E+07      2815.2         3.77     13.67
       8.55   255.18    .272E+07      3608.5         4.10     12.58
       9.28   255.91    .315E+07      4488.2         4.41     11.69
      10.01   256.64    .358E+07      5458.0         4.71     10.95
      10.73   257.36    .403E+07      6512.4         4.99     10.32
      11.46   258.09    .449E+07      7649.8         5.27      9.78
      12.19   258.82    .496E+07      8869.5         5.53      9.32
      12.92   259.55    .544E+07     10171.2         5.78      8.91
      13.64   260.27    .593E+07     11554.8         6.02      8.55

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     3.98     7.00  13.76      0.65      1.08
     OUTFLOW: ID= 1 (6362)  568.24     3.52     8.25  13.76      0.63      1.07
```

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78   4.005     6.50    25.72
       + ID2= 2 (6362):   568.24   3.522     8.25    13.76
         ================================================
         ID = 3 (8304):   687.02   5.831     6.50    15.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   8.124     7.25    27.53
       + ID2= 2 (8304):   687.02   5.831     6.50    15.83
         ================================================
         ID = 3 (8300):  1304.91  13.263     6.50    21.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
             Distance      Elevation       Manning
                0.00         230.00        0.0370
               18.48         223.26        0.0370
               36.96         223.05        0.0370
               64.67         222.94        0.0370
              110.87         222.86        0.0370
              133.96         222.74        0.0370
              147.82         222.65        0.0370
              170.92         222.31        0.0370
              174.79         222.26    0.0370 /0.0300  Main Channel
              174.89         221.86        0.0300      Main Channel
              175.54         221.86        0.0300      Main Channel
              176.19         221.86        0.0300      Main Channel
              176.29         222.26    0.0300 /0.0370  Main Channel
              180.16         222.25        0.0370
              184.78         222.28        0.0370
              189.40         222.31        0.0370
              332.60         222.37        0.0370
              450.00         230.00        0.0370

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)     (min)
       0.40   222.26    .771E+03         0.3         0.52     41.74
       0.81   222.67    .784E+05        30.3         0.51     43.17
       1.21   223.07    .210E+06       123.2         0.77     28.42
       1.62   223.48    .384E+06       301.0         1.03     21.25
       2.03   223.89    .563E+06       550.2         1.28     17.06
       2.44   224.30    .747E+06       860.7         1.51     14.46
       2.84   224.70    .934E+06      1228.1         1.73     12.68
       3.25   225.11    .113E+07      1649.3         1.92     11.37
       3.66   225.52    .132E+07      2122.3         2.11     10.37
       4.07   225.93    .152E+07      2645.5         2.29      9.58
       4.47   226.33    .172E+07      3217.8         2.45      8.92
       4.88   226.74    .193E+07      3838.3         2.61      8.38
       5.29   227.15    .214E+07      4506.3         2.76      7.92
       5.70   227.56    .236E+07      5221.3         2.91      7.52
       6.10   227.96    .258E+07      5983.0         3.05      7.17
       6.51   228.37    .280E+07      6790.9         3.19      6.87
       6.92   228.78    .303E+07      7645.0         3.32      6.60
       7.33   229.19    .326E+07      8545.1         3.45      6.35
       7.73   229.59    .349E+07      9491.0         3.57      6.13

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    13.26     6.50  21.37      0.58      0.52
     OUTFLOW: ID= 1 (6368) 1304.91    12.01     8.00  21.37      0.56      0.52
```

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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0368):   159.48   1.216     7.75    18.11
       + ID2= 2 (6368):  1304.91  12.014     8.00    21.37
         ================================================
         ID = 3 (8298):  1464.39  13.223     8.00    21.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0370):   191.85   3.631     6.75    29.42
       + ID2= 2 (8298):  1464.39  13.223     8.00    21.01
         ================================================
         ID = 3 (8296):  1656.24  16.201     7.75    21.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3721.0) ------>
             Distance      Elevation       Manning
                0.00         225.00        0.0390
               30.80         219.38        0.0390
               61.61         219.30        0.0390
               77.01         219.27        0.0390
              469.76         219.14        0.0390
              477.46         219.13        0.0390
              485.16         219.10        0.0390
```

```
              492.86        219.09         0.0390
              495.56        219.09    0.0390 /0.0310  Main Channel
              495.66        218.51         0.0310      Main Channel
              500.56        218.51         0.0310      Main Channel
              505.46        218.51         0.0310      Main Channel
              505.56        219.09    0.0310 /0.0390  Main Channel
              508.26        219.09         0.0390
              515.96        219.10         0.0390
              523.67        219.21         0.0390
              562.17        219.32         0.0390
              654.58        219.43         0.0390
              731.59        219.46         0.0390
              762.39        225.00         0.0390

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
      (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
     0.29    218.80    .431E+04         1.7          0.58       43.48
     0.58    219.09    .867E+04         5.1          0.89       28.32
     0.93    219.44    .200E+06        58.2          0.44       57.35
     1.28    219.79    .568E+06       278.6          0.74       33.99
     1.62    220.13    .939E+06       630.2          1.01       24.84
     1.97    220.48    .131E+07      1090.4          1.25       20.05
     2.32    220.83    .169E+07      1647.7          1.47       17.06
     2.67    221.18    .206E+07      2294.6          1.68       14.99
     3.01    221.52    .244E+07      3025.6          1.87       13.46
     3.36    221.87    .282E+07      3836.5          2.05       12.27
     3.71    222.22    .321E+07      4723.7          2.22       11.31
     4.06    222.57    .359E+07      5684.6          2.39       10.53
     4.40    222.91    .398E+07      6716.6          2.55        9.87
     4.75    223.26    .437E+07      7817.7          2.70        9.31
     5.10    223.61    .476E+07      8986.2          2.85        8.83
     5.45    223.96    .515E+07     10220.4          2.99        8.40
     5.79    224.30    .555E+07     11519.1          3.13        8.03
     6.14    224.65    .594E+07     12880.8          3.27        7.69
     6.49    225.00    .634E+07     14304.5          3.40        7.39

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    16.20     7.75  21.99      0.65      0.73
     OUTFLOW: ID= 1 (6372) 1656.24    15.45     8.50  21.99      0.65      0.74


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-------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):    110.42   0.691     7.25    13.37
      + ID2= 2 (6372):   1656.24  15.450     8.50    21.99
        ==========================================================
        ID = 3 (8294):   1766.66  16.075     8.50    21.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):    545.70   5.223     8.25    28.20
      + ID2= 2 (8294):   1766.66  16.075     8.50    21.45
        ==========================================================
        ID = 3 (8292):   2312.36  21.266     8.50    23.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  65.1290    345.3754
                        25.4850     24.6697   |  84.9510    456.3890
                        31.1490     98.6787   |  *******    838.7689
                        39.6440     *******   |  *******    838.7789
                        48.1390     *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     21.266      8.50      23.04
     OUTFLOW: ID= 1 (5505)   2312.360     15.623     11.25      23.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.47
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.1370

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-------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):    463.85   8.365     7.25    39.99
      + ID2= 2 (5505):   2312.36  15.623    11.25    23.04
        ==========================================================
        ID = 3 (8272):   2776.21  20.788    10.25    25.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=   4.736 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  34.962
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.395

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=   3.577 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  22.323
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.252

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=   4.371 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  23.713
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.268

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=   2.679 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  25.800
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.292

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=   3.426 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  28.018
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.317

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   3.426     7.00    28.02
       + ID2= 2 (0388):   220.77   2.679     7.25    25.80
         ================================================
         ID = 3 (8286):   462.04   6.100     7.25    26.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area     (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.596 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  16.955
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area     (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.939 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.644
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0382) |   Area     (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   3.143 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  22.142
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   1.939     6.50    14.64
       + ID2= 2 (0382):   216.59   3.143     6.75    22.14
         ================================================
         ID = 3 (8290):   398.60   5.066     6.75    18.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30        0.0300      Main Channel
                79.39         279.30        0.0300      Main Channel
                79.64         279.30        0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.34   279.64    .715E+03        0.2         0.85      63.42
      1.10   280.40    .507E+05       21.9          1.40      38.54
      1.85   281.15    .141E+06       91.8          2.10      25.69
      2.61   281.91    .269E+06      218.9          2.63      20.46
      3.36   282.66    .445E+06      407.1          2.96      18.23
      4.12   283.42    .681E+06      698.3          3.31      16.26
      4.87   284.17    .977E+06     1111.8          3.68      14.65
      5.63   284.93    .133E+07     1674.3          4.06      13.27
      6.39   285.69    .173E+07     2457.8          4.59      11.73
      7.14   286.44    .215E+07     3378.8          5.07      10.63
      7.90   287.20    .261E+07     4418.4          5.47       9.85
      8.65   287.95    .310E+07     5676.3          5.92       9.11
      9.41   288.71    .361E+07     7150.5          6.40       8.42
     10.17   289.47    .414E+07     8783.1          6.86       7.86
     10.92   290.22    .469E+07    10575.1          7.30       7.38
     11.68   290.98    .525E+07    12520.4          7.72       6.98
     12.43   291.73    .582E+07    14619.0          8.12       6.64
     13.19   292.49    .642E+07    16863.2          8.50       6.34
     13.94   293.24    .703E+07    19259.8          8.86       6.08

                                  <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     5.07     6.75  18.72      0.51      0.93
     OUTFLOW: ID= 1 (6384)  398.60     3.99     7.75  18.72      0.47      0.91

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| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   1.596     7.25    16.95
       + ID2= 2 (6384):   398.60   3.985     7.75    18.72
         ================================================
         ID = 3 (8288):   597.67   5.554     7.75    18.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   6.100     7.25    26.96
       + ID2= 2 (8288):   597.67   5.554     7.75    18.13
         ================================================
         ID = 3 (8284):  1059.71  11.532     7.50    21.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   4.371     7.50    23.71
       + ID2= 2 (8284):  1059.71  11.532     7.50    21.98
         ================================================
         ID = 3 (8280):  1479.71  15.903     7.50    22.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0392) |   Area     (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.690
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.324

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   5.877 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  23.743
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0378):   606.72   5.877     7.75    23.74
      + ID2= 2 (0392):   167.22   2.840     7.00    28.69
        ====================================================
        ID = 3 (8282):   773.94   8.554     7.25    24.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8280):  1479.71  15.903     7.50    22.47
      + ID2= 2 (8282):   773.94   8.554     7.25    24.81
        ====================================================
        ID = 3 (8278):  2253.65  24.428     7.50    23.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.54   251.74    .827E+04         4.5          1.51       30.71
       2.19   253.39    .758E+05        73.2          2.69       17.27
       3.83   255.03    .282E+06       331.8          3.27       14.17
       5.48   256.68    .633E+06       917.3          4.03       11.51
       7.12   258.32    .112E+07      1889.5          4.69        9.90
       8.77   259.97    .179E+07      3410.2          5.31        8.73
      10.41   261.61    .259E+07      5627.6          6.05        7.66
      12.06   263.26    .351E+07      8605.1          6.83        6.79
      13.70   264.90    .447E+07     12544.9          7.81        5.94
      15.35   266.55    .546E+07     17101.4          8.71        5.32
      16.99   268.19    .648E+07     22251.7          9.56        4.85
      18.64   269.84    .752E+07     27979.0         10.36        4.48
      20.28   271.48    .858E+07     34269.0         11.11        4.17
      21.93   273.13    .967E+07     41110.8         11.83        3.92
      23.57   274.77    .108E+08     48495.9         12.51        3.71
      25.22   276.42    .119E+08     56418.1         13.17        3.52
      26.86   278.06    .131E+08     64410.6         13.69        3.39
      28.51   279.71    .143E+08     73002.1         14.18        3.27
      30.15   281.35    .156E+08     81379.3         14.50        3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65   24.43    7.50  23.28      1.02      1.73
    OUTFLOW: ID= 1 (6394) 2253.65   23.85    8.00  23.28      1.00      1.72

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| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6394):   325.45   3.577     7.25    22.32
      + ID2= 2 (6394):  2253.65  23.853     8.00    23.28
        ====================================================
        ID = 3 (8276):  2579.10  27.252     8.00    23.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98       58.06
       2.54   230.74    .277E+06       145.1          1.78       31.76
       4.33   232.53    .786E+06       609.1          2.63       21.50
       6.13   234.33    .140E+07      1481.5          3.59       15.77
       7.92   236.12    .207E+07      2677.3          4.39       12.90
       9.71   237.91    .280E+07      4184.8          5.09       11.14
      11.50   239.70    .357E+07      6001.4          5.71        9.93
      13.29   241.49    .441E+07      8129.1          6.27        9.03
      15.09   243.29    .530E+07     10549.4          6.77        8.37
      16.88   245.08    .625E+07     13300.6          7.24        7.83
      18.67   246.87    .726E+07     16396.2          7.68        7.38
      20.46   248.66    .834E+07     19809.8          8.07        7.02
      22.26   250.46    .949E+07     23532.5          8.43        6.72
      24.05   252.25    .107E+08     27641.2          8.77        6.46
      25.84   254.04    .120E+08     32155.2          9.10        6.22
      27.63   255.83    .134E+08     36901.0          9.37        6.05
      29.42   257.62    .149E+08     42147.7          9.64        5.88
      31.22   259.42    .164E+08     48149.1          9.97        5.68
      33.01   261.21    .181E+08     54644.8         10.29        5.51

                                  <---- hydrograph ---->   <-pipe / channel->
                                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10   27.25    8.00  23.16      1.06      1.06
    OUTFLOW: ID= 1 (6396) 2579.10   24.64    9.00  23.16      1.03      1.05

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--------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0396):   305.21   4.736     7.50    34.96
      + ID2= 2 (6396):  2579.10  24.639     9.00    23.16
        ====================================================
        ID = 3 (8274):  2884.31  28.747     8.75    24.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8272):  2776.21  20.788    10.25    25.87
      + ID2= 2 (8274):  2884.31  28.747     8.75    24.40
        ================================================
        ID = 3 (8270):  5660.52  48.391     9.25    25.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     48.391     9.25      25.12
     OUTFLOW: ID= 1 (5506)   5660.520     35.821    12.25      25.12

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 74.02
                   TIME SHIFT OF PEAK FLOW         (min)=180.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 34.8735

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-------------------
| CALIB             |
| NASHYD     (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   3.269 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  31.802
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.359

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD     (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   2.141 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.650
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   3.028 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.095
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.763 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.182
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   4.178 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.611
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0398):   328.19   4.178     7.00    23.61
      + ID2= 2 (0400):    93.97   1.763     6.50    21.18
        ================================================
        ID = 3 (8268):   422.16   5.776     6.75    23.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                 0.00         238.50        0.0360
                11.50         238.00        0.0360
                23.00         237.93        0.0360
                34.49         236.39        0.0360
                63.24         233.98        0.0360
                97.73         228.15        0.0360
               123.60         227.08        0.0360
               126.48         226.61        0.0360
               127.60         226.47    0.0360 /0.0330  Main Channel
               127.85         225.25        0.0330      Main Channel
               129.35         225.25        0.0330      Main Channel
               130.85         225.25        0.0330      Main Channel
               131.10         226.47    0.0330 /0.0360  Main Channel
               132.22         226.59        0.0360
               143.72         227.42        0.0360
               169.59         227.88        0.0360
               192.59         231.19        0.0360
               218.46         233.02        0.0360
               241.45         235.50        0.0360
               284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36      38.31
      0.81   226.06    .804E+04        5.0         1.93      27.02
      1.22   226.47    .124E+05        9.1         2.30      22.61
      1.84   227.09    .308E+05       23.3         2.36      22.03
      2.46   227.71    .904E+05       62.0         2.14      24.31
      3.09   228.34    .223E+06      188.3         2.63      19.75
      3.71   228.96    .379E+06      410.2         3.38      15.39
      4.33   229.58    .550E+06      711.5         4.04      12.89
      4.95   230.20    .737E+06     1091.3         4.62      11.25
      5.58   230.83    .939E+06     1550.6         5.15      10.10
      6.20   231.45    .116E+07     2072.4         5.59       9.31
      6.82   232.07    .140E+07     2659.2         5.93       8.77
      7.44   232.69    .167E+07     3345.8         6.27       8.30
      8.07   233.32    .195E+07     4159.0         6.64       7.83
      8.69   233.94    .226E+07     5100.8         7.03       7.39
      9.31   234.56    .259E+07     6081.3         7.32       7.11
      9.93   235.18    .295E+07     7183.1         7.60       6.84
     10.56   235.81    .334E+07     8145.2         7.62       6.83
     11.18   236.43    .379E+07     9116.0         7.51       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     5.78    6.75  23.07      0.89      1.99
     OUTFLOW: ID= 1 (6402)  422.16     5.53    7.25  23.07      0.87      1.97

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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
        ID1= 1 (0402):   244.00   3.028     7.50    28.09
      + ID2= 2 (6402):   422.16   5.530     7.25    23.07
        ================================================
        ID = 3 (8266):   666.16   8.550     7.25    24.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46   2.141     7.25    18.65
      + ID2= 2 (8266):   666.16   8.550     7.25    24.91
        ================================================
        ID = 3 (8264):   912.62  10.690     7.25    23.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65   3.260     6.50    31.80
      + ID2= 2 (8264):   912.62  10.690     7.25    23.22
        ================================================
        ID = 3 (8262):  1055.27  13.662     7.00    24.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  35.821    12.25    25.12
      + ID2= 2 (8262):  1055.27  13.662     7.00    24.38
        ================================================
        ID = 3 (8260):  6715.79  41.240    10.75    25.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62   3.942     6.75    25.55
      + ID2= 2 (8260):  6715.79  41.240    10.75    25.01
        ================================================
        ID = 3 (8258):  6947.41  42.741    10.00    25.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01   3.821     8.00    19.33
      + ID2= 2 (8258):  6947.41  42.741    10.00    25.03
        ================================================
        ID = 3 (8256):  7519.42  46.169    10.00    24.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  90.6140     67.8416
                       39.6440    12.3348    |  *******    160.3529
                       48.1390    18.5023    |  *******    160.3629
                       67.9600    37.0045    |   0.0000      0.0000

                            AREA      QPEAK     TPEAK       R.V.
                            (ha)      (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     46.169     10.00      24.59
    OUTFLOW: ID= 1 (5507)   7519.421     43.949     12.25      24.59

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.19
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.4685

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------------------
| CALIB            |
| NASHYD    (0420) |   Area     (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   2.139 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  22.269
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.252

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0418) |   Area     (ha)= 182.79   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.966

    PEAK FLOW       (cms)=   2.512 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  30.508
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.345

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0416) |   Area     (ha)= 439.30   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.29

    Unit Hyd Qpeak  (cms)=   5.832

    PEAK FLOW       (cms)=   5.193 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  30.583
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.346

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0412) |   Area     (ha)= 238.70   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   5.088

    PEAK FLOW       (cms)=   3.028 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  22.921
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.259

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (4141) |   Area     (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
------------------

                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      15.73         27.97
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     539.75         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=     116.82         72.91
              over (min)       15.00         30.00
    Storage Coeff.  (min)=       8.13 (ii)   20.27 (ii)
    Unit Hyd. Tpeak (min)=      15.00         30.00
    Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
    PEAK FLOW       (cms)=       2.15          2.85      3.979 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.25       6.00
    RUNOFF VOLUME    (mm)=      86.50         36.78      45.23
    TOTAL RAINFALL   (mm)=      88.50         88.50      88.50
    RUNOFF COEFFICIENT   =       0.98          0.42       0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
        CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4720      1.9177
                         0.3820     0.3152   |   3.8720      1.9277
                         1.8280     0.4690   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4141)     43.700     3.979      6.00      45.23
     OUTFLOW: ID= 1 (5414)     43.700     2.035      6.50      45.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.13
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6598

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.30       114.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     980.82        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        58.69
           over (min)      =      15.00        30.00
     Storage Coeff.  (min)=      11.63 (ii)   24.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.76         8.48          9.979 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50        33.77          39.04
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.38           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):   144.30   9.979     6.25    39.04
       + ID2= 2 (5414):    43.70   2.035     6.50    45.23
         ================================================
         ID = 3 (8254):   188.00  11.926     6.25    40.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0412):   238.70   3.028     7.00    22.92
       + ID2= 2 (8254):   188.00  11.926     6.25    40.48
         ================================================
         ID = 3 (8252):   426.70  14.425     6.25    30.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation      Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.27    246.02    .295E+04        0.6         0.75      88.26
     1.53    247.28    .168E+06       69.7         1.65      40.13
     2.79    248.54    .490E+06      299.5         2.42      27.28
     4.06    249.81    .962E+06      740.1         3.05      21.67
     5.32    251.07    .158E+07     1440.0         3.61      18.33
     6.58    252.33    .235E+07     2443.8         4.12      16.06
     7.84    253.59    .327E+07     3811.2         4.63      14.30
     9.10    254.85    .432E+07     5565.1         5.11      12.94
    10.37    256.12    .550E+07     7721.3         5.57      11.88
    11.63    257.38    .682E+07    10309.9         6.00      11.02
    12.89    258.64    .827E+07    13360.6         6.42      10.31
    14.15    259.90    .985E+07    16884.5         6.81       9.72
    15.42    261.17    .116E+08    20818.4         7.14       9.26
    16.68    262.43    .134E+08    25510.4         7.53       8.78
    17.94    263.69    .154E+08    30958.0         7.97       8.30
    19.20    264.95    .175E+08    36988.3         8.38       7.89
    20.46    266.21    .197E+08    43617.1         8.78       7.53
    21.73    267.48    .220E+08    50868.1         9.17       7.22
    22.99    268.74    .244E+08    58854.0         9.56       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70    14.42    6.25  30.66      0.52      0.84
    OUTFLOW: ID= 1 (6416)  426.70     6.92    7.25  30.66      0.39      0.79

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0416):   439.30   5.193     8.00    30.58
       + ID2= 2 (6416):   426.70   6.920     7.25    30.66
         ================================================
         ID = 3 (8250):   866.00  11.994     7.50    30.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   182.79   2.512     7.50    30.51
       + ID2= 2 (8250):   866.00  11.994     7.50    30.62
         ================================================
         ID = 3 (8248):  1048.79  14.506     7.50    30.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   2.139     7.00    22.27
       + ID2= 2 (8248):  1048.79  14.506     7.50    30.60
         ================================================
         ID = 3 (8246):  1224.61  16.598     7.25    29.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  43.949    12.25    24.59
       + ID2= 2 (8246):  1224.61  16.598     7.25    29.40
```

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        ================================================
        ID = 3 (8244):  8744.03  53.161    10.00    25.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20   4.992     9.00    23.16
      + ID2= 2 (8244):  8744.03  53.161    10.00    25.27
        ================================================
        ID = 3 (8242):  9524.23  58.066    10.00    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231     58.066     10.00      25.09
     OUTFLOW: ID= 1 (5508)   9524.231     56.167     11.75      25.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.73
                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 22.6576

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   4.639 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  38.196
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.432

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    194.58       331.32
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1872.43        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        78.75
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    17.14 (ii)   28.91 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     19.91        30.73        41.342 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     86.50        38.99         47.07
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.44          0.53

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        97.85
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     9.48 (ii)   20.27 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.67         5.12          7.996 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        42.23         52.41
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.48          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  3.3350      1.2400
                         0.3230     0.3074   |  4.3560      1.3520
                         0.9360     0.5374   |  5.3290      1.4590
                         1.7590     0.8302   |  5.7290      1.4690
                         2.4110     1.0550   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    73.000     7.996      6.00      52.41
     OUTFLOW: ID= 1 (5338)    73.000     4.417      6.50      52.41

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.24
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3680

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| ADD HYD   (8310) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3382):   525.90  41.342     6.25    47.07
      + ID2= 2 (5338):    73.00   4.417     6.50    52.41
        ================================================
        ID = 3 (8310):   598.90  44.535     6.25    47.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   1.173 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  24.620
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        60.88
               over (min)      15.00        30.00
     Storage Coeff.  (min)=      7.47 (ii)   20.52 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
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     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.02         1.37          3.881 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        28.70         46.62
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.32          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.6540      0.4604
                          0.0390     0.1699    |   0.8330      0.5249
                          0.1860     0.2610    |   1.0130      0.5896
                          0.3750     0.3534    |   1.4130      0.5996
                          0.4340     0.3813    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.000     3.881      6.00      46.62
     OUTFLOW: ID= 1 (5334)     33.000     1.849      6.25      46.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.65
                  TIME SHIFT OF PEAK FLOW       (min)= 15.00
                  MAXIMUM  STORAGE   USED      (ha.m.)=  0.6246

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-------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   587.10   1.173    15.25    24.62
       + ID2= 2 (5334):    33.00   1.849     6.25    46.58
         ================================================
         ID = 3 (8314):   620.10   2.136     6.25    25.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.637 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  21.914
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=   5.908 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  52.435
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.592

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   6.939 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.497
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.491

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   3.150 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  51.645
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.584

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   6.939     8.00    43.50
       + ID2= 2 (0284):    78.93   3.150     6.50    51.65
         ================================================
         ID = 3 (8388):   528.31   9.369     7.25    44.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31   220.01    .382E+04        0.8         0.57      82.89
      1.06   220.76    .525E+05       12.1         0.66      72.51
      1.81   221.51    .240E+06       88.6         1.05      45.21
      2.56   222.26    .510E+06      261.7         1.46      32.47
      3.31   223.01    .843E+06      533.8         1.81      26.34
      4.06   223.76    .124E+07      913.6         2.10      22.64
      4.81   224.51    .171E+07     1399.0         2.34      20.33
      5.56   225.26    .225E+07     2051.0         2.60      18.27
      6.31   226.01    .285E+07     2907.0         2.91      16.35
      7.06   226.76    .352E+07     3902.5         3.16      15.04
      7.82   227.52    .426E+07     5069.9         3.39      14.01
      8.57   228.27    .507E+07     6433.0         3.62      13.13
      9.32   229.02    .593E+07     8069.2         3.89      12.24
     10.07   229.77    .681E+07     9926.7         4.16      11.44
     10.82   230.52    .772E+07    11962.8         4.42      10.75
     11.57   231.27    .864E+07    14167.1         4.68      10.17
     12.32   232.02    .959E+07    16537.1         4.92       9.66
     13.07   232.77    .105E+08    19070.7         5.16       9.22
     13.82   233.52    .115E+08    21790.4         5.39       8.82

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8388)  528.31     9.37    7.25  44.71      0.88      0.63
     OUTFLOW: ID= 1 (6286)  528.31     7.94    9.00  44.71      0.78      0.62

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| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0286):   260.51   5.908     7.50    52.44
       + ID2= 2 (6286):   528.31   7.939     9.00    44.71
         ================================================
         ID = 3 (8386):   788.82  13.331     8.25    47.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.864 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  25.946
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=   2.593 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.167
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   2.236 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  17.571
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51   2.236     8.00    17.57
       + ID2= 2 (0300):   258.93   2.593     7.50    22.17
         ================================================
         ID = 3 (8395):   589.44   4.798     7.75    19.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.883 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  44.801
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   5.447 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  44.529
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.503

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.883     9.25    44.80
       + ID2= 2 (0290):   269.18   5.447     7.25    44.53
         ================================================
         ID = 3 (8397):   610.01   9.010     8.00    44.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   5.388 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  42.226
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.477

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   8.591 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  34.153
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.559 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.026
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.283

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   8.591     8.00    34.15
       + ID2= 2 (0294):   274.15   3.559     7.00    25.03
         ================================================
         ID = 3 (8398):  1012.64  11.892     8.00    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
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```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2961.0) ------>
              Distance      Elevation       Manning
                 0.00         243.98        0.0400
                42.59         243.18        0.0400
                85.17         241.81        0.0400
               120.66         240.50        0.0400
               156.15         239.56        0.0400
               198.74         236.15        0.0400
               237.78         234.01        0.0400
               241.33         233.82        0.0400
               248.77         233.12    0.0400 /0.0400  Main Channel
               249.87         232.32        0.0400      Main Channel
               250.37         231.80        0.0400      Main Channel
               250.87         232.23        0.0400      Main Channel
               251.97         233.10    0.0400 /0.0400  Main Channel
               255.37         233.22        0.0400
               259.07         233.87        0.0400
               262.62         234.12        0.0400
               266.17         234.23        0.0400
               283.91         234.73        0.0400
               337.15         241.75        0.0400
               351.34         244.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   232.23    .510E+03         0.1          0.53       81.07
       0.87   232.67    .213E+04         0.7          0.83       51.49
       1.30   233.10    .501E+04         2.2          1.10       38.75
       1.98   233.78    .242E+05        12.6          1.34       31.93
       2.66   234.46    .738E+05        42.1          1.46       29.21
       3.34   235.14    .177E+06       127.9          1.84       23.13
       4.02   235.82    .314E+06       281.4          2.29       18.61
       4.70   236.50    .481E+06       509.4          2.71       15.73
       5.38   237.18    .672E+06       815.6          3.11       13.73
       6.06   237.86    .886E+06      1200.7          3.46       12.30
       6.74   238.54    .112E+07      1669.4          3.80       11.23
       7.42   239.22    .139E+07      2226.9          4.11       10.38
       8.10   239.90    .168E+07      2808.4          4.28        9.95
       8.78   240.58    .202E+07      3470.4          4.40        9.68
       9.46   241.26    .240E+07      4331.7          4.61        9.24
      10.14   241.94    .283E+07      5335.2          4.83        8.84
      10.82   242.62    .330E+07      6482.6          5.03        8.48
      11.50   243.30    .381E+07      7764.1          5.21        8.18
      12.18   243.98    .439E+07      9101.2          5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64    11.89    8.00  31.68      1.93      1.32
    OUTFLOW: ID= 1 (6296) 1012.64    11.62    8.25  31.68      1.91      1.31


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| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65   5.388     7.50     42.23
      + ID2= 2 (6296):  1012.64  11.616     8.25     31.68
        ================================================
        ID = 3 (8396):  1306.29  16.780     8.00     34.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29  16.780     8.00     34.05
      + ID2= 2 (8397):   610.01   9.010     8.00     44.68
        ================================================
        ID = 3 (8394):  1916.30  25.790     8.00     37.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30  25.790     8.00     37.44
      + ID2= 2 (8395):   589.44   4.798     7.75     19.59
        ================================================
        ID = 3 (8392):  2505.74  30.563     8.00     33.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3021.0) ------>
              Distance      Elevation       Manning
                 0.00         228.10        0.0400
                18.47         227.12        0.0400
                36.95         226.12        0.0400
                46.18         225.84        0.0400
                55.42         225.58        0.0400
               272.47         222.88        0.0400
               277.09         222.76        0.0400
               281.71         222.58        0.0400
               288.54         222.18    0.0400 /0.0300  Main Channel
               288.64         221.00        0.0300      Main Channel
               290.94         221.00        0.0300      Main Channel
               291.04         221.00        0.0300      Main Channel
               291.54         222.75    0.0300 /0.0400  Main Channel
               300.18         222.83        0.0400
               304.80         223.04        0.0400
               309.42         223.25        0.0400
               318.65         223.69        0.0400
               360.22         225.57        0.0400
               397.16         227.60        0.0400
               457.20         228.35        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.29   221.29    .228E+04         0.2          0.32      165.63
       0.59   221.59    .465E+04         0.7          0.45      116.15
       0.88   221.88    .713E+04         1.2          0.54       96.87
       1.18   222.18    .971E+04         1.9          0.61       86.20
       1.57   222.57    .175E+05         3.3          0.59       88.86
       1.97   222.97    .427E+05         6.4          0.47      111.39
       2.36   223.36    .115E+06        16.1          0.44      119.14
       2.76   223.76    .237E+06        37.1          0.49      106.49
       3.15   224.15    .409E+06        72.9          0.56       93.40
       3.55   224.55    .631E+06       127.0          0.63       82.76
       3.94   224.94    .903E+06       202.4          0.70       74.37
       4.34   225.34    .123E+07       301.8          0.77       67.68
       4.73   225.73    .160E+07       433.5          0.85       61.37
       5.13   226.13    .200E+07       602.2          0.95       55.29
       5.52   226.52    .242E+07       804.7          1.05       50.13
       5.92   226.92    .286E+07      1034.2          1.14       46.11
       6.31   227.31    .332E+07      1290.5          1.22       42.88
       6.71   227.71    .380E+07      1560.9          1.29       40.55
       7.10   228.10    .432E+07      1835.6          1.34       39.19

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    30.56     8.00  33.24      2.64      0.47
    OUTFLOW: ID= 1 (6302) 2505.74    24.15    10.00  33.24      2.52      0.46

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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   3.864     8.50     25.95
      + ID2= 2 (6302):  2505.74  24.155    10.00     33.24
        ================================================
        ID = 3 (8390):  2979.64  27.780    10.00     32.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  13.331     8.25     47.26
      + ID2= 2 (8390):  2979.64  27.780    10.00     32.08
        ================================================
        ID = 3 (8348):  3768.46  40.043     9.50     35.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

    Unit Hyd Qpeak  (cms)=   1.793

    PEAK FLOW       (cms)=   1.844 (i)
    TIME TO PEAK    (hrs)=  10.250
    RUNOFF VOLUME    (mm)=  29.899
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     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.338

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   8.228 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  49.420
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.558

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   8.411 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  49.794
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.563

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.744 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  45.323
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.512

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   7.225 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.085
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   7.225     7.25    41.09
       + ID2= 2 (0276):    90.89   2.744     6.75    45.32
         ================================================
         ID = 3 (8360):   483.38   9.821     7.00    41.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   8.411     8.00    49.79
       + ID2= 2 (8360):   483.38   9.821     7.00    41.88
         ================================================
         ID = 3 (8358):   968.87  17.878     7.50    45.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <----- DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.50   224.76    .263E+04        0.8         0.65       58.31
       1.36   225.62    .278E+05       13.4         1.10       34.54
       2.22   226.48    .855E+05       52.6         1.40       27.09
       3.09   227.35    .157E+06      120.4         1.74       21.78
       3.95   228.21    .242E+06      216.3         2.04       18.64
       4.81   229.07    .340E+06      341.8         2.29       16.56
       5.67   229.93    .450E+06      498.3         2.52       15.06
       6.53   230.79    .574E+06      688.3         2.73       13.90
       7.40   231.66    .711E+06      913.8         2.93       12.97
       8.26   232.52    .861E+06     1173.4         3.11       12.23
       9.12   233.38    .103E+07     1461.3         3.24       11.72
       9.98   234.24    .121E+07     1793.3         3.37       11.26
      10.85   235.11    .142E+07     2141.0         3.45       11.02
      11.71   235.97    .165E+07     2530.4         3.50       10.86
      12.57   236.83    .192E+07     2954.0         3.51       10.81
      13.43   237.69    .226E+07     3160.3         3.18       11.93
      14.29   238.55    .271E+07     3869.4         3.26       11.67
      15.16   239.42    .320E+07     4740.3         3.38       11.24
      16.02   240.28    .373E+07     5688.4         3.48       10.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    17.88    7.50  45.85      1.46      1.13
     OUTFLOW: ID= 1 (6280)  968.87    17.31    8.25  45.85      1.45      1.12

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--------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   8.228     7.00    49.42
       + ID2= 2 (6280):   968.87  17.313     8.25    45.85
         ================================================
         ID = 3 (8354):  1268.73  24.661     7.75    46.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=   2.876 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  41.090
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.722 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  48.074
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.543

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   4.211 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  40.714
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.460

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=   3.548 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  35.001
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  30.617
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0264):   353.96   3.548     8.00    35.00
      + ID2= 2 (0266):   508.09   3.687     9.00    30.62
        ================================================
        ID = 3 (8380):   862.05   7.203     8.50    32.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2681.0) ------>
             Distance      Elevation       Manning
                0.00        274.03        0.0500
               10.55        272.73        0.0500
               21.10        271.28        0.0500
               50.12        266.83        0.0500
               87.04        260.36        0.0500
               92.32        260.06        0.0500
               94.95        259.93        0.0500
              101.00        256.87        0.0500
              103.00        256.58    0.0500 /0.0350  Main Channel
              104.00        256.32        0.0350      Main Channel
              106.00        256.05        0.0350      Main Channel
              108.00        256.25        0.0350      Main Channel
              110.78        256.65    0.0350 /0.0500  Main Channel
              113.42        256.81        0.0500
              116.06        257.00        0.0500
              155.62        260.24        0.0500
              187.27        263.35        0.0500
              211.01        267.22        0.0500
              224.20        269.60        0.0500
              261.13        272.68        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.53   256.58   .697E+04       2.1         0.97       55.64
      1.38   257.43   .477E+05      25.9         1.76       30.66
      2.22   258.27   .123E+06      84.3         2.22       24.26
      3.07   259.12   .231E+06     185.4         2.60       20.72
      3.92   259.97   .371E+06     335.8         2.92       18.42
      4.77   260.82   .560E+06     547.6         3.15       17.06
      5.61   261.66   .790E+06     845.6         3.46       15.57
      6.46   262.51   .106E+07    1225.0         3.75       14.37
      7.31   263.36   .136E+07    1693.3         4.02       13.37
      8.16   264.21   .169E+07    2283.2         4.35       12.36
      9.00   265.05   .206E+07    2969.1         4.66       11.54
      9.85   265.90   .245E+07    3754.4         4.96       10.86
     10.70   266.75   .286E+07    4643.0         5.24       10.28
     11.55   267.60   .331E+07    5636.1         5.50        9.78
     12.39   268.44   .378E+07    6746.2         5.76        9.34
     13.24   269.29   .428E+07    7972.2         6.01        8.96
     14.09   270.14   .482E+07    9218.9         6.18        8.71
     14.94   270.99   .539E+07   10550.5         6.32        8.52
     15.78   271.83   .601E+07   12024.7         6.46        8.33

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05     7.20    8.50  32.42      0.71      1.07
     OUTFLOW: ID= 1 (6268)  862.05     7.01    9.75  32.42      0.70      1.07

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| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0268):   215.76   4.211     7.00    40.71
      + ID2= 2 (6268):   862.05   7.011     9.75    32.42
        ================================================
        ID = 3 (8382):  1077.81  10.204     8.50    34.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2701.0) ------>
             Distance      Elevation       Manning
                0.00        245.98        0.0500
                8.14        245.66        0.0500
               16.28        245.16        0.0500
               20.35        244.84        0.0500
               38.66        242.98        0.0500
               48.83        240.65        0.0500
               63.07        235.91        0.0500
               65.11        235.18        0.0500
               68.43        234.34    0.0500 /0.0300  Main Channel
               68.68        233.95        0.0300      Main Channel
               69.18        233.89        0.0300      Main Channel
               69.68        233.95        0.0300      Main Channel
               71.21        234.48    0.0300 /0.0500  Main Channel
               81.38        236.44        0.0500
               95.63        236.66        0.0500
              120.04        237.00        0.0500
              148.53        241.77        0.0500
              158.70        242.34        0.0500
              187.18        244.03        0.0500
              201.42        244.36        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.45   234.34   .217E+04       0.7         0.99       52.83
      0.98   234.87   .966E+04       4.6         1.49       35.20
      1.50   235.39   .250E+05      13.7         1.73       30.41
      2.03   235.92   .475E+05      29.5         1.95       26.87
      2.56   236.45   .772E+05      52.5         2.14       24.50
      3.09   236.98   .142E+06      82.4         1.83       28.73
      3.61   237.50   .246E+06     158.1         2.03       25.91
      4.14   238.03   .357E+06     262.0         2.31       22.73
      4.67   238.56   .477E+06     392.1         2.59       20.27
      5.20   239.09   .604E+06     547.8         2.86       18.38
```

```
   5.72   239.61    .739E+06     729.2          3.11      16.90
   6.25   240.14    .882E+06     936.5          3.34      15.70
   6.78   240.67    .103E+07    1169.7          3.57      14.72
   7.31   241.20    .119E+07    1425.9          3.77      13.94
   7.83   241.72    .136E+07    1710.4          3.96      13.26
   8.36   242.25    .154E+07    1967.9          4.02      13.07
   8.89   242.78    .174E+07    2264.9          4.09      12.83
   9.42   243.31    .196E+07    2589.3          4.15      12.65
   9.94   243.83    .221E+07    2953.5          4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8382) 1077.81    10.20    8.50  34.08      1.30      1.63
OUTFLOW: ID= 1 (6270) 1077.81    10.06    9.25  34.08      1.29      1.62


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-------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0270):   243.61   4.722     7.25    48.07
      + ID2= 2 (6270):  1077.81  10.057     9.25    34.08
        ================================================
        ID = 3 (8384):  1321.42  14.172     8.75    36.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

    Unit Hyd Qpeak  (cms)=   4.094

    PEAK FLOW       (cms)=   5.995 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  49.519
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.560

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.33

    Unit Hyd Qpeak  (cms)=   4.360

    PEAK FLOW       (cms)=   6.777 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  49.681
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.561

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

    Unit Hyd Qpeak  (cms)=   1.881

    PEAK FLOW       (cms)=   2.620 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  45.751
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.517

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0252) |   Area    (ha)= 319.99   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

    Unit Hyd Qpeak  (cms)=   3.761

    PEAK FLOW       (cms)=   4.280 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  38.873
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.439

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

    Unit Hyd Qpeak  (cms)=   1.707

    PEAK FLOW       (cms)=   1.643 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  33.068
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.374

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

    Unit Hyd Qpeak  (cms)=   4.028

    PEAK FLOW       (cms)=   2.850 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  23.726
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.268

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2561.0) ------>
              Distance      Elevation        Manning
                 0.00         276.07         0.0400
                11.68         273.71         0.0400
                23.36         271.35         0.0400
                29.19         270.30         0.0400
                35.03         269.44         0.0400
                55.47         267.90         0.0400
                78.82         266.24         0.0400
                90.50         265.63         0.0400
               102.18         265.40         0.0400
               105.10         264.95    0.0400 /0.0350  Main Channel
               108.02         264.39         0.0350      Main Channel
               110.94         264.72         0.0350      Main Channel
               113.86         265.19    0.0350 /0.0400  Main Channel
               116.78         265.49         0.0400
               143.05         268.24         0.0400
               172.25         270.53         0.0400
               207.28         271.95         0.0400
               233.55         273.72         0.0400
               256.91         274.98         0.0400
               289.02         275.97         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90      62.51
       1.14   265.53    .307E+05      13.5         1.49      37.92
       1.72   266.11    .951E+05      48.6         1.73      32.62
       2.30   266.69    .191E+06     117.8         2.09      27.03
       2.88   267.27    .314E+06     225.2         2.43      23.24
       3.46   267.85    .464E+06     375.5         2.74      20.59
       4.04   268.43    .641E+06     573.2         3.03      18.62
       4.62   269.01    .846E+06     821.9         3.29      17.15
       5.20   269.59    .108E+07    1135.0         3.56      15.87
       5.78   270.17    .134E+07    1525.1         3.86      14.64
       6.36   270.75    .162E+07    1971.1         4.12      13.71
       6.94   271.33    .194E+07    2474.0         4.33      13.04
       7.52   271.91    .228E+07    3065.0         4.55      12.42
       8.10   272.49    .266E+07    3773.4         4.80      11.75
       8.68   273.07    .306E+07    4566.3         5.05      11.17
       9.26   273.65    .348E+07    5443.7         5.30      10.66
       9.84   274.23    .393E+07    6389.6         5.51      10.25
      10.42   274.81    .440E+07    7426.2         5.72       9.88
      11.00   275.39    .490E+07    8490.1         5.86       9.63

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0254)  403.00     2.85    8.00  23.73      0.61      0.93
OUTFLOW: ID= 1 (6256)  403.00     2.68    9.75  23.73      0.60      0.93
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| ADD HYD   (8370) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.643     8.00    33.07
       + ID2= 2 (6256):   403.00   2.683     9.75    23.73
         ================================================
         ID = 3 (8370):   548.79   4.183     9.00    26.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

    Unit Hyd Qpeak  (cms)=   1.930

    PEAK FLOW       (cms)=   2.099 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  35.932
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.406

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

    Unit Hyd Qpeak  (cms)=   5.121

    PEAK FLOW       (cms)=   3.958 (i)
    TIME TO PEAK    (hrs)=  10.000
    RUNOFF VOLUME    (mm)=  23.809
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.269

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

    Unit Hyd Qpeak  (cms)=   2.271

    PEAK FLOW       (cms)=   1.874 (i)
    TIME TO PEAK    (hrs)=   7.250
    RUNOFF VOLUME    (mm)=  30.328
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.343

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   3.958    10.00    23.81
       + ID2= 2 (0248):   146.04   1.874     7.25    30.33
         ================================================
         ID = 3 (8364):   905.65   5.601     8.25    24.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2501.0) ------>
             Distance      Elevation       Manning
                0.00         269.96        0.0500
                8.56         268.55        0.0500
               17.13         266.91        0.0500
               21.41         266.13        0.0500
               40.68         263.15        0.0500
               62.09         260.75        0.0500
               85.64         258.02        0.0500
               88.20         257.69        0.0500
               93.20         257.05    0.0500 /0.0350  Main Channel
               93.45         256.88        0.0350      Main Channel
               94.20         256.56        0.0350      Main Channel
               94.95         256.83        0.0350      Main Channel
               95.20         257.08    0.0350 /0.0500  Main Channel
              100.62         257.45        0.0500
              115.61         258.57        0.0500
              139.16         260.43        0.0500
              152.01         261.95        0.0500
              171.27         264.63        0.0500
              188.40         267.90        0.0500
              211.95         274.18        0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.49   257.05    .205E+04       0.4          0.68       89.65
           1.17   257.73    .248E+05       5.7          0.85       72.16
           1.85   258.41    .841E+05      25.2          1.10       55.60
           2.53   259.09    .180E+06      66.5          1.36       45.14
           3.21   259.77    .312E+06     135.7          1.60       38.36
           3.89   260.45    .481E+06     238.3          1.82       33.61
           4.57   261.13    .681E+06     383.5          2.07       29.60
           5.25   261.81    .911E+06     568.9          2.29       26.70
           5.93   262.49    .117E+07     800.5          2.51       24.36
           6.61   263.17    .146E+07    1079.0          2.72       22.49
           7.28   263.84    .177E+07    1413.4          2.94       20.85
           7.96   264.52    .210E+07    1797.0          3.14       19.50
           8.64   265.20    .246E+07    2241.6          3.35       18.28
           9.32   265.88    .283E+07    2739.9          3.55       17.25
          10.00   266.56    .323E+07    3295.7          3.75       16.34
          10.68   267.24    .364E+07    3908.9          3.94       15.54
          11.36   267.92    .408E+07    4578.5          4.12       14.84
          12.04   268.60    .453E+07    5320.1          4.32       14.18
          12.72   269.28    .499E+07    6109.1          4.50       13.61

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
          INFLOW : ID= 2 (8364)  905.65     5.60    8.25  24.86      1.15      0.84
          OUTFLOW: ID= 1 (6250)  905.65     5.25   10.25  24.86      1.11      0.83

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   2.099     8.00    35.93
       + ID2= 2 (6250):   905.65   5.247    10.25    24.86
         ================================================
         ID = 3 (8366):  1098.53   7.167     9.75    26.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   7.167     9.75    26.80
       + ID2= 2 (8370):   548.79   4.183     9.00    26.21
         ================================================
         ID = 3 (8368):  1647.32  11.318     9.50    26.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0252):   319.99   4.280     8.00    38.87
       + ID2= 2 (8368):  1647.32  11.318     9.50    26.61
         ================================================
         ID = 3 (8372):  1967.31  15.243     9.00    28.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2581.0) ------>
             Distance      Elevation       Manning
                0.00         252.88        0.0500
               15.47         251.89        0.0500
               46.41         248.45        0.0500
               73.48         245.81        0.0500
               88.95         243.75        0.0500
              112.15         242.00        0.0500
              135.35         240.23        0.0500
              162.42         239.76        0.0500
              170.97         239.52    0.0500 /0.0350  Main Channel
```

171.58	239.03	0.0350		Main Channel
174.02	239.03	0.0350		Main Channel
176.46	239.03	0.0350		Main Channel
177.07	239.52	0.0350 /0.0500		Main Channel
185.63	239.67	0.0500		
208.83	239.87	0.0500		
239.77	240.14	0.0500		
274.57	244.93	0.0500		
336.45	249.51	0.0500		
363.52	249.77	0.0500		
382.85	251.78	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8372)	1967.31	15.24	9.00	28.60	0.85	0.81
OUTFLOW:	ID= 1 (6258)	1967.31	13.61	11.25	28.60	0.80	0.82

ADD HYD (8374)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0258):	181.99	2.620	8.00	45.75
	+ ID2= 2 (6258):	1967.31	13.612	11.25	28.60
	ID = 3 (8374):	2149.30	15.662	11.00	30.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0260):	476.24	6.777	8.00	49.68
	+ ID2= 2 (8374):	2149.30	15.662	11.00	30.05
	ID = 3 (8376):	2625.54	21.578	10.25	33.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0262):	341.31	5.995	7.50	49.52
	+ ID2= 2 (8376):	2625.54	21.578	10.25	33.61
	ID = 3 (8378):	2966.85	26.472	10.00	35.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8378):	2966.85	26.472	10.00	35.44
	+ ID2= 2 (8384):	1321.42	14.172	8.75	36.66
	ID = 3 (8362):	4288.27	40.199	9.25	35.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8362)	4288.27	40.20	9.25	35.82	1.90	0.81
OUTFLOW:	ID= 1 (6272)	4288.27	39.68	10.00	35.82	1.90	0.81

ADD HYD (8356)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0272):	157.38	2.876	7.50	41.09
	+ ID2= 2 (6272):	4288.27	39.678	10.00	35.82
	ID = 3 (8356):	4445.65	41.748	10.00	36.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8354):	1268.73	24.661	7.75	46.69
	+ ID2= 2 (8356):	4445.65	41.748	10.00	36.00
	ID = 3 (8352):	5714.38	62.779	9.00	38.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning
0.00	232.08	0.0500
19.00	231.87	0.0500
38.00	231.33	0.0500
66.51	230.44	0.0500
104.51	228.25	0.0500

```
                118.76        225.17        0.0500
                128.26        219.86        0.0500
                175.77        219.17        0.0500
                185.27        218.90    0.0500 /0.0300  Main Channel
                185.52        218.65        0.0300      Main Channel
                190.02        218.37        0.0300      Main Channel
                194.52        218.60        0.0300      Main Channel
                194.77        218.85    0.0300 /0.0500  Main Channel
                204.27        219.60        0.0500
                299.28        220.91        0.0500
                327.78        222.36        0.0500
                375.28        225.71        0.0500
                403.79        229.37        0.0500
                432.29        230.43        0.0500
                470.29        232.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.48    218.85    .121E+05        1.2         0.36     173.94
       1.17    219.54    .839E+05        9.8         0.44     142.60
       1.86    220.23    .323E+06       41.0         0.47     131.43
       2.56    220.93    .708E+06      109.5         0.58     107.67
       3.25    221.62    .118E+07      224.3         0.71      87.36
       3.94    222.31    .168E+07      376.5         0.84      74.48
       4.63    223.00    .222E+07      567.9         0.96      65.26
       5.32    223.69    .279E+07      794.7         1.07      58.58
       6.02    224.39    .339E+07     1056.2         1.17      53.52
       6.71    225.08    .402E+07     1352.4         1.26      49.52
       7.40    225.77    .468E+07     1677.3         1.34      46.46
       8.09    226.46    .536E+07     2050.0         1.43      43.58
       8.79    227.16    .607E+07     2457.9         1.52      41.14
       9.48    227.85    .680E+07     2901.0         1.60      39.05
      10.17    228.54    .755E+07     3352.7         1.66      37.53
      10.86    229.23    .834E+07     3812.5         1.71      36.48
      11.55    229.92    .919E+07     4241.8         1.73      36.13
      12.25    230.62    .101E+08     4697.0         1.74      35.93
      12.94    231.31    .111E+08     5186.3         1.74      35.83

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.38    62.78    9.00  38.38      2.08      0.50
     OUTFLOW: ID= 1 (6304) 5714.38    52.13   11.25  38.38      1.98      0.49


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| ADD HYD   (8350) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37   1.844    10.25    29.90
      + ID2= 2 (6304):  5714.38  52.127    11.25    38.38
        ================================================
        ID = 3 (8350):  6006.75  53.944    11.25    37.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8348):  3768.46  40.043     9.50    35.26
      + ID2= 2 (8350):  6006.75  53.944    11.25    37.96
        ================================================
        ID = 3 (8346):  9775.21  91.832    10.50    36.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0306):   283.97   0.637    13.75    21.91
      + ID2= 2 (8346):  9775.21  91.832    10.50    36.92
        ================================================
        ID = 3 (8344): 10059.18  92.399    10.50    36.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK      R.V.
                                   (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8344)   ********     92.399     10.50     36.50
     OUTFLOW: ID= 1 (5509)   ********     55.794     15.75     36.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.38
                  TIME SHIFT OF PEAK FLOW         (min)=315.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=119.7052

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------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.974 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  41.340
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   9.926 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  47.004
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.531

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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            <------ DATA FOR SECTION (3321.0) ------>
            Distance      Elevation        Manning
               0.00         234.00         0.0380
              25.85         227.20         0.0380
              96.94         226.44         0.0380
             168.03         227.38         0.0380
             219.73         225.62         0.0380
             342.52         221.57         0.0380
             368.37         221.42         0.0380
             374.83         221.23         0.0380
             379.79         220.98    0.0380 /0.0300  Main Channel
             380.29         220.47         0.0300      Main Channel
             381.29         220.47         0.0300      Main Channel
             382.79         220.47         0.0300      Main Channel
             383.29         220.98    0.0300 /0.0380  Main Channel
             394.22         221.22         0.0380
             400.68         221.33         0.0380
             407.14         221.44         0.0380
             491.16         225.70         0.0380
             568.71         227.55         0.0380
             607.49         230.14         0.0380
             639.80         234.08         0.0380

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.51    220.98    .554E+04        0.9         0.56     107.27
       1.20    221.67    .885E+05       12.1         0.49     122.32
       1.88    222.35    .309E+06       64.7         0.76      79.70
       2.57    223.04    .615E+06      165.4         0.97      61.99
       3.25    223.72    .101E+07      322.1         1.16      52.06
       3.94    224.41    .148E+07      542.9         1.33      45.51
       4.62    225.09    .204E+07      835.4         1.48      40.77
       5.31    225.78    .269E+07     1202.8         1.62      37.27
       5.99    226.46    .344E+07     1618.0         1.70      35.46
       6.68    227.15    .447E+07     1932.0         1.56      38.56
       7.36    227.83    .580E+07     2763.9         1.72      34.96
       8.05    228.52    .718E+07     3861.9         1.95      30.97
       8.73    229.20    .859E+07     5115.4         2.16      27.98
       9.42    229.89    .100E+08     6519.2         2.35      25.64
      10.10    230.57    .115E+08     8092.3         2.55      23.69
      10.79    231.26    .130E+08     9821.5         2.73      22.05
      11.47    231.94    .145E+08    11690.0         2.92      20.68
      12.16    232.63    .160E+08    13694.9         3.09      19.52
      12.84    233.31    .176E+08    15833.9         3.26      18.52
```

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                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     9.93    7.25  47.00      1.06      0.50
     OUTFLOW: ID= 1 (6332)  468.30     7.46    9.50  47.00      0.91      0.52


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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   393.44   3.974     9.50     41.34
      + ID2= 2 (6332):   468.30   7.455     9.50     47.00
        ================================================
        ID = 3 (8322):   861.74  11.429     9.50     44.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   6.150 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  43.578
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.492

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   9.054 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  47.251
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=   8.170 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  45.986
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.520

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=   5.113 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  48.415
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.547

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=   7.201 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  44.687
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.505

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          21.06          4.94
     Dep. Storage     (mm)=           2.00          5.00
     Average Slope     (%)=           0.50          0.50
     Length            (m)=         416.33         40.00
     Mannings n           =          0.013         0.250

     Max.Eff.Inten.(mm/hr)=         116.82         67.96
           over (min)              15.00         30.00
     Storage Coeff.  (min)=          6.96 (ii)     19.44 (ii)
     Unit Hyd. Tpeak (min)=         15.00         30.00
     Unit Hyd. peak  (cms)=          0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=          6.31          0.48          6.617 (iii)
     TIME TO PEAK    (hrs)=          6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=         86.50         43.75         78.38
     TOTAL RAINFALL   (mm)=         88.50         88.50         88.50
     RUNOFF COEFFICIENT   =          0.98          0.49          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3800     0.7654
                         0.0510     0.4423   |   4.1500     0.8231
                         0.8700     0.5378   |   4.8750     0.8778
                         1.9590     0.6105   |   5.2750     0.8878
                         2.5620     0.6796   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    26.000     6.617      6.00       78.38
     OUTFLOW: ID= 1 (5318)    26.000     3.934      6.25       78.29

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.45
               TIME SHIFT OF PEAK FLOW          (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.8924

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-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3182):   457.40   7.201     8.00     44.69
      + ID2= 2 (5318):    26.00   3.934     6.25     78.29
        ================================================
        ID = 3 (8334):   483.40   8.715     6.25     46.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation        Manning
                  0.00         249.00         0.0380
                 22.92         245.86         0.0380
                 45.83         244.87         0.0380
                 91.66         243.11         0.0380
                126.03         239.53         0.0380
                160.41         237.17         0.0380
                166.14         237.06         0.0380
                177.59         237.13         0.0380
                183.32         237.20         0.0380
                189.05         236.70    0.0380 /0.0350  Main Channel
```

```
              193.05        235.89         0.0350      Main Channel
              197.05        236.64    0.0350 /0.0380   Main Channel
              200.51        236.74         0.0380
              206.24        237.03         0.0380
              246.34        238.82         0.0380
              263.53        243.87         0.0380
              389.56        247.64         0.0380
              452.58        247.74         0.0380
              498.41        248.60         0.0380
              567.16        249.84         0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   236.26    .270E+04        0.4         0.58     107.96
       0.75   236.64    .108E+05        2.6         0.92      68.01
       1.48   237.37    .877E+05       27.4         1.17      53.35
       2.20   238.09    .277E+06      122.1         1.65      37.83
       2.93   238.82    .540E+06      299.7         2.08      30.01
       3.66   239.55    .857E+06      587.8         2.57      24.29
       4.39   240.28    .120E+07      977.8         3.04      20.52
       5.11   241.00    .158E+07     1458.1         3.46      18.02
       5.84   241.73    .198E+07     2028.6         3.84      16.23
       6.57   242.46    .240E+07     2690.5         4.19      14.86
       7.29   243.18    .285E+07     3431.8         4.50      13.84
       8.02   243.91    .335E+07     4149.1         4.64      13.44
       8.75   244.64    .393E+07     4746.6         4.51      13.80
       9.47   245.36    .463E+07     5618.6         4.53      13.75
      10.20   246.09    .545E+07     6781.8         4.66      13.39
      10.93   246.82    .635E+07     8274.5         4.87      12.79
      11.66   247.55    .733E+07     9988.0         5.10      12.23
      12.38   248.27    .853E+07    11422.0         5.01      12.45
      13.11   249.00    .989E+07    13749.7         5.20      11.98

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (8334)  483.40     8.72    6.25  46.49      0.93      0.97
OUTFLOW: ID= 1 (6320)  483.40     7.07    9.00  46.49      0.88      0.95


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0320):   278.74   5.113     8.00     48.41
      + ID2= 2 (6320):   483.40   7.067     9.00     46.49
        ================================================
        ID = 3 (8332):   762.14  11.950     8.50     47.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=   4.656 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  44.178
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.499

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3161.0) ------>
              Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
               207.98         235.25        0.0310      Main Channel
               209.98         235.53        0.0310      Main Channel
               210.48         236.00    0.0310 /0.0350  Main Channel
               216.42         236.73        0.0350
               258.31         239.09        0.0350
               328.12         239.84        0.0350
               439.83         241.47        0.0350
               530.58         242.08        0.0350
               586.43         242.93        0.0350
               691.16         248.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   235.62    .215E+04        0.7         0.77      53.88
       0.75   236.00    .634E+04        3.5         1.36      30.45
       1.46   236.71    .297E+05       19.3         1.62      25.66
       2.16   237.41    .103E+06       75.8         1.84      22.60
       2.87   238.12    .229E+06      202.8         2.21      18.79
       3.57   238.82    .407E+06      423.3         2.59      16.03
       4.28   239.53    .654E+06      727.7         2.77      14.97
       4.99   240.24    .103E+07     1242.0         3.01      13.76
       5.69   240.94    .151E+07     2002.3         3.31      12.54
       6.40   241.65    .210E+07     2987.9         3.55      11.70
       7.10   242.35    .286E+07     4302.8         3.75      11.07
       7.81   243.06    .374E+07     6165.3         4.10      10.11
       8.51   243.76    .468E+07     8642.4         4.60       9.03
       9.22   244.47    .565E+07    11496.3         5.06       8.20
       9.93   245.18    .666E+07    14714.1         5.50       7.54
      10.63   245.88    .770E+07    18290.3         5.91       7.02
      11.34   246.59    .877E+07    22221.9         6.30       6.58
      12.04   247.29    .988E+07    26464.4         6.67       6.22
      12.75   248.00    .110E+08    31061.3         7.01       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (0314)  165.20     4.66    6.75  44.18      0.80      1.38
OUTFLOW: ID= 1 (6316)  165.20     4.38    7.25  44.18      0.79      1.37


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-------------------
| CALIB             |
| NASHYD    (0316) |   Area    (ha)= 232.34   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.923

     PEAK FLOW       (cms)=   5.548 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  49.565
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.560

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0316):   232.34   5.548     7.25     49.57
      + ID2= 2 (6316):   165.20   4.376     7.25     44.18
        ================================================
        ID = 3 (8338):   397.54   9.924     7.25     47.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   6.425 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  47.122
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   4.939 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  29.006
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.328
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 65.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.76				

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 2.521 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 31.169
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	4.939	8.25	29.01
+ ID2= 2 (0310):	138.28	2.521	7.00	31.17
ID = 3 (8342):	667.58	7.113	7.75	29.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8342)	667.58	7.11	7.75	29.45	0.56	1.85
OUTFLOW: ID= 1 (6312)	667.58	7.11	7.75	29.45	0.55	1.85

ADD HYD (8340)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0312):	359.44	6.425	8.00	47.12
+ ID2= 2 (6312):	667.58	7.109	7.75	29.45
ID = 3 (8340):	1027.02	13.531	8.00	35.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8336)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8338):	397.54	9.924	7.25	47.33
+ ID2= 2 (8340):	1027.02	13.531	8.00	35.64
ID = 3 (8336):	1424.56	23.290	7.50	38.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8330)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8332):	762.14	11.950	8.50	47.20
+ ID2= 2 (8336):	1424.56	23.290	7.50	38.90
ID = 3 (8330):	2186.70	34.722	7.75	41.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6324) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3241.0) ------>

Distance	Elevation	Manning	
0.00	234.38	0.0360	
33.57	232.48	0.0360	
67.14	230.14	0.0360	
83.93	228.80	0.0360	
134.29	227.62	0.0360	
209.82	225.10	0.0360	
218.21	224.86	0.0360	
226.61	224.47	0.0360	
234.00	223.86	0.0360 /0.0300	Main Channel
234.10	223.66	0.0300	Main Channel
235.00	223.66	0.0300	Main Channel
235.90	223.66	0.0300	Main Channel
236.00	223.86	0.0300 /0.0360	Main Channel
243.39	224.92	0.0360	
251.78	224.89	0.0360	
335.71	225.64	0.0360	
562.32	226.53	0.0360	
637.85	228.36	0.0360	
705.00	229.80	0.0360	
830.89	234.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	223.86	.145E+04	0.2	0.43	147.27
0.73	224.39	.159E+05	2.8	0.68	93.11
1.27	224.93	.561E+05	11.0	0.75	85.19
1.80	225.46	.217E+06	45.6	0.80	79.20
2.33	225.99	.566E+06	134.4	0.91	70.20
2.87	226.53	.122E+07	338.1	1.06	59.97
3.40	227.06	.206E+07	744.3	1.38	46.16
3.94	227.60	.298E+07	1295.9	1.66	38.38
4.47	228.13	.399E+07	1979.9	1.90	33.59
5.00	228.66	.509E+07	2807.5	2.11	30.21
5.54	229.20	.627E+07	3815.1	2.32	27.41
6.07	229.73	.753E+07	4984.1	2.53	25.17
6.60	230.26	.884E+07	6346.3	2.74	23.20
7.14	230.80	.102E+08	7861.2	2.95	21.61
7.67	231.33	.116E+08	9526.4	3.14	20.29
8.21	231.87	.131E+08	11342.2	3.32	19.18
8.74	232.40	.146E+08	13309.6	3.49	18.22
9.27	232.93	.161E+08	15414.0	3.66	17.41
9.81	233.47	.177E+08	17671.0	3.81	16.70

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8330)	2186.70	34.72	7.75	41.79	1.63	0.79
OUTFLOW: ID= 1 (6324)	2186.70	29.73	9.50	41.79	1.56	0.78

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--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0324):   615.64   8.170     8.50    45.99
       + ID2= 2 (6324):  2186.70  29.727     9.50    41.79
         ================================================
         ID = 3 (8328):  2802.34  37.743     9.25    42.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number    (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=   7.498 (i)
    TIME TO PEAK    (hrs)=   8.250
    RUNOFF VOLUME    (mm)=  47.219
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.534

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   7.498     8.25    47.22
       + ID2= 2 (8328):  2802.34  37.743     9.25    42.71
         ================================================
         ID = 3 (8326):  3315.47  45.039     9.25    43.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   9.054     8.75    47.25
       + ID2= 2 (8326):  3315.47  45.039     9.25    43.41
         ================================================
         ID = 3 (8324):  3994.38  54.016     9.25    44.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.50   218.64    .373E+05       3.2          0.33      192.37
       1.00   219.14    .752E+05      10.1          0.51      124.71
       1.52   219.66    .149E+06      22.2          0.57      112.06
       2.04   220.18    .279E+06      43.4          0.59      107.06
       2.56   220.70    .464E+06      77.0          0.63      100.52
       3.08   221.22    .705E+06     125.7          0.68       93.56
       3.61   221.75    .100E+07     192.7          0.73       86.62
       4.13   222.27    .135E+07     278.1          0.79       80.92
       4.65   222.79    .176E+07     385.9          0.84       75.86
       5.17   223.31    .222E+07     514.9          0.89       71.82
       5.69   223.83    .280E+07     662.7          0.90       70.40
       6.21   224.35    .345E+07     867.7          0.96       66.35
       6.73   224.87    .417E+07    1107.0          1.01       62.81
       7.25   225.39    .494E+07    1400.0          1.08       58.80
       7.78   225.92    .573E+07    1732.2          1.15       55.17
       8.30   226.44    .655E+07    2099.9          1.22       52.02
       8.82   226.96    .740E+07    2502.8          1.29       49.29
       9.34   227.48    .828E+07    2940.9          1.36       46.90
       9.86   228.00    .918E+07    3414.3          1.42       44.79

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.38    54.02    9.25  44.06      2.21      0.61
    OUTFLOW: ID= 1 (6328) 3994.38    46.11   11.00  44.06      2.08      0.60

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   6.150     8.75    43.58
       + ID2= 2 (6328):  3994.38  46.106    11.00    44.06
         ================================================
         ID = 3 (8320):  4487.30  51.569    11.00    44.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.30  51.569    11.00    44.01
       + ID2= 2 (8322):   861.74  11.429     9.50    44.42
         ================================================
         ID = 3 (8318):  5349.04  62.499    10.75    44.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.18  55.794    15.75    36.50
       + ID2= 2 (8318):  5349.04  62.499    10.75    44.08
         ================================================
         ID = 3 (8316): 15408.22 109.731    11.75    39.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   2.136     6.25    25.79
       + ID2= 2 (8316): 15408.22 109.731    11.75    39.13
         ================================================
         ID = 3 (8312): 16028.32 110.987    11.75    38.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.90  44.535     6.25    47.72
       + ID2= 2 (8312): 16028.32 110.987    11.75    38.61
         ================================================
         ID = 3 (8308): 16627.22 113.364    11.75    38.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  *******    74.0090
                        66.5450    18.5023    |  *******    ********
                        98.5430    37.0045    |  *******    ********

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********   113.364     11.75      38.94
```

```
     OUTFLOW: ID= 1 (5510)   ********    105.320     13.75      38.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.90
                   TIME SHIFT OF PEAK FLOW          (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 44.9262

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   4.639    22.25    38.20
       + ID2= 2 (5510): 16627.22 105.320    13.75    38.94
         ================================================
         ID = 3 (8240): 19412.22 109.428    14.00    38.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.23  56.167    11.75    25.09
       + ID2= 2 (8240): 19412.22 109.428    14.00    38.84
         ================================================
         ID = 3 (8238): 28936.45 163.719    13.00    34.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):  1004.58   5.230    10.00    23.19
       + ID2= 2 (8238): 28936.45 163.719    13.00    34.32
         ================================================
         ID = 3 (8236): 29941.03 168.365    12.75    33.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.80  10.972     6.50    32.52
       + ID2= 2 (8236): 29941.03 168.365    12.75    33.94
         ================================================
         ID = 3 (8234): 30226.83 168.774    12.50    33.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0344):   344.00   4.771     7.00    26.48
       + ID2= 2 (8234): 30226.83 168.774    12.50    33.93
         ================================================
         ID = 3 (8230): 30570.83 170.215    12.50    33.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  15.927     8.75    22.21
       + ID2= 2 (8230): 30570.83 170.215    12.50    33.84
         ================================================
         ID = 3 (8228): 32522.89 180.663    12.00    33.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   6.685     8.00    18.15
       + ID2= 2 (8228): 32522.89 180.663    12.00    33.15
         ================================================
         ID = 3 (8190): 33538.11 185.041    12.00    32.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  **************************
  ** SIMULATION NUMBER:  11 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3e280798-92ee-4282-809c-79f5caed0add\9255d239
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
               0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
               0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
               1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
               1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
               1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
               1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
               2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
               2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
               2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
               2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
               3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   5.609 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=   1.056 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.232
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.018 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.394
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=   5.278 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.777
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.381
```

EXISTING
WEST HOLLAND RIVER REGIONAL STORM (RF1000 – RF927)

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO               Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\96b8d007-9cc9-4be4-b3c8-096f6a228b82\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\96b8d007-9cc9-4be4-b3c8-096f6a228b82\Scenario.sum


DATE: 08/22/2012                          TIME: 01:35:05

USER:


COMMENTS: _____________________________________________________

--------------------------------------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              96b8d007-9cc9-4be4-b3c8-096f6a228b82\487f093f
| Ptotal=212.00 mm |    Comments: 12-Hour Hurricane Hazel
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
               0.25     6.00 |  3.25   13.00 |  6.25   23.00 |  9.25   53.00
               0.50     6.00 |  3.50   13.00 |  6.50   23.00 |  9.50   53.00
               0.75     6.00 |  3.75   13.00 |  6.75   23.00 |  9.75   53.00
               1.00     6.00 |  4.00   13.00 |  7.00   23.00 | 10.00   53.00
               1.25     4.00 |  4.25   17.00 |  7.25   13.00 | 10.25   38.00
               1.50     4.00 |  4.50   17.00 |  7.50   13.00 | 10.50   38.00
               1.75     4.00 |  4.75   17.00 |  7.75   13.00 | 10.75   38.00
               2.00     4.00 |  5.00   17.00 |  8.00   13.00 | 11.00   38.00
               2.25     6.00 |  5.25   13.00 |  8.25   13.00 | 11.25   13.00
               2.50     6.00 |  5.50   13.00 |  8.50   13.00 | 11.50   13.00
               2.75     6.00 |  5.75   13.00 |  8.75   13.00 | 11.75   13.00
               3.00     6.00 |  6.00   13.00 |  9.00   13.00 | 12.00   13.00

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 66.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=  47.576 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 126.889
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.599

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0354) |   Area    (ha)= 262.68   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   3.252

     PEAK FLOW       (cms)=  10.497 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 106.815
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 72.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=  26.072 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 140.195
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.661

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0346) |   Area    (ha)= 350.93   Curve Number   (CN)= 85.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   6.254

     PEAK FLOW       (cms)=  25.363 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 169.245
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.798

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 69.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=  20.648 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 132.873
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.627

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=  22.856 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 130.716
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.617

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3501.0) ------>
               Distance      Elevation       Manning
                  0.00        287.00        0.0500
                 23.66        283.72        0.0500
                 70.98        280.94        0.0500
                112.38        280.23        0.0500
                171.52        276.80        0.0500
                260.24        274.46        0.0500
                266.16        274.26        0.0500
                272.07        274.12        0.0500
                276.49        274.12    0.0500 /0.0300  Main Channel
                276.99        273.82        0.0300      Main Channel
                277.99        273.82        0.0300      Main Channel
                279.49        273.82        0.0300      Main Channel
                280.49        274.27    0.0300 /0.0500  Main Channel
                283.90        274.27        0.0500
                289.81        274.57        0.0500
```

325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0348)	590.18	22.86	12.00	130.72	1.00	1.06
OUTFLOW: ID= 1 (6350)	590.18	21.81	12.75	130.72	0.99	1.06

ADD HYD (8220) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0350):	366.84	20.648	11.25	132.87
+ ID2= 2 (6350):	590.18	21.810	12.75	130.72
ID = 3 (8220):	957.02	40.682	12.00	131.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8222) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):	350.93	25.363	11.00	169.25
+ ID2= 2 (8220):	957.02	40.682	12.00	131.54
ID = 3 (8222):	1307.95	64.525	11.75	141.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6352) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3521.0) ------>

Distance	Elevation	Manning		
0.00	257.95	0.0500		
7.83	257.34	0.0500		
15.66	256.19	0.0500		
21.53	254.01	0.0500		
41.11	244.06	0.0500		
76.35	241.38	0.0500		
111.58	239.74	0.0500		
113.54	239.61	0.0500		
113.75	239.41	0.0500 /0.0300	Main Channel	
113.85	238.81	0.0300	Main Channel	
115.50	238.81	0.0300	Main Channel	
116.15	238.81	0.0300	Main Channel	
116.25	239.41	0.0300	Main Channel	
117.46	239.52	0.0500		
119.41	239.72	0.0500		
121.37	240.04	0.0500		
131.16	241.84	0.0500		
156.61	247.03	0.0500		
176.19	251.46	0.0500		
193.80	258.79	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	64.52	11.75	141.66	2.10	1.78
OUTFLOW: ID= 1 (6352)	1307.95	64.34	12.00	141.66	2.10	1.78

ADD HYD (8224) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	26.072	11.00	140.20
+ ID2= 2 (6352):	1307.95	64.338	12.00	141.66
ID = 3 (8224):	1689.38	88.700	11.50	141.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning		
0.00	253.92	0.0500		
7.95	251.83	0.0500		
15.89	249.97	0.0500		
19.87	249.05	0.0500		
47.68	242.00	0.0500		
67.55	237.10	0.0500		
83.44	231.11	0.0500		
85.43	230.75	0.0500		
85.66	230.61	0.0500 /0.0300	Main Channel	
85.76	230.01	0.0300	Main Channel	
87.41	230.01	0.0300	Main Channel	
88.06	230.01	0.0300	Main Channel	
88.16	230.61	0.0300 /0.0500	Main Channel	
89.40	230.72	0.0500		
91.39	230.88	0.0500		
93.37	231.03	0.0500		
133.11	233.96	0.0500		
150.99	235.39	0.0500		
172.84	239.03	0.0500		
196.68	250.00	0.0500		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	88.70	11.50	141.33	2.98	1.52
OUTFLOW: ID= 1 (6354)	1689.38	85.97	12.25	141.33	2.95	1.52

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| ADD HYD   (8226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0354):   262.68  10.497    12.00   106.81
      + ID2= 2 (6354):  1689.38  85.967    12.25   141.33
        ==========================================================
        ID = 3 (8226):  1952.06  96.397    12.00   136.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0344) |   Area    (ha)= 344.00   Curve Number   (CN)= 77.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   6.790

     PEAK FLOW       (cms)=  24.075 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 150.243
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.709

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 234.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  13.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.69       168.91
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1250.60        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        54.11
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.46 (ii)   32.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.36        20.95        24.397 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.50        10.50
     RUNOFF VOLUME    (mm)=     210.00       141.46       150.37
     TOTAL RAINFALL   (mm)=     212.00       212.00       212.00
     RUNOFF COEFFICIENT   =       0.99         0.67         0.71

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  68.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.55        27.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     584.24        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        68.14
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.69 (ii)   24.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.58         4.63         6.187 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25        10.00
     RUNOFF VOLUME    (mm)=     210.00       150.46       162.96
     TOTAL RAINFALL   (mm)=     212.00       212.00       212.00
     RUNOFF COEFFICIENT   =       0.99         0.71         0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  68.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3401):    51.20   6.187    10.00   162.96
      + ID2= 2 (3402):   234.60  24.397    10.50   150.37
        ==========================================================
        ID = 3 (8232):   285.80  30.260    10.25   152.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0342) |   Area    (ha)=1004.58   Curve Number   (CN)= 73.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   6.686

     PEAK FLOW       (cms)=  33.547 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)= 142.700
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.673

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0422) |   Area    (ha)= 780.20   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.838

     PEAK FLOW       (cms)=  32.113 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 141.843
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.669

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 68.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=  26.726 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 132.000
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.623

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 76.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=  18.415 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 147.127
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.694

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 87.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=  32.317 (i)
     TIME TO PEAK    (hrs)=  11.250
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     RUNOFF VOLUME    (mm)= 174.746
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.824

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=  28.262 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 152.931
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.721

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 57.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   5.467 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 107.173
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 80.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=  15.542 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 156.193
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.737

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0368) |   Area    (ha)= 159.48   Curve Number   (CN)= 66.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   8.386 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 126.385
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.596

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 79.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=  29.747 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 154.856
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.730

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0364) |   Area    (ha)= 155.27   Curve Number   (CN)= 73.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=  11.501 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 141.255
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.666

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0364):   155.27  11.501    11.00   141.25
        + ID2= 2 (0366):   462.62  29.747    11.25   154.86
          ==========================================================
          ID = 3 (8302):   617.89  41.038    11.00   151.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0362) |   Area    (ha)= 118.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.13         92.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     889.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         50.34
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.05 (ii)    29.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.38         11.05          12.195 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25          10.25
     RUNOFF VOLUME    (mm)=     210.00        132.29         138.51
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.62           0.65

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  64.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 55.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=  19.682 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 102.916
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.485

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 66.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   9.965 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 124.697
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.588

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87  19.682    11.25   102.92
       + ID2= 2 (0360):   138.37   9.965    11.00   124.70
         ================================================
         ID = 3 (8306):   568.24  29.364    11.00   108.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                   0.00         261.46        0.0550
                  27.86         254.23        0.0550
                  51.07         251.96        0.0550
                  74.29         250.77        0.0550
                  97.50         249.91        0.0550
                 125.36         249.40        0.0550
                 150.93         247.40        0.0550
                 155.93         247.33    0.0550 /0.0350  Main Channel
                 157.93         246.85        0.0350      Main Channel
                 159.18         246.65        0.0350      Main Channel
                 160.18         246.63        0.0350      Main Channel
                 160.93         246.85        0.0350      Main Channel
                 161.93         247.18    0.0350 /0.0550  Main Channel
                 163.18         248.03        0.0550
                 168.18         248.58        0.0550
                 183.18         250.18        0.0550
                 201.97         252.59        0.0550
                 213.57         256.02        0.0550
                 225.18         260.31        0.0550
                 229.82         261.00        0.0550

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.55   247.18    .556E+04         1.9          1.03      49.95
        1.28   247.91    .336E+05        16.7          1.53      33.61
        2.00   248.63    .913E+05        53.6          1.81      28.40
        2.73   249.36    .185E+06       122.3          2.05      25.18
        3.46   250.09    .344E+06       224.6          2.02      25.52
        4.19   250.82    .574E+06       417.9          2.25      22.91
        4.91   251.54    .855E+06       699.1          2.53      20.38
        5.64   252.27    .118E+07      1075.3          2.82      18.26
        6.37   253.00    .153E+07      1559.9          3.15      16.38
        7.10   253.73    .191E+07      2137.6          3.46      14.89
        7.82   254.45    .231E+07      2815.2          3.77      13.67
        8.55   255.18    .272E+07      3608.5          4.10      12.58
        9.28   255.91    .315E+07      4488.2          4.41      11.69
       10.01   256.64    .358E+07      5458.0          4.71      10.95
       10.73   257.36    .403E+07      6512.4          4.99      10.32
       11.46   258.09    .449E+07      7649.8          5.27       9.78
       12.19   258.82    .496E+07      8869.5          5.53       9.32
       12.92   259.55    .544E+07     10171.2          5.78       8.91
       13.64   260.27    .593E+07     11554.8          6.02       8.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24    29.36   11.00 108.22      1.53      1.62
     OUTFLOW: ID= 1 (6362)  568.24    28.03   11.75 108.22      1.50      1.61
```

```
--------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0362):   118.78  12.195    10.25   138.51
       + ID2= 2 (6362):   568.24  28.029    11.75   108.22
         ================================================
         ID = 3 (8304):   687.02  36.680    11.00   113.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89  41.038    11.00   151.44
       + ID2= 2 (8304):   687.02  36.680    11.00   113.46
         ================================================
         ID = 3 (8300):  1304.91  77.718    11.00   131.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3681.0) ------>
               Distance      Elevation       Manning
                   0.00         230.00        0.0370
                  18.48         223.26        0.0370
                  36.96         223.05        0.0370
                  64.67         222.94        0.0370
                 110.87         222.86        0.0370
                 133.96         222.74        0.0370
                 147.82         222.65        0.0370
                 170.92         222.31        0.0370
                 174.79         222.26    0.0370 /0.0300  Main Channel
                 174.89         221.86        0.0300      Main Channel
                 175.54         221.86        0.0300      Main Channel
                 176.19         221.86        0.0300      Main Channel
                 176.29         222.26    0.0300 /0.0370  Main Channel
                 180.16         222.25        0.0370
                 184.78         222.28        0.0370
                 189.40         222.31        0.0370
                 332.60         222.37        0.0370
                 450.00         230.00        0.0370

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.40   222.26    .771E+03          0.3          0.52      41.74
        0.81   222.67    .784E+05         30.3          0.51      43.17
        1.21   223.07    .210E+06        123.2          0.77      28.42
        1.62   223.48    .384E+06        301.0          1.03      21.25
        2.03   223.89    .563E+06        550.2          1.28      17.06
        2.44   224.30    .747E+06        860.7          1.51      14.46
        2.84   224.70    .934E+06       1228.1          1.73      12.68
        3.25   225.11    .113E+07       1649.3          1.92      11.37
        3.66   225.52    .132E+07       2122.3          2.11      10.37
        4.07   225.93    .152E+07       2645.5          2.29       9.58
        4.47   226.33    .172E+07       3217.8          2.45       8.92
        4.88   226.74    .193E+07       3838.3          2.61       8.38
        5.29   227.15    .214E+07       4506.3          2.76       7.92
        5.70   227.56    .236E+07       5221.3          2.91       7.52
        6.10   227.96    .258E+07       5983.0          3.05       7.17
        6.51   228.37    .280E+07       6790.9          3.19       6.87
        6.92   228.78    .303E+07       7645.0          3.32       6.60
        7.33   229.19    .326E+07       8545.1          3.45       6.35
        7.73   229.59    .349E+07       9491.0          3.57       6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    77.72   11.00 131.44      1.02      0.61
     OUTFLOW: ID= 1 (6368) 1304.91    73.77   11.50 131.44      1.00      0.60
```

```
--------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0368):   159.48   8.386    11.50   126.39
       + ID2= 2 (6368):  1304.91  73.772    11.50   131.44
         ================================================
         ID = 3 (8298):  1464.39  82.157    11.50   130.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0370):   191.85  15.542    11.00   156.19
       + ID2= 2 (8298):  1464.39  82.157    11.50   130.89
         ================================================
         ID = 3 (8296):  1656.24  96.562    11.50   133.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3721.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0390
                  30.80         219.38        0.0390
                  61.61         219.30        0.0390
                  77.01         219.27        0.0390
                 469.76         219.14        0.0390
```

```
                477.46        219.13        0.0390
                485.16        219.10        0.0390
                492.86        219.09        0.0390
                495.56        219.09    0.0390 /0.0310  Main Channel
                495.66        218.51        0.0310      Main Channel
                500.56        218.51        0.0310      Main Channel
                505.46        218.51        0.0310      Main Channel
                505.56        219.09    0.0310 /0.0390  Main Channel
                508.26        219.09        0.0390
                515.96        219.10        0.0390
                523.67        219.21        0.0390
                562.17        219.32        0.0390
                654.58        219.43        0.0390
                731.59        219.46        0.0390
                762.39        225.00        0.0390

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.29   218.80    .431E+04         1.7          0.58      43.48
        0.58   219.09    .867E+04         5.1          0.89      28.32
        0.93   219.44    .200E+06        58.2          0.44      57.35
        1.28   219.79    .568E+06       278.6          0.74      33.99
        1.62   220.13    .939E+06       630.2          1.01      24.84
        1.97   220.48    .131E+07      1090.4          1.25      20.05
        2.32   220.83    .169E+07      1647.7          1.47      17.06
        2.67   221.18    .206E+07      2294.6          1.68      14.99
        3.01   221.52    .244E+07      3025.6          1.87      13.46
        3.36   221.87    .282E+07      3836.5          2.05      12.27
        3.71   222.22    .321E+07      4723.7          2.22      11.31
        4.06   222.57    .359E+07      5684.6          2.39      10.53
        4.40   222.91    .398E+07      6716.6          2.55       9.87
        4.75   223.26    .437E+07      7817.7          2.70       9.31
        5.10   223.61    .476E+07      8986.2          2.85       8.83
        5.45   223.96    .515E+07     10220.4          2.99       8.40
        5.79   224.30    .555E+07     11519.1          3.13       8.03
        6.14   224.65    .594E+07     12880.8          3.27       7.69
        6.49   225.00    .634E+07     14304.5          3.40       7.39

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    96.56   11.50 133.82      0.99       0.47
     OUTFLOW: ID= 1 (6372) 1656.24    87.59   12.25 133.82      0.97       0.46


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--------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8372):   110.42   5.467    11.25   107.17
      + ID2= 2 (6372):  1656.24  87.590    12.25   133.82
        ================================================
        ID = 3 (8294):  1766.66  92.535    12.25   132.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):   545.70  28.262    11.75   152.93
      + ID2= 2 (8294):  1766.66  92.535    12.25   132.16
        ================================================
        ID = 3 (8292):  2312.36 120.216    12.25   137.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                              AREA      QPEAK      TPEAK       R.V.
                              (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360    120.216     12.25     137.06
     OUTFLOW: ID= 1 (5505)   2312.360     39.146     17.00     137.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.56
                TIME SHIFT OF PEAK FLOW       (min)=285.00
                MAXIMUM  STORAGE   USED       (ha.m.)=168.3679

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--------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0376):   463.85  32.317    11.25   174.75
      + ID2= 2 (5505):  2312.36  39.146    17.00   137.06
        ================================================
        ID = 3 (8272):  2776.21  60.930    11.75   143.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 84.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   4.811

    PEAK FLOW       (cms)=  20.475 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 166.498
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.785

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

    Unit Hyd Qpeak  (cms)=   6.013

    PEAK FLOW       (cms)=  20.454 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 137.415
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.648

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 73.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

    Unit Hyd Qpeak  (cms)=   6.683

    PEAK FLOW       (cms)=  25.081 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 142.415
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.672

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 76.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

    Unit Hyd Qpeak  (cms)=   3.819

    PEAK FLOW       (cms)=  14.258 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 148.317
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.700

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

    Unit Hyd Qpeak  (cms)=   4.562

    PEAK FLOW       (cms)=  16.644 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 151.953
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.717

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8286) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):   241.27  16.644    11.00   151.95
       + ID2= 2 (0388):   220.77  14.258    11.25   148.32
         ================================================
         ID = 3 (8286):   462.04  30.850    11.00   150.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 64.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=  11.033 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 121.359
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.572

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 59.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=  12.262 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 110.871
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.523

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=  16.195 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 136.296
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.643

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):   182.01  12.262    11.00   110.87
       + ID2= 2 (0382):   216.59  16.195    11.00   136.30
         ================================================
         ID = 3 (8290):   398.60  28.457    11.00   124.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (3841.0) ------>
                Distance      Elevation       Manning
                    0.00         294.40        0.0380
                   10.59         291.93        0.0380
                   21.17         289.19        0.0380
                   26.46         287.99        0.0380
                   31.76         286.79        0.0380
                   71.45         279.97        0.0380
                   74.10         279.79        0.0380
                   76.74         279.71        0.0380
                   78.99         279.64    0.0380 /0.0300  Main Channel
                   79.14         279.30        0.0300      Main Channel
                   79.39         279.30        0.0300      Main Channel
                   79.64         279.30        0.0300      Main Channel
                   79.79         279.64    0.0300 /0.0380  Main Channel
                   89.98         279.78        0.0380
                  119.09         281.86        0.0380
                  145.55         282.87        0.0380
                  198.48         284.85        0.0380
                  211.71         286.31        0.0380
                  230.23         287.59        0.0380
                  261.99         294.00        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.34   279.64    .715E+03       0.2         0.85       63.42
       1.10   280.40    .507E+05      21.9         1.40       38.54
       1.85   281.15    .141E+06      91.8         2.10       25.69
       2.61   281.91    .269E+06     218.9         2.63       20.46
       3.36   282.66    .445E+06     407.1         2.96       18.23
       4.12   283.42    .681E+06     698.3         3.31       16.26
       4.87   284.17    .977E+06    1111.8         3.68       14.65
       5.63   284.93    .133E+07    1674.3         4.06       13.27
       6.39   285.69    .173E+07    2457.8         4.59       11.73
       7.14   286.44    .215E+07    3378.8         5.07       10.63
       7.90   287.20    .261E+07    4418.4         5.47        9.85
       8.65   287.95    .310E+07    5676.3         5.92        9.11
       9.41   288.71    .361E+07    7150.5         6.40        8.42
      10.17   289.47    .414E+07    8783.1         6.86        7.86
      10.92   290.22    .469E+07   10575.1         7.30        7.38
      11.68   290.98    .525E+07   12520.4         7.72        6.98
      12.43   291.73    .582E+07   14619.0         8.12        6.64
      13.19   292.49    .642E+07   16863.2         8.50        6.34
      13.94   293.24    .703E+07   19259.8         8.86        6.08

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60   28.46   11.00 124.69      1.17      1.44
     OUTFLOW: ID= 1 (6384)  398.60   26.39   11.50 124.69      1.14      1.43

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0384):   199.07  11.033    11.25   121.36
       + ID2= 2 (6384):   398.60  26.395    11.50   124.69
         ================================================
         ID = 3 (8288):   597.67  37.357    11.25   123.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8286):   462.04  30.850    11.00   150.22
       + ID2= 2 (8288):   597.67  37.357    11.25   123.58
         ================================================
         ID = 3 (8284):  1059.71  68.206    11.25   135.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):   420.00  25.081    11.25   142.42
       + ID2= 2 (8284):  1059.71  68.206    11.25   135.19
         ================================================
         ID = 3 (8280):  1479.71  93.286    11.25   137.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 79.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=  12.849 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 154.075
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.727
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=  34.617 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 144.163
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.680

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72  34.617    11.50   144.16
       + ID2= 2 (0392):   167.22  12.849    11.00   154.08
         ================================================
         ID = 3 (8282):   773.94  47.183    11.25   146.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71  93.286    11.25   137.24
       + ID2= 2 (8282):   773.94  47.183    11.25   146.30
         ================================================
         ID = 3 (8278):  2253.65 140.470    11.25   140.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.54   251.74    .827E+04         4.5          1.51       30.71
       2.19   253.39    .758E+05        73.2          2.69       17.27
       3.83   255.03    .282E+06       331.8          3.27       14.17
       5.48   256.68    .633E+06       917.3          4.03       11.51
       7.12   258.32    .112E+07      1889.5          4.69        9.90
       8.77   259.97    .179E+07      3410.2          5.31        8.73
      10.41   261.61    .259E+07      5627.6          6.05        7.66
      12.06   263.26    .351E+07      8605.1          6.83        6.79
      13.70   264.90    .447E+07     12544.9          7.81        5.94
      15.35   266.55    .546E+07     17101.4          8.71        5.32
      16.99   268.19    .648E+07     22251.7          9.56        4.85
      18.64   269.84    .752E+07     27979.0         10.36        4.48
      20.28   271.48    .858E+07     34269.0         11.11        4.17
      21.93   273.13    .967E+07     41110.8         11.83        3.92
      23.57   274.77    .108E+08     48495.9         12.51        3.71
      25.22   276.42    .119E+08     56418.1         13.17        3.52
      26.86   278.06    .131E+08     64410.6         13.69        3.39
      28.51   279.71    .143E+08     73002.1         14.18        3.27
      30.15   281.35    .156E+08     81379.3         14.50        3.20

                                 <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65   140.47   11.25 140.35      2.61      2.82
     OUTFLOW: ID= 1 (6394) 2253.65   138.80   11.50 140.35      2.60      2.81

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| ADD HYD   (8276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9394):   325.45  20.454    11.25   137.41
       + ID2= 2 (6394):  2253.65 138.801    11.50   140.35
         ================================================
         ID = 3 (8276):  2579.10 158.950    11.50   139.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.75   228.95    .780E+04         2.2          0.98       58.06
       2.54   230.74    .277E+06       145.1          1.78       31.76
       4.33   232.53    .786E+06       609.1          2.63       21.50
       6.13   234.33    .140E+07      1481.5          3.59       15.77
       7.92   236.12    .207E+07      2677.3          4.39       12.90
       9.71   237.91    .280E+07      4184.8          5.09       11.14
      11.50   239.70    .357E+07      6001.4          5.71        9.93
      13.29   241.49    .441E+07      8129.1          6.27        9.03
      15.09   243.29    .530E+07     10549.4          6.77        8.37
      16.88   245.08    .625E+07     13300.6          7.24        7.83
      18.67   246.87    .726E+07     16396.2          7.68        7.38
      20.46   248.66    .834E+07     19809.8          8.07        7.02
      22.26   250.46    .949E+07     23532.5          8.43        6.72
      24.05   252.25    .107E+08     27641.2          8.77        6.46
      25.84   254.04    .120E+08     32155.2          9.10        6.22
      27.63   255.83    .134E+08     36901.0          9.37        6.05
      29.42   257.62    .149E+08     42147.7          9.64        5.88
      31.22   259.42    .164E+08     48149.1          9.97        5.68
      33.01   261.21    .181E+08     54644.8         10.29        5.51

                                 <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10   158.95   11.50 139.98      2.60      1.80
     OUTFLOW: ID= 1 (6396) 2579.10   155.83   12.00 139.98      2.58      1.80

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| ADD HYD   (8274) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21  20.475    11.25   166.50
       + ID2= 2 (6396):  2579.10 155.832    12.00   139.98
         ================================================
         ID = 3 (8274):  2884.31 175.498    11.75   142.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  60.930    11.75   143.36
       + ID2= 2 (8274):  2884.31 175.498    11.75   142.79
         ================================================
         ID = 3 (8270):  5660.52 236.428    11.75   143.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520   236.428     11.75     143.07
     OUTFLOW: ID= 1 (5506)   5660.520    70.731     18.00     143.07

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.92
                  TIME SHIFT OF PEAK FLOW         (min)=375.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=348.4974

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-------------------
| CALIB             |
| NASHYD    (0406)  |   Area    (ha)= 142.65   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=  12.335 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 159.436
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.752

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0404)  |   Area    (ha)= 246.46   Curve Number   (CN)= 66.6
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=  14.014 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 126.803
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.598

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0402)  |   Area    (ha)= 244.00   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=  15.381 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 152.367
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.719

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0400)  |   Area    (ha)=  93.97   Curve Number   (CN)= 71.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   7.874 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 133.418
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.629

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0398)  |   Area    (ha)= 328.19   Curve Number   (CN)= 73.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=  22.535 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 142.469
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.672

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19  22.535    11.00   142.47
       + ID2= 2 (0400):    93.97   7.874    11.00   133.42
         ================================================
         ID = 3 (8268):   422.16  30.408    11.00   140.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4021.0) ------>
               Distance      Elevation       Manning
                  0.00         238.50        0.0360
                 11.50         238.00        0.0360
                 23.00         237.93        0.0360
                 34.49         236.39        0.0360
                 63.24         233.98        0.0360
                 97.73         228.15        0.0360
                123.60         227.08        0.0360
                126.48         226.61        0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25        0.0330      Main Channel
                129.35         225.25        0.0330      Main Channel
                130.85         225.25        0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59        0.0360
                143.72         227.42        0.0360
                169.59         227.88        0.0360
                192.59         231.19        0.0360
                218.46         233.02        0.0360
                241.45         235.50        0.0360
                284.57         236.43        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   225.66    .391E+04        1.7         1.36      38.31
      0.81   226.06    .804E+04        5.0         1.93      27.02
      1.22   226.47    .124E+05        9.1         2.30      22.61
      1.84   227.09    .308E+05       23.3         2.36      22.03
      2.46   227.71    .904E+05       62.0         2.14      24.31
      3.09   228.34    .223E+06      188.3         2.63      19.75
      3.71   228.96    .379E+06      410.2         3.38      15.39
      4.33   229.58    .550E+06      711.5         4.04      12.89
      4.95   230.20    .737E+06     1091.3         4.62      11.25
      5.58   230.83    .939E+06     1550.6         5.15      10.10
      6.20   231.45    .116E+07     2072.4         5.59       9.31
      6.82   232.07    .140E+07     2659.2         5.93       8.77
      7.44   232.69    .167E+07     3345.8         6.27       8.30
      8.07   233.32    .195E+07     4159.0         6.64       7.83
      8.69   233.94    .226E+07     5100.8         7.03       7.39
      9.31   234.56    .259E+07     6081.3         7.32       7.11
      9.93   235.18    .295E+07     7183.1         7.60       6.84
     10.56   235.81    .334E+07     8145.2         7.62       6.83
     11.18   236.43    .379E+07     9116.0         7.51       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16   30.41   11.00 140.45      1.96      2.32
     OUTFLOW: ID= 1 (6402)  422.16   28.99   11.50 140.45      1.93      2.33

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| ADD HYD   (8266) |
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|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0402):   244.00  15.381    11.25   152.37
      + ID2= 2 (6402):   422.16  28.995    11.50   140.45
        ================================================
        ID = 3 (8266):   666.16  44.353    11.25   144.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0404):   246.46  14.014    11.25   126.80
      + ID2= 2 (8266):   666.16  44.353    11.25   144.82
        ================================================
        ID = 3 (8264):   912.62  58.366    11.25   139.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0406):   142.65  12.335    11.00   159.44
      + ID2= 2 (8264):   912.62  58.366    11.25   139.95
        ================================================
        ID = 3 (8262):  1055.27  70.165    11.25   142.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5506):  5660.52  70.731    18.00   143.07
      + ID2= 2 (8262):  1055.27  70.165    11.25   142.59
        ================================================
        ID = 3 (8260):  6715.79 131.675    11.25   142.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):   231.62  18.415    11.00   147.13
      + ID2= 2 (8260):  6715.79 131.675    11.25   142.99
        ================================================
        ID = 3 (8258):  6947.41 149.479    11.25   143.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0410):   572.01  26.726    12.00   132.00
      + ID2= 2 (8258):  6947.41 149.479    11.25   143.13
        ================================================
        ID = 3 (8256):  7519.42 175.654    11.25   142.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8256)   7519.421    175.654     11.25     142.28
     OUTFLOW: ID= 1 (5507)   7519.421    118.016     14.25     142.28

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 67.19
                    TIME SHIFT OF PEAK FLOW         (min)=180.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=120.5190

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| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 71.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=  11.871 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 137.745
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.650

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 182.79   Curve Number   (CN)= 80.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.966

     PEAK FLOW       (cms)=  11.988 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 158.060
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.746

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0416) |   Area    (ha)= 439.30   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   5.832

     PEAK FLOW       (cms)=  25.927 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 159.607
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.753

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0412) |   Area    (ha)= 238.70   Curve Number   (CN)= 73.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   5.088

     PEAK FLOW       (cms)=  16.572 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 141.253
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.666

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  17.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.73        27.97
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     539.75        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        65.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.15 (ii)   23.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.09         4.53          5.621 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     210.00       171.31        177.89
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.81          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.4     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4142) |   Area    (ha)= 144.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  10.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.30        114.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    980.82         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00         56.49
           over (min)      =    15.00         30.00
     Storage Coeff.  (min)=    15.95 (ii)    29.40 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     2.09         15.44      17.281 (iii)
     TIME TO PEAK    (hrs)=    10.00         10.25       10.00
     RUNOFF VOLUME    (mm)=   210.00        166.70      171.03
     TOTAL RAINFALL   (mm)=   212.00        212.00      212.00
     RUNOFF COEFFICIENT   =     0.99          0.79        0.81

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.4     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4141):    43.70   5.621    10.00   177.89
      + ID2= 2 (4142):   144.30  17.281    10.00   171.03
        ================================================
        ID = 3 (8254):   188.00  22.901    10.00   172.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0412):   238.70  16.572    11.00   141.25
      + ID2= 2 (8254):   188.00  22.901    10.00   172.63
        ================================================
        ID = 3 (8252):   426.70  36.423    10.25   155.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
            Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75       0.0300       Main Channel
              242.89         245.75       0.0300       Main Channel
              244.14         245.75       0.0300       Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

          <---------- TRAVEL TIME TABLE ---------->
  DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
    (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
   0.27    246.02    .295E+04       0.6         0.75      88.26
   1.53    247.28    .168E+06      69.7         1.65      40.13
   2.79    248.54    .490E+06     299.5         2.42      27.28
   4.06    249.81    .962E+06     740.1         3.05      21.67
   5.32    251.07    .158E+07    1440.0         3.61      18.33
   6.58    252.33    .235E+07    2443.8         4.12      16.06
   7.84    253.59    .327E+07    3811.2         4.63      14.30
   9.10    254.85    .432E+07    5565.1         5.11      12.94
  10.37    256.12    .550E+07    7721.3         5.57      11.88
  11.63    257.38    .682E+07   10309.9         6.00      11.02
  12.89    258.64    .827E+07   13360.6         6.42      10.31
  14.15    259.90    .985E+07   16884.5         6.81       9.72
  15.42    261.17    .116E+08   20818.4         7.14       9.26
  16.68    262.43    .134E+08   25510.4         7.53       8.78
  17.94    263.69    .154E+08   30958.0         7.97       8.30
  19.20    264.95    .175E+08   36988.3         8.38       7.89
  20.46    266.21    .197E+08   43617.1         8.78       7.53
  21.73    267.48    .220E+08   50868.1         9.17       7.22
  22.99    268.74    .244E+08   58854.0         9.56       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.70    36.42  10.25 155.08      0.92      1.05
    OUTFLOW: ID= 1 (6416)  426.70    31.82  11.25 155.08      0.84      0.99

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0416):   439.30  25.927    11.50   159.61
      + ID2= 2 (6416):   426.70  31.818    11.25   155.08
        ================================================
        ID = 3 (8250):   866.00  57.651    11.25   157.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0418):   182.79  11.988    11.25   158.06
      + ID2= 2 (8250):   866.00  57.651    11.25   157.37
        ================================================
        ID = 3 (8248):  1048.79  69.639    11.25   157.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0420):   175.82  11.871    11.00   137.75
      + ID2= 2 (8248):  1048.79  69.639    11.25   157.49
        ================================================
        ID = 3 (8246):  1224.61  81.403    11.25   154.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5507):  7519.42 118.016    14.25   142.28
      + ID2= 2 (8246):  1224.61  81.403    11.25   154.66
        ================================================
        ID = 3 (8244):  8744.03 181.100    12.00   144.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0422):   780.20  32.113    12.00   141.84
      + ID2= 2 (8244):  8744.03 181.100    12.00   144.02
        ================================================
        ID = 3 (8242):  9524.23 213.214    12.00   143.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                         76.4550    30.8371  |  *******    394.7148
                         *******    61.6742  |  *******    394.7248
                         *******    *******  |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.231   213.214     12.00     143.84
     OUTFLOW: ID= 1 (5508)   9524.231   162.331     15.50     143.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 76.14
                    TIME SHIFT OF PEAK FLOW         (min)=210.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=142.1958

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--------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 86.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=  20.993 (i)
     TIME TO PEAK    (hrs)=  24.000
     RUNOFF VOLUME    (mm)= 173.232
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.817

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 525.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  17.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    194.58       331.32
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1872.43        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        66.50
               over (min)       30.00        45.00
     Storage Coeff.  (min)=     23.52 (ii)   36.11 (ii)
     Unit Hyd. Tpeak (min)=     30.00        45.00
     Unit Hyd. peak  (cms)=      0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     11.98        49.95        61.079 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.50         10.25
     RUNOFF VOLUME    (mm)=    210.00       173.23        179.48
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.82          0.85

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)=  73.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  23.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     35.77        37.23
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    697.61        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        76.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.00 (ii)   24.88 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.45         7.09          9.539 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       177.49        184.97
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.84          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3381):    73.00   9.539    10.00   184.97
        + ID2= 2 (3382):   525.90  61.079    10.25   179.48
          ================================================
          ID = 3 (8310):   598.90  70.136    10.25   180.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 587.10   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   8.19

     Unit Hyd Qpeak  (cms)=   1.224

     PEAK FLOW       (cms)=   6.972 (i)
     TIME TO PEAK    (hrs)=  17.250
     RUNOFF VOLUME    (mm)= 146.846
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.693

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  31.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.83        16.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    469.04        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        66.54
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.25 (ii)   22.84 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.50         2.67          4.174 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       153.82        171.23
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.73          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3341):    33.00   4.174    10.00   171.23
        + ID2= 2 (3342):   587.10   6.972    17.25   146.85
          ================================================
          ID = 3 (8314):   620.10   7.956    11.00   148.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 71.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   4.007 (i)
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```
     TIME TO PEAK    (hrs)=  15.750
     RUNOFF VOLUME    (mm)= 138.250
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.652

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0286) |   Area    (ha)= 260.51   Curve Number   (CN)= 93.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.16

     Unit Hyd Qpeak  (cms)=   3.834

     PEAK FLOW       (cms)=  18.264 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 188.924
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.891

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 89.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=  26.730 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 178.945
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.844

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 93.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   7.418 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 185.839
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.877

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0282):   449.38  26.730    11.75   178.94
      + ID2= 2 (0284):    78.93   7.418    11.00   185.84
        ================================================
        ID = 3 (8388):   528.31  33.585    11.25   179.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2861.0) ------>
             Distance      Elevation       Manning
                0.00         233.00        0.0450
               20.58         228.51        0.0450
               41.17         227.74        0.0450
               51.46         227.41        0.0450
               97.77         225.96        0.0450
              149.23         223.94        0.0450
              200.69         220.84        0.0450
              226.42         220.66        0.0450
              238.85         220.22        0.0450
              241.35         220.01    0.0450 /0.0350  Main Channel
              241.85         219.70        0.0350      Main Channel
              245.85         219.72        0.0350      Main Channel
              246.35         220.06        0.0350      Main Channel
              248.85         220.23        0.0350      Main Channel
              303.60         221.64        0.0350      Main Channel
              380.79         224.98        0.0450
              432.25         229.54        0.0450
              457.98         233.33        0.0450
              483.71         234.27        0.0450
              509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31   220.01    .382E+04       0.8         0.57      82.89
      1.06   220.76    .525E+05      12.1         0.66      72.51
      1.81   221.51    .240E+06      88.6         1.05      45.21
      2.56   222.26    .510E+06     261.7         1.46      32.47
      3.31   223.01    .843E+06     533.8         1.81      26.34
      4.06   223.76    .124E+07     913.6         2.10      22.64
      4.81   224.51    .171E+07    1399.0         2.34      20.33
      5.56   225.26    .225E+07    2051.0         2.60      18.27
      6.31   226.01    .285E+07    2907.0         2.91      16.35
      7.06   226.76    .352E+07    3902.5         3.16      15.04
      7.82   227.52    .426E+07    5069.9         3.39      14.01
      8.57   228.27    .507E+07    6433.0         3.62      13.13
      9.32   229.02    .593E+07    8069.2         3.89      12.24
     10.07   229.77    .681E+07    9926.7         4.16      11.44
     10.82   230.52    .772E+07   11962.8         4.42      10.75
     11.57   231.27    .864E+07   14167.1         4.68      10.17
     12.32   232.02    .959E+07   16537.1         4.92       9.66
     13.07   232.77    .105E+08   19070.7         5.16       9.22
     13.82   233.52    .115E+08   21790.4         5.39       8.82

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31    33.59   11.25 179.97      1.27      0.73
     OUTFLOW: ID= 1 (6286)  528.31    30.63   12.25 179.97      1.24      0.72

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0286):   260.51  18.264    11.25   188.92
      + ID2= 2 (6286):   528.31  30.634    12.25   179.97
        ================================================
        ID = 3 (8386):   788.82  48.029    12.00   182.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 75.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=  22.555 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 147.792
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.697

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0300) |   Area    (ha)= 258.93   Curve Number   (CN)= 70.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   4.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.292

     PEAK FLOW       (cms)=  15.281 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 136.980
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.646

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 64.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=  15.779 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 122.883
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.580
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0298):   330.51  15.779    11.50   122.88
       + ID2= 2 (0300):   258.93  15.281    11.25   136.98
         ================================================
         ID = 3 (8395):   589.44  30.954    11.50   129.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 89.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21
```

Unit Hyd Qpeak (cms)= 2.629

PEAK FLOW (cms)= 15.781 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 181.352
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.855

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 90.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07
```

Unit Hyd Qpeak (cms)= 4.279

PEAK FLOW (cms)= 19.260 (i)
TIME TO PEAK (hrs)= 11.250
RUNOFF VOLUME (mm)= 182.662
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.862

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83  15.781    12.00   181.35
       + ID2= 2 (0290):   269.18  19.260    11.25   182.66
         ================================================
         ID = 3 (8397):   610.01  34.406    11.50   181.93
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 88.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13
```

Unit Hyd Qpeak (cms)= 4.437

PEAK FLOW (cms)= 20.151 (i)
TIME TO PEAK (hrs)= 11.250
RUNOFF VOLUME (mm)= 177.972
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.839

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 83.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52
```

Unit Hyd Qpeak (cms)= 8.289

PEAK FLOW (cms)= 40.850 (i)
TIME TO PEAK (hrs)= 11.750
RUNOFF VOLUME (mm)= 166.632
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.786

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87
```

Unit Hyd Qpeak (cms)= 5.367

PEAK FLOW (cms)= 18.657 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 145.749
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.687

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49  40.850    11.75   166.63
       + ID2= 2 (0294):   274.15  18.657    11.00   145.75
         ================================================
         ID = 3 (8398):  1012.64  58.892    11.50   160.98
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (2961.0) ------>

Distance	Elevation	Manning	
0.00	243.98	0.0400	
42.59	243.18	0.0400	
85.17	241.81	0.0400	
120.66	240.50	0.0400	
156.15	239.56	0.0400	
198.74	236.15	0.0400	
237.78	234.01	0.0400	
241.33	233.82	0.0400	
248.77	233.12	0.0400 /0.0400	Main Channel
249.87	232.32	0.0400	Main Channel
250.37	231.80	0.0400	Main Channel
250.87	232.23	0.0400	Main Channel
251.97	233.10	0.0400 /0.0400	Main Channel
255.37	233.22	0.0400	
259.07	233.87	0.0400	
262.62	234.12	0.0400	
266.17	234.23	0.0400	
283.91	234.73	0.0400	
337.15	241.75	0.0400	
351.34	244.00	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	232.23	.510E+03	0.1	0.53	81.07
0.87	232.67	.213E+04	0.7	0.83	51.49
1.30	233.10	.501E+04	2.2	1.10	38.75
1.98	233.78	.242E+05	12.6	1.34	31.93
2.66	234.46	.738E+05	42.1	1.46	29.21
3.34	235.14	.177E+06	127.9	1.84	23.13
4.02	235.82	.314E+06	281.4	2.29	18.61
4.70	236.50	.481E+06	509.4	2.71	15.73
5.38	237.18	.672E+06	815.6	3.11	13.73
6.06	237.86	.886E+06	1200.7	3.46	12.30
6.74	238.54	.112E+07	1669.4	3.80	11.23
7.42	239.22	.139E+07	2226.9	4.11	10.38
8.10	239.90	.168E+07	2808.4	4.28	9.95
8.78	240.58	.202E+07	3470.4	4.40	9.68
9.46	241.26	.240E+07	4331.7	4.61	9.24
10.14	241.94	.283E+07	5335.2	4.83	8.84
10.82	242.62	.330E+07	6482.6	5.03	8.48
11.50	243.30	.381E+07	7764.1	5.21	8.18
12.18	243.98	.439E+07	9101.2	5.31	8.04

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8398)	1012.64	58.89	11.50	160.98	2.79	1.52
OUTFLOW:	ID= 1 (6296)	1012.64	57.83	12.00	160.98	2.78	1.52

```
--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0296):   293.65  20.151    11.25   177.97
      + ID2= 2 (6296):  1012.64  57.830    12.00   160.98
        ================================================
        ID = 3 (8396):  1306.29  77.347    11.75   164.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------

-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29  77.347    11.75   164.80
      + ID2= 2 (8397):   610.01  34.406    11.50   181.93
        ================================================
        ID = 3 (8394):  1916.30 111.656    11.75   170.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30 111.656    11.75   170.25
      + ID2= 2 (8395):   589.44  30.954    11.50   129.08
        ================================================
        ID = 3 (8392):  2505.74 142.366    11.75   160.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (3021.0) ------>
            Distance      Elevation       Manning
               0.00         228.10        0.0400
              18.47         227.12        0.0400
              36.95         226.12        0.0400
              46.18         225.84        0.0400
              55.42         225.58        0.0400
             272.47         222.88        0.0400
             277.09         222.76        0.0400
             281.71         222.58        0.0400
             288.54         222.18    0.0400 /0.0300  Main Channel
             288.64         221.00        0.0300      Main Channel
             290.94         221.00        0.0300      Main Channel
             291.04         221.00        0.0300      Main Channel
             291.54         222.75    0.0300 /0.0400  Main Channel
             300.18         222.83        0.0400
             304.80         223.04        0.0400
             309.42         223.25        0.0400
             318.65         223.69        0.0400
             360.22         225.57        0.0400
             397.16         227.60        0.0400
             457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.29    221.29    .228E+04         0.2         0.32     165.63
       0.59    221.59    .465E+04         0.7         0.45     116.15
       0.88    221.88    .713E+04         1.2         0.54      96.87
       1.18    222.18    .971E+04         1.9         0.61      86.20
       1.57    222.57    .175E+05         3.3         0.59      88.86
       1.97    222.97    .427E+05         6.4         0.47     111.39
       2.36    223.36    .115E+06        16.1         0.44     119.14
       2.76    223.76    .237E+06        37.1         0.49     106.49
       3.15    224.15    .409E+06        72.9         0.56      93.40
       3.55    224.55    .631E+06       127.0         0.63      82.76
       3.94    224.94    .903E+06       202.4         0.70      74.37
       4.34    225.34    .123E+07       301.8         0.77      67.68
       4.73    225.73    .160E+07       433.5         0.85      61.37
       5.13    226.13    .200E+07       602.2         0.95      55.29
       5.52    226.52    .242E+07       804.7         1.05      50.13
       5.92    226.92    .286E+07      1034.2         1.14      46.11
       6.31    227.31    .332E+07      1290.5         1.22      42.88
       6.71    227.71    .380E+07      1560.9         1.29      40.55
       7.10    228.10    .432E+07      1835.6         1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74   142.37   11.75 160.57      3.63      0.65
    OUTFLOW: ID= 1 (6302) 2505.74   125.22   12.50 160.57      3.53      0.63


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| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90  22.555    12.00   147.79
      + ID2= 2 (6302):  2505.74 125.217    12.50   160.57
        ================================================
        ID = 3 (8390):  2979.64 146.953    12.50   158.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  48.029    12.00   182.93
      + ID2= 2 (8390):  2979.64 146.953    12.50   158.53
        ================================================
        ID = 3 (8348):  3768.46 194.008    12.25   163.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 80.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=  10.078 (i)
     TIME TO PEAK    (hrs)=  12.500
     RUNOFF VOLUME    (mm)= 158.751
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.749

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=  24.229 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 185.349
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.874

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=  29.133 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 186.750
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.881

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 90.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   8.011 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 180.981
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.854

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 88.3
```

```
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=  27.372 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 176.439
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.832

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49  27.372    11.25   176.44
       + ID2= 2 (0276):    90.89   8.011    11.00   180.98
         ==========================================
         ID = 3 (8360):   483.38  35.253    11.00   177.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49  29.133    11.75   186.75
       + ID2= 2 (8360):   483.38  35.253    11.00   177.29
         ==========================================
         ID = 3 (8358):   968.87  64.013    11.25   182.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.50   224.76    .263E+04         0.8         0.65      58.31
       1.36   225.62    .278E+05        13.4         1.10      34.54
       2.22   226.48    .855E+05        52.6         1.40      27.09
       3.09   227.35    .157E+06       120.4         1.74      21.78
       3.95   228.21    .242E+06       216.3         2.04      18.64
       4.81   229.07    .340E+06       341.8         2.29      16.56
       5.67   229.93    .450E+06       498.3         2.52      15.06
       6.53   230.79    .574E+06       688.3         2.73      13.90
       7.40   231.66    .711E+06       913.8         2.93      12.97
       8.26   232.52    .861E+06      1173.4         3.11      12.23
       9.12   233.38    .103E+07      1461.3         3.24      11.72
       9.98   234.24    .121E+07      1793.3         3.37      11.26
      10.85   235.11    .142E+07      2141.0         3.45      11.02
      11.71   235.97    .165E+07      2530.4         3.50      10.86
      12.57   236.83    .192E+07      2954.0         3.51      10.81
      13.43   237.69    .226E+07      3160.3         3.18      11.93
      14.29   238.55    .271E+07      3869.4         3.26      11.67
      15.16   239.42    .320E+07      4740.3         3.38      11.24
      16.02   240.28    .373E+07      5688.4         3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    64.01   11.25 182.03      2.37      1.45
     OUTFLOW: ID= 1 (6280)  968.87    62.71   11.75 182.03      2.35      1.44

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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86  24.229    11.00   185.35
       + ID2= 2 (6280):   968.87  62.714    11.75   182.03
         ==========================================
         ID = 3 (8354):  1268.73  85.722    11.50   182.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0272) |   Area    (ha)= 157.38   Curve Number   (CN)= 88.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.456

     PEAK FLOW       (cms)=  10.925 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 176.461
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.832

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 91.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=  16.128 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 183.560
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.866

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 88.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=  15.631 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 174.848
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.825

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0264) |   Area    (ha)= 353.96   Curve Number   (CN)= 84.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.313

     PEAK FLOW       (cms)=  17.065 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 166.685
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.786

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=  20.326 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 160.016
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     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.755

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0264):   353.96  17.065    11.75   166.69
       + ID2= 2 (0266):   508.09  20.326    12.00   160.02
         ================================================
         ID = 3 (8380):   862.05  37.389    12.00   162.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2681.0) ------>
              Distance      Elevation       Manning
                 0.00         274.03        0.0500
                10.55         272.73        0.0500
                21.10         271.28        0.0500
                50.12         266.83        0.0500
                87.04         260.36        0.0500
                92.32         260.06        0.0500
                94.95         259.93        0.0500
               101.00         256.87        0.0500
               103.00         256.58   0.0500 /0.0350  Main Channel
               104.00         256.32        0.0350      Main Channel
               106.00         256.05        0.0350      Main Channel
               108.00         256.25        0.0350      Main Channel
               110.78         256.65    0.0350 /0.0500  Main Channel
               113.42         256.81        0.0500
               116.06         257.00        0.0500
               155.62         260.24        0.0500
               187.27         263.35        0.0500
               211.01         267.22        0.0500
               224.20         269.60        0.0500
               261.13         272.68        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.53  256.58    .697E+04         2.1         0.97      55.64
       1.38  257.43    .477E+05        25.9         1.76      30.66
       2.22  258.27    .123E+06        84.3         2.22      24.26
       3.07  259.12    .231E+06       185.4         2.60      20.72
       3.92  259.97    .371E+06       335.8         2.92      18.42
       4.77  260.82    .560E+06       547.6         3.15      17.06
       5.61  261.66    .790E+06       845.6         3.46      15.57
       6.46  262.51    .106E+07      1225.0         3.75      14.37
       7.31  263.36    .136E+07      1693.3         4.02      13.37
       8.16  264.21    .169E+07      2283.2         4.35      12.36
       9.00  265.05    .206E+07      2969.1         4.66      11.54
       9.85  265.90    .245E+07      3754.4         4.96      10.86
      10.70  266.75    .286E+07      4643.0         5.24      10.28
      11.55  267.60    .331E+07      5636.1         5.50       9.78
      12.39  268.44    .378E+07      6746.2         5.76       9.34
      13.24  269.29    .428E+07      7972.2         6.01       8.96
      14.09  270.14    .482E+07      9218.9         6.18       8.71
      14.94  270.99    .539E+07     10550.5         6.32       8.52
      15.78  271.83    .601E+07     12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.05    37.39   12.00 162.75      1.54      1.83
     OUTFLOW: ID= 1 (6268)  862.05    36.80   12.25 162.75      1.53      1.82


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| ADD HYD   (8382) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6268):   215.76  15.631    11.00   174.85
       + ID2= 2 (6268):   862.05  36.804    12.25   162.75
         ================================================
         ID = 3 (8382):  1077.81  50.727    12.00   165.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2701.0) ------>
              Distance      Elevation       Manning
                 0.00         245.98        0.0500
                 8.14         245.66        0.0500
                16.28         245.16        0.0500
                20.35         244.84        0.0500
                38.66         242.98        0.0500
                48.83         240.65        0.0500
                63.07         235.91        0.0500
                65.11         235.18        0.0500
                68.43         234.34    0.0500 /0.0300  Main Channel
                68.68         233.95        0.0300      Main Channel
                69.18         233.89        0.0300      Main Channel
                69.68         233.95        0.0300      Main Channel
                71.21         234.48    0.0300 /0.0500  Main Channel
                81.38         236.44        0.0500
                95.63         236.66        0.0500
               120.04         237.00        0.0500
               148.53         241.77        0.0500
               158.70         242.34        0.0500
               187.18         244.03        0.0500
               201.42         244.36        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.45  234.34    .217E+04         0.7         0.99      52.83
       0.98  234.87    .966E+04         4.6         1.49      35.20
       1.50  235.39    .250E+05        13.7         1.73      30.41
       2.03  235.92    .475E+05        29.5         1.95      26.87
       2.56  236.45    .772E+05        52.5         2.14      24.50
       3.09  236.98    .142E+06        82.4         1.83      28.73
       3.61  237.50    .246E+06       158.1         2.03      25.91
       4.14  238.03    .357E+06       262.0         2.31      22.73
       4.67  238.56    .477E+06       392.1         2.59      20.27
       5.20  239.09    .604E+06       547.8         2.86      18.38
       5.72  239.61    .739E+06       729.2         3.11      16.90
       6.25  240.14    .882E+06       936.5         3.34      15.70
       6.78  240.67    .103E+07      1169.7         3.57      14.72
       7.31  241.20    .119E+07      1425.9         3.77      13.94
       7.83  241.72    .136E+07      1710.4         3.96      13.26
       8.36  242.25    .154E+07      1967.9         4.02      13.07
       8.89  242.78    .174E+07      2264.9         4.09      12.83
       9.42  243.31    .196E+07      2589.3         4.15      12.65
       9.94  243.83    .221E+07      2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.81    50.73   12.00 165.18      2.52      2.13
     OUTFLOW: ID= 1 (6270) 1077.81    50.21   12.25 165.18      2.50      2.12


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| ADD HYD   (8384) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6270):   243.61  16.128    11.00   183.56
       + ID2= 2 (6270):  1077.81  50.214    12.25   165.18
         ================================================
         ID = 3 (8384):  1321.42  65.392    12.00   168.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=  20.776 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 185.722
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT    =   0.876

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0260) |   Area    (ha)= 476.24   Curve Number   (CN)= 92.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   4.360

     PEAK FLOW       (cms)=  24.646 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 186.327
     TOTAL RAINFALL   (mm)= 212.000
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     RUNOFF COEFFICIENT   =   0.879

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0258)  |   Area    (ha)= 181.99   Curve Number   (CN)= 91.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=  10.024 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 182.929
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.863

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0252)  |   Area    (ha)= 319.99   Curve Number   (CN)= 86.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   3.761

     PEAK FLOW       (cms)=  18.292 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 172.824
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.815

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0256)  |   Area    (ha)= 145.79   Curve Number   (CN)= 82.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   7.959 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 163.436
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.771

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0254)  |   Area    (ha)= 403.00   Curve Number   (CN)= 74.4
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=  17.953 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 144.288
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.681

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2561.0) ------>
              Distance     Elevation      Manning
                  0.00        276.07        0.0400
                 11.68        273.71        0.0400
                 23.36        271.35        0.0400
                 29.19        270.30        0.0400
                 35.03        269.44        0.0400
                 55.47        267.90        0.0400
                 78.82        266.24        0.0400
                 90.50        265.63        0.0400
                102.18        265.40        0.0400
                105.10        264.95    0.0400 /0.0350  Main Channel
                108.02        264.39       0.0350       Main Channel
                110.94        264.72       0.0350       Main Channel
                113.86        265.19    0.0350 /0.0400  Main Channel
                116.78        265.49        0.0400
                143.05        268.24        0.0400
                172.25        270.53        0.0400
                207.28        271.95        0.0400
                233.55        273.72        0.0400
                256.91        274.98        0.0400
                289.02        275.97        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90      62.51
       1.14   265.53    .307E+05      13.5         1.49      37.92
       1.72   266.11    .951E+05      48.6         1.73      32.62
       2.30   266.69    .191E+06     117.8         2.09      27.03
       2.88   267.27    .314E+06     225.2         2.43      23.24
       3.46   267.85    .464E+06     375.5         2.74      20.59
       4.04   268.43    .641E+06     573.2         3.03      18.62
       4.62   269.01    .846E+06     821.9         3.29      17.15
       5.20   269.59    .108E+07    1135.0         3.56      15.87
       5.78   270.17    .134E+07    1525.1         3.86      14.64
       6.36   270.75    .162E+07    1971.1         4.12      13.71
       6.94   271.33    .194E+07    2474.0         4.33      13.04
       7.52   271.91    .228E+07    3065.0         4.55      12.42
       8.10   272.49    .266E+07    3773.4         4.80      11.75
       8.68   273.07    .306E+07    4566.3         5.05      11.17
       9.26   273.65    .348E+07    5443.7         5.30      10.66
       9.84   274.23    .393E+07    6389.6         5.51      10.25
      10.42   274.81    .440E+07    7426.2         5.72       9.88
      11.00   275.39    .490E+07    8490.1         5.86       9.63

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00    17.95   11.75 144.29      1.21      1.52
     OUTFLOW: ID= 1 (6256)  403.00    17.53   12.25 144.29      1.20      1.51

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0256):   145.79   7.959    11.25   163.44
        + ID2= 2 (6256):   403.00  17.527    12.25   144.29
          ================================================
          ID = 3 (8370):   548.79  25.263    12.00   149.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0250)  |   Area    (ha)= 192.88   Curve Number   (CN)= 85.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   9.790 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 168.680
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.796

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0246)  |   Area    (ha)= 759.61   Curve Number   (CN)= 74.2
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=  25.684 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 144.339
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.681

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0248)  |   Area    (ha)= 146.04   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   9.220 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 158.507
     TOTAL RAINFALL   (mm)= 212.000
```

RUNOFF COEFFICIENT = 0.748

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0246):		759.61	25.684	12.00	144.34
+ ID2= 2 (0248):		146.04	9.220	11.00	158.51
ID = 3 (8364):		905.65	34.343	12.00	146.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	34.34	12.00	146.62	2.00	1.15
OUTFLOW: ID= 1 (6250)	905.65	32.61	12.50	146.62	1.97	1.14

ADD HYD (8366)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0250):		192.88	9.790	11.75	168.68
+ ID2= 2 (6250):		905.65	32.614	12.50	146.62
ID = 3 (8366):		1098.53	41.960	12.25	150.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8366):		1098.53	41.960	12.25	150.50
+ ID2= 2 (8370):		548.79	25.263	12.00	149.37
ID = 3 (8368):		1647.32	67.068	12.25	150.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0252):		319.90	18.292	11.25	172.82
+ ID2= 2 (8368):		1647.32	67.068	12.25	150.12
ID = 3 (8372):		1967.31	84.865	12.00	153.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.31	84.87	12.00	153.82	1.53	0.95
OUTFLOW: ID= 1 (6258)	1967.31	75.75	13.25	153.82	1.46	0.90

ADD HYD (8374)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0258):		181.99	10.024	11.50	182.93
+ ID2= 2 (6258):		1967.31	75.748	13.25	153.82
ID = 3 (8374):		2149.30	84.408	13.00	156.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA	QPEAK	TPEAK	R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0260):   476.24  24.646    11.75   186.33
      + ID2= 2 (8374):  2149.30  84.408    13.00   156.28
        ==============================================
        ID = 3 (8376):  2625.54 106.930    12.75   161.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0262):   341.31  20.776    11.25   185.72
      + ID2= 2 (8376):  2625.54 106.930    12.75   161.73
        ==============================================
        ID = 3 (8378):  2966.85 125.359    12.50   164.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8378):  2966.85 125.350    12.50   164.49
      + ID2= 2 (8384):  1321.42  65.392    12.00   168.56
        ==============================================
        ID = 3 (8362):  4288.27 189.854    12.25   165.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2721.0) ------>
             Distance      Elevation       Manning
                0.00         231.01        0.0450
               23.01         223.65        0.0450
               34.51         222.46        0.0450
               51.77         222.11        0.0450
               69.02         221.87        0.0450
              161.06         221.92        0.0450
              166.81         221.91        0.0450
              172.56         221.89        0.0450
              180.57         221.40    0.0450 /0.0300  Main Channel
              181.57         220.60        0.0300      Main Channel
              184.07         220.16        0.0300      Main Channel
              195.57         221.85    0.0300 /0.0450  Main Channel
              201.32         221.82        0.0450
              207.07         221.77        0.0450
              212.83         221.72        0.0450
              253.09         222.52        0.0450
              408.40         222.65        0.0450
              460.17         223.20        0.0450
              517.69         224.84        0.0450
              569.46         232.57        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.41   220.57    .189E+04         0.5        0.49      60.18
       0.83   220.99    .697E+04         3.2        0.82      35.79
       1.24   221.40    .145E+05         8.8        1.07      27.45
       1.84   222.00    .643E+05        29.3        0.81      36.61
       2.44   222.60    .282E+06       132.9        0.83      35.41
       3.04   223.20    .707E+06       413.7        1.04      28.50
       3.64   223.80    .118E+07       876.8        1.31      22.46
       4.24   224.40    .168E+07      1494.8        1.57      18.75
       4.84   225.00    .221E+07      2264.1        1.82      16.23
       5.44   225.60    .274E+07      3196.3        2.06      14.29
       6.04   226.20    .328E+07      4258.6        2.30      12.84
       6.65   226.81    .383E+07      5444.7        2.52      11.72
       7.25   227.41    .438E+07      6749.7        2.73      10.82
       7.85   228.01    .494E+07      8169.4        2.93      10.08
       8.45   228.61    .551E+07      9700.7        3.12       9.46
       9.05   229.21    .608E+07     11340.8        3.30       8.94
       9.65   229.81    .666E+07     13087.4        3.48       8.48
      10.25   230.41    .724E+07     14938.5        3.65       8.08
      10.85   231.01    .783E+07     16892.4        3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8362) 4288.27   189.85   12.25 165.75      2.56      0.87
    OUTFLOW: ID= 1 (6272) 4288.27   185.57   12.75 165.75      2.55      0.86
```

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```
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0272):   157.38  10.925    11.25   176.46
      + ID2= 2 (6272):  4288.27 185.571    12.75   165.75
        ==============================================
        ID = 3 (8356):  4445.65 194.398    12.75   166.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8354):  1268.73  85.722    11.50   182.82
      + ID2= 2 (8356):  4445.65 194.398    12.75   166.12
        ==============================================
        ID = 3 (8352):  5714.38 272.950    12.25   169.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3041.0) ------>
             Distance      Elevation       Manning
                0.00         232.08        0.0500
               19.00         231.87        0.0500
               38.00         231.33        0.0500
               66.51         230.44        0.0500
              104.51         228.25        0.0500
              118.76         225.17        0.0500
              128.26         219.86        0.0500
              175.77         219.17        0.0500
              185.27         218.90    0.0500 /0.0300  Main Channel
              185.52         218.65        0.0300      Main Channel
              190.02         218.37        0.0300      Main Channel
              194.52         218.60        0.0300      Main Channel
              194.77         218.85    0.0300 /0.0500  Main Channel
              204.27         219.60        0.0500
              299.28         220.91        0.0500
              327.78         222.36        0.0500
              375.28         225.71        0.0500
              403.79         229.37        0.0500
              432.29         230.43        0.0500
              470.29         232.00        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.48   218.85    .121E+05         1.2        0.36     173.94
       1.17   219.54    .839E+05         9.8        0.44     142.60
       1.86   220.23    .323E+06        41.0        0.47     131.43
       2.56   220.93    .708E+06       109.5        0.58     107.67
       3.25   221.62    .118E+07       224.3        0.71      87.36
       3.94   222.31    .168E+07       376.5        0.84      74.48
       4.63   223.00    .222E+07       567.9        0.96      65.26
       5.32   223.69    .279E+07       794.7        1.07      58.58
       6.02   224.39    .339E+07      1056.2        1.17      53.52
       6.71   225.08    .402E+07      1352.4        1.26      49.52
       7.40   225.77    .468E+07      1677.3        1.34      46.46
       8.09   226.46    .536E+07      2050.0        1.43      43.58
       8.79   227.16    .607E+07      2457.9        1.52      41.14
       9.48   227.85    .680E+07      2901.0        1.60      39.05
      10.17   228.54    .755E+07      3352.7        1.66      37.53
      10.86   229.23    .834E+07      3812.5        1.71      36.48
      11.55   229.92    .919E+07      4241.8        1.73      36.13
      12.25   230.62    .101E+08      4697.0        1.74      35.93
      12.94   231.31    .111E+08      5186.3        1.74      35.83

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8352) 5714.38   272.95   12.25 169.83      3.47      0.75
    OUTFLOW: ID= 1 (6304) 5714.38   244.13   13.25 169.83      3.33      0.73
```

```
-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0304):   292.37  10.078    12.50   158.75
      + ID2= 2 (6304):  5714.38 244.133    13.25   169.83
        ==============================================
        ID = 3 (8350):  6006.75 254.018    13.25   169.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46 194.008    12.25   163.64
       + ID2= 2 (8350):  6006.75 254.018    13.25   169.29
         ================================================
         ID = 3 (8346):  9775.21 442.837    12.75   167.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   4.007    15.75   138.25
       + ID2= 2 (8346):  9775.21 442.837    12.75   167.11
         ================================================
         ID = 3 (8344): 10059.18 446.536    12.75   166.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  *******    370.0451
                         41.0590    56.7403   |  *******    863.4386
                         48.1390    86.3439   |  *******    ********
                         56.6340    ********  |  *******    ********
                         67.9600    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********   446.536     12.75     166.30
     OUTFLOW: ID= 1 (5509)   ********   122.099     21.25     166.30

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.34
                    TIME SHIFT OF PEAK FLOW         (min)=510.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=909.2796

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 88.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=  17.291 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 177.773
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.839

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 91.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=  33.391 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 183.908
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.867

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (3321.0) ------>
             Distance      Elevation       Manning
                0.00         234.00        0.0380
               25.85         227.20        0.0380
               96.94         226.44        0.0380
              168.03         227.38        0.0380
              219.73         225.62        0.0380
              342.52         221.57        0.0380
              368.37         221.42        0.0380
              374.83         221.23        0.0380
              379.79         220.98    0.0380 /0.0300  Main Channel
              380.29         220.47        0.0300      Main Channel
              381.29         220.47        0.0300      Main Channel
              382.79         220.47        0.0300      Main Channel
              383.29         220.98    0.0300 /0.0380  Main Channel
              394.22         221.22        0.0380
              400.68         221.33        0.0380
              407.14         221.44        0.0380
              491.16         225.70        0.0380
              568.71         227.55        0.0380
              607.49         230.14        0.0380
              639.80         234.08        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.51   220.98   .554E+04       0.9          0.56     107.27
       1.20   221.67   .885E+05      12.1          0.49     122.32
       1.88   222.35   .309E+06      64.7          0.76      79.70
       2.57   223.04   .615E+06     165.4          0.97      61.99
       3.25   223.72   .101E+07     322.1          1.16      52.06
       3.94   224.41   .148E+07     542.9          1.33      45.51
       4.62   225.09   .204E+07     835.4          1.48      40.77
       5.31   225.78   .269E+07    1202.8          1.62      37.27
       5.99   226.46   .344E+07    1618.0          1.70      35.46
       6.68   227.15   .447E+07    1932.0          1.56      38.56
       7.36   227.83   .580E+07    2763.9          1.72      34.96
       8.05   228.52   .718E+07    3861.9          1.95      30.97
       8.73   229.20   .859E+07    5115.4          2.16      27.98
       9.42   229.89   .100E+08    6519.2          2.35      25.64
      10.10   230.57   .115E+08    8092.3          2.55      23.69
      10.79   231.26   .130E+08    9821.5          2.73      22.05
      11.47   231.94   .145E+08   11690.0          2.92      20.68
      12.16   232.63   .160E+08   13694.9          3.09      19.52
      12.84   233.31   .176E+08   15833.9          3.26      18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30    33.39  11.25 183.91      1.47      0.57
     OUTFLOW: ID= 1 (6332)  468.30    27.64  12.50 183.91      1.40      0.55

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0332):   393.44  17.291    12.00   177.77
       + ID2= 2 (6332):   468.30  27.640    12.50   183.91
         ================================================
         ID = 3 (8322):   861.74  44.899    12.25   181.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 89.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=  25.084 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 179.281
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.846

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 91.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=  34.798 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 184.631
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.871

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0324) |   Area    (ha)= 615.64   Curve Number   (CN)= 91.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
--------------------  U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   5.544

     PEAK FLOW       (cms)=  32.052 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 183.871
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.867

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0320) |   Area    (ha)= 278.74   Curve Number   (CN)= 92.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   3.499

     PEAK FLOW       (cms)=  17.763 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 185.834
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.877

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3182) |   Area    (ha)= 457.40   Curve Number   (CN)= 90.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.49

     Unit Hyd Qpeak  (cms)=   5.259

     PEAK FLOW       (cms)=  27.258 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 181.131
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.854

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3181) |   Area    (ha)=  26.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.06         4.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     416.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        51.40
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.54 (ii)   23.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.10         0.64          3.733 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00       179.74         204.25
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.85           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  89.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3181):    26.00   3.733    10.00   204.25
       + ID2= 2 (3182):   457.40  27.258    11.75   181.13
         ================================================
         ID = 3 (8334):   483.40  29.279    11.00   182.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation        Manning
                  0.00         249.00         0.0380
                 22.92         245.86         0.0380
                 45.83         244.87         0.0380
                 91.66         243.11         0.0380
                126.03         239.53         0.0380
                160.41         237.17         0.0380
                166.14         237.06         0.0380
                177.59         237.13         0.0380
                183.32         237.20         0.0380
                189.05         236.70    0.0380 /0.0350  Main Channel
                193.05         235.89       0.0350       Main Channel
                197.05         236.64    0.0350 /0.0380  Main Channel
                200.51         236.74         0.0380
                206.24         237.03         0.0380
                246.34         238.82         0.0380
                263.53         243.87         0.0380
                389.56         247.64         0.0380
                452.58         247.74         0.0380
                498.41         248.60         0.0380
                567.16         249.84         0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.37   236.26    .270E+04         0.4         0.58     107.96
        0.75   236.64    .108E+05         2.6         0.92      68.01
        1.48   237.37    .877E+05        27.4         1.17      53.35
        2.20   238.09    .277E+06       122.1         1.65      37.83
        2.93   238.82    .540E+06       299.7         2.08      30.01
        3.66   239.55    .857E+06       587.8         2.57      24.29
        4.39   240.28    .120E+07       977.8         3.04      20.52
        5.11   241.00    .158E+07      1458.1         3.46      18.02
        5.84   241.73    .198E+07      2028.6         3.84      16.23
        6.57   242.46    .240E+07      2690.5         4.19      14.86
        7.29   243.18    .285E+07      3431.8         4.50      13.84
        8.02   243.91    .335E+07      4149.1         4.64      13.44
        8.75   244.64    .393E+07      4746.6         4.51      13.80
        9.47   245.36    .463E+07      5618.6         4.53      13.75
       10.20   246.09    .545E+07      6781.8         4.66      13.39
       10.93   246.82    .635E+07      8274.5         4.87      12.79
       11.66   247.55    .733E+07      9988.0         5.10      12.23
       12.38   248.27    .853E+07     11422.0         5.01      12.45
       13.11   249.00    .989E+07     13749.7         5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.40    29.28   11.00 182.37      1.49      1.17
     OUTFLOW: ID= 1 (6320)  483.40    27.43   12.00 182.37      1.48      1.17

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0320):   278.74  17.763    11.50   185.83
       + ID2= 2 (6320):   483.40  27.435    12.00   182.37
         ================================================
         ID = 3 (8332):   762.14  44.940    12.00   183.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0314) |   Area    (ha)= 165.20   Curve Number   (CN)= 89.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.978

     PEAK FLOW       (cms)=  14.198 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 178.832
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.844

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3161.0) ------>
               Distance      Elevation        Manning
                  0.00         248.54         0.0350
                 27.93         248.34         0.0350
                 41.89         246.61         0.0350
```

62.83	243.09	0.0350	
132.65	239.00	0.0350	
188.50	236.74	0.0350	
195.48	236.54	0.0350	
202.46	236.32	0.0350	
205.48	236.14	0.0350 /0.0310	Main Channel
205.98	235.61	0.0310	Main Channel
207.98	235.25	0.0310	Main Channel
209.98	235.53	0.0310	Main Channel
210.48	236.00	0.0310 /0.0350	Main Channel
216.42	236.73	0.0350	
258.31	239.09	0.0350	
328.12	239.84	0.0350	
439.83	241.47	0.0350	
530.58	242.08	0.0350	
586.43	242.93	0.0350	
691.16	248.00	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	235.62	.215E+04	0.7	0.77	53.88
0.75	236.00	.634E+04	3.5	1.36	30.45
1.46	236.71	.297E+05	19.3	1.62	25.66
2.16	237.41	.103E+06	75.8	1.84	22.60
2.87	238.12	.229E+06	202.8	2.21	18.79
3.57	238.82	.407E+06	423.3	2.59	16.03
4.28	239.53	.654E+06	727.7	2.77	14.97
4.99	240.24	.103E+07	1242.0	3.01	13.76
5.69	240.94	.151E+07	2002.3	3.31	12.54
6.40	241.65	.210E+07	2987.9	3.55	11.70
7.10	242.35	.286E+07	4302.8	3.75	11.07
7.81	243.06	.374E+07	6165.3	4.10	10.11
8.51	243.76	.468E+07	8642.4	4.60	9.03
9.22	244.47	.565E+07	11496.3	5.06	8.20
9.93	245.18	.666E+07	14714.1	5.50	7.54
10.63	245.88	.770E+07	18290.3	5.91	7.02
11.34	246.59	.877E+07	22221.9	6.30	6.58
12.04	247.29	.988E+07	26464.4	6.67	6.22
12.75	248.00	.110E+08	31061.3	7.01	5.91

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0314)	165.20	14.20	11.00	178.83	1.23	1.52
OUTFLOW: ID= 1 (6316)	165.20	13.54	11.25	178.83	1.20	1.51

CALIB			
NASHYD (0316)	Area (ha)= 232.34	Curve Number (CN)= 92.3	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 3.923

PEAK FLOW (cms)= 17.290 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 185.893
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.877

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8338)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0316):	232.34	17.290	11.00	185.89
+ ID2= 2 (6316):	165.20	13.544	11.25	178.83
ID = 3 (8338):	397.54	30.818	11.25	182.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0312)	Area (ha)= 359.44	Curve Number (CN)= 91.1	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.36		

Unit Hyd Qpeak (cms)= 4.529

PEAK FLOW (cms)= 22.783 (i)
TIME TO PEAK (hrs)= 11.500
RUNOFF VOLUME (mm)= 183.641
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.866

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0308)	Area (ha)= 529.30	Curve Number (CN)= 79.2	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.62		

Unit Hyd Qpeak (cms)= 5.575

PEAK FLOW (cms)= 26.714 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 155.772
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.735

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 81.9	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 10.810 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 160.351
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.756

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	26.714	12.00	155.77
+ ID2= 2 (0310):	138.28	10.810	11.00	160.35
ID = 3 (8342):	667.58	36.681	11.50	156.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68

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  18.63   263.80    .310E+07   81118.8         16.94       0.64
  19.70   264.87    .344E+07   93603.2         17.66       0.61

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8342)  667.58    36.68   11.50 156.72      1.18      2.60
OUTFLOW: ID= 1 (6312)  667.58    36.77   11.25 156.72      1.18      2.60


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-------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   359.44  22.783    11.50   183.64
      + ID2= 2 (6312):   667.58  36.772    11.25   156.72
        ================================================
        ID = 3 (8340):  1027.02  59.491    11.25   166.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8338):   397.54  30.818    11.25   182.96
      + ID2= 2 (8340):  1027.02  59.491    11.25   166.14
        ================================================
        ID = 3 (8336):  1424.56  90.309    11.25   170.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8332):   762.14  44.940    12.00   183.64
      + ID2= 2 (8336):  1424.56  90.309    11.25   170.84
        ================================================
        ID = 3 (8330):  2186.70 134.425    11.50   175.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   223.86    .145E+04       0.2          0.43     147.27
      0.73   224.39    .159E+05       2.8          0.68      93.11
      1.27   224.93    .561E+05      11.0          0.75      85.19
      1.80   225.46    .217E+06      45.6          0.80      79.20
      2.33   225.99    .566E+06     134.4          0.91      70.20
      2.87   226.53    .122E+07     338.1          1.06      59.97
      3.40   227.06    .206E+07     744.3          1.38      46.16
      3.94   227.60    .298E+07    1295.9          1.66      38.38
      4.47   228.13    .399E+07    1979.9          1.90      33.59
      5.00   228.66    .509E+07    2807.5          2.11      30.21
      5.54   229.20    .627E+07    3815.1          2.32      27.41
      6.07   229.73    .753E+07    4984.1          2.53      25.17
      6.60   230.26    .884E+07    6346.3          2.74      23.20
      7.14   230.80    .102E+08    7861.2          2.95      21.61
      7.67   231.33    .116E+08    9526.4          3.14      20.29
      8.21   231.87    .131E+08   11342.2          3.32      19.18
      8.74   232.40    .146E+08   13309.6          3.49      18.22
      9.27   232.93    .161E+08   15414.0          3.66      17.41
      9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8330) 2186.70   134.42   11.50 175.30      2.33      0.91
OUTFLOW: ID= 1 (6324) 2186.70   121.79   12.50 175.30      2.26      0.89


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0324):   615.64  32.052    12.00   183.87
      + ID2= 2 (6324):  2186.70 121.791    12.50   175.30
        ================================================
        ID = 3 (8328):  2802.34 153.169    12.25   177.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0322) |   Area     (ha)= 513.13   Curve Number   (CN)= 91.4
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

    Unit Hyd Qpeak  (cms)=   5.020

    PEAK FLOW       (cms)=  28.218 (i)
    TIME TO PEAK    (hrs)=  12.000
    RUNOFF VOLUME    (mm)= 184.747
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.871

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   513.13  28.218    12.00   184.75
      + ID2= 2 (8328):  2802.34 153.169    12.25   177.18
        ================================================
        ID = 3 (8326):  3315.47 180.979    12.25   178.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0326):   678.91  34.798    12.00   184.63
      + ID2= 2 (8326):  3315.47 180.979    12.25   178.35
        ================================================
        ID = 3 (8324):  3994.38 215.469    12.25   179.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (3281.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0380
               18.58         224.97        0.0380
               78.98         223.52        0.0380
              125.44         223.28        0.0380
              171.90         221.71        0.0380
              213.72         219.65        0.0380
              218.36         219.40        0.0380
              223.01         219.19        0.0380
              225.95         219.14    0.0380 /0.0320  Main Channel
              226.45         218.14        0.0320      Main Channel
              236.95         218.14        0.0320      Main Channel
              245.85         218.14        0.0320      Main Channel
              245.95         219.14    0.0320 /0.0380  Main Channel
              246.24         219.16        0.0380
              250.88         219.24        0.0380
              255.53         219.39        0.0380
              325.22         221.47        0.0380
              367.03         223.14        0.0380
              404.20         225.17        0.0380
              459.95         228.04        0.0380
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	218.64	.373E+05	3.2	0.33	192.37
1.00	219.14	.752E+05	10.1	0.51	124.71
1.52	219.66	.149E+06	22.2	0.57	112.06
2.04	220.18	.279E+06	43.4	0.59	107.06
2.56	220.70	.464E+06	77.0	0.63	100.52
3.08	221.22	.705E+06	125.7	0.68	93.56
3.61	221.75	.100E+07	192.7	0.73	86.62
4.13	222.27	.135E+07	278.1	0.79	80.92
4.65	222.79	.176E+07	385.9	0.84	75.86
5.17	223.31	.222E+07	514.9	0.89	71.82
5.69	223.83	.280E+07	662.7	0.90	70.40
6.21	224.35	.345E+07	867.7	0.96	66.35
6.73	224.87	.417E+07	1107.0	1.01	62.81
7.25	225.39	.494E+07	1400.0	1.08	58.80
7.78	225.92	.573E+07	1732.2	1.15	55.17
8.30	226.44	.655E+07	2099.9	1.22	52.02
8.82	226.96	.740E+07	2502.8	1.29	49.29
9.34	227.48	.828E+07	2940.9	1.36	46.90
9.86	228.00	.918E+07	3414.3	1.42	44.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8324)	3994.38	215.47	12.25	179.42	3.74	0.75
OUTFLOW: ID= 1 (6328)	3994.38	189.16	13.25	179.42	3.57	0.73

ADD HYD (8320)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0328):	492.92	25.084	12.00	179.28
	+ ID2= 2 (6328):	3994.38	189.161	13.25	179.42
	ID = 3 (8320):	4487.30	212.288	13.00	179.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8318)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8320):	4487.30	212.288	13.00	179.40
	+ ID2= 2 (8322):	861.74	44.899	12.25	181.11
	ID = 3 (8318):	5349.04	255.943	13.00	179.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8316)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (5509):	10059.18	122.099	21.25	166.30
	+ ID2= 2 (8318):	5349.04	255.943	13.00	179.68
	ID = 3 (8316):	15408.22	361.763	13.00	170.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8312)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8314):	620.10	7.956	11.00	148.14
	+ ID2= 2 (8316):	15408.22	361.763	13.00	170.94
	ID = 3 (8312):	16028.32	368.090	13.00	170.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8308)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8310):	598.90	70.136	10.25	180.15
	+ ID2= 2 (8312):	16028.32	368.090	13.00	170.06
	ID = 3 (8308):	16627.22	385.156	12.25	170.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5510) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	74.0000
	66.5450	18.5023	*******	********
	98.5430	37.0045	*******	********

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8308)	********	385.156	12.25	170.42
OUTFLOW: ID= 1 (5510)	********	136.187	28.75	170.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.36
TIME SHIFT OF PEAK FLOW (min)=990.00
MAXIMUM STORAGE USED (ha.m.)=858.5957

ADD HYD (8240)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0336):	2785.00	20.993	24.00	173.23
	+ ID2= 2 (5510):	16627.22	136.187	28.75	170.42
	ID = 3 (8240):	19412.22	157.058	25.25	170.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8238)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (5508):	9524.23	162.331	15.50	143.84
	+ ID2= 2 (8240):	19412.22	157.058	25.25	170.86
	ID = 3 (8238):	28936.45	314.841	16.00	161.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8236)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0342):	1004.58	33.547	12.25	142.70
	+ ID2= 2 (8238):	28936.45	314.841	16.00	161.97
	ID = 3 (8236):	29941.03	341.954	14.75	161.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8234)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8232):	285.80	30.260	10.25	152.63
	+ ID2= 2 (8236):	29941.03	341.954	14.75	161.32
	ID = 3 (8234):	30226.83	342.050	14.75	161.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8230)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0344):	344.00	24.075	11.00	150.24
	+ ID2= 2 (8234):	30226.83	342.050	14.75	161.24
	ID = 3 (8230):	30570.83	357.917	12.25	161.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8228)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8226):	1952.06	96.397	12.00	136.68
	+ ID2= 2 (8230):	30570.83	357.917	12.25	161.11
	ID = 3 (8228):	32522.89	454.139	12.25	159.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

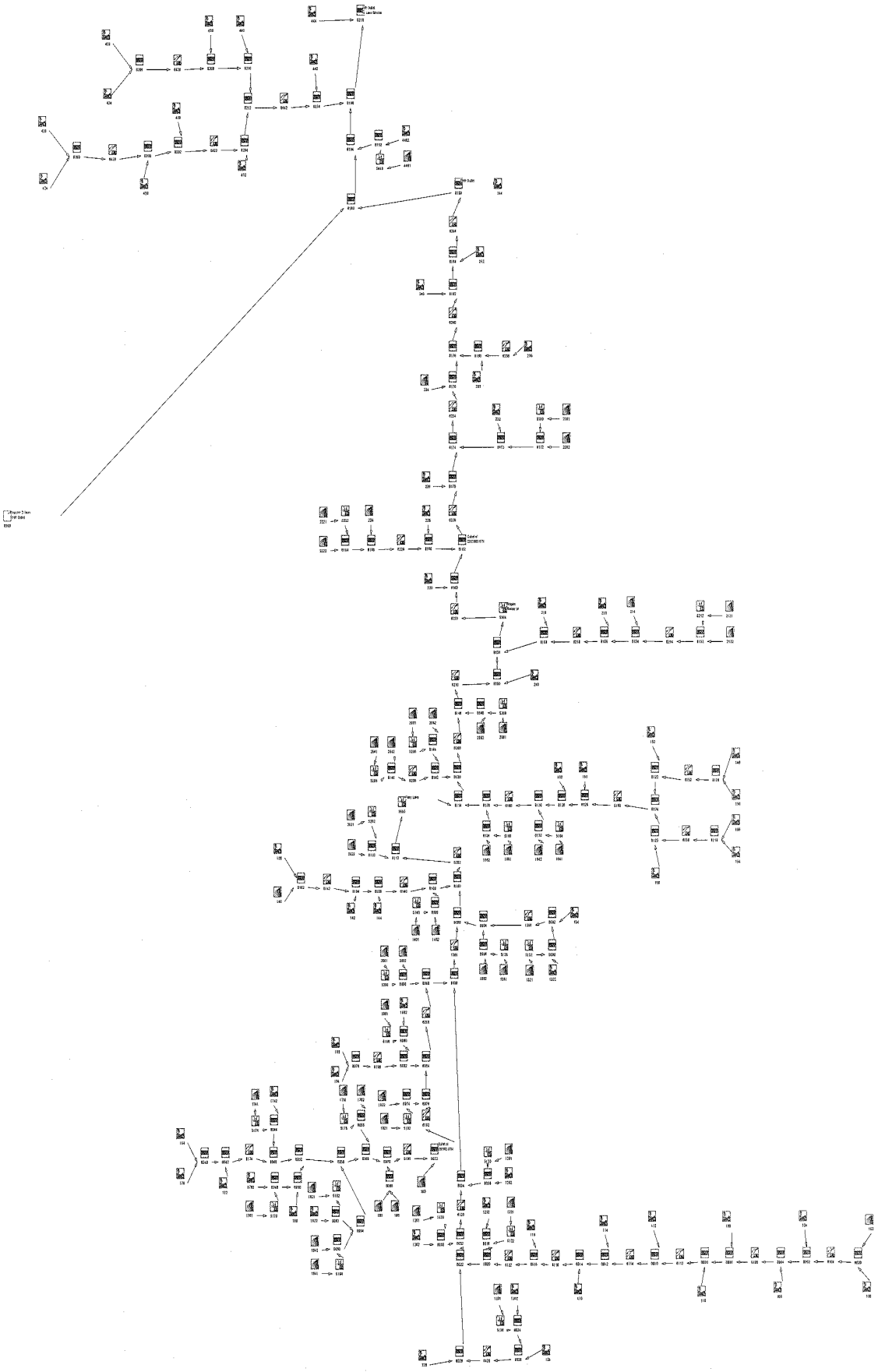
```
-------------------
| ADD HYD   (8190) |
|   1 +   2 =   3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22  47.576    11.75   126.89
       + ID2= 2 (8228): 32522.89 454.139    12.25   159.65
         ================================================
         ID = 3 (8190): 33538.11 501.128    12.00   158.66
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

==========

EAST HOLLAND RIVER SUBWATERSHED



EXISTING
EAST HOLLAND RIVER 2-YEAR STORM

```
      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O    Company
       OOO     T      T    H   H    Y    M   M   OOO               Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\547c57b8-560f-4803-b24a-bd376f2963f2\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\547c57b8-560f-4803-b24a-bd376f2963f2\Scenario.sum

DATE: 08/22/2012                          TIME: 01:19:58

USER:

COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************

--------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              547c57b8-560f-4803-b24a-bd376f2963f2\75768f8e
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
--------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.25     1.05 |  3.25     1.68 |  6.25     7.56 |  9.25     1.47
                0.50     1.05 |  3.50     1.68 |  6.50     7.56 |  9.50     1.47
                0.75     1.05 |  3.75     1.68 |  6.75     3.36 |  9.75     1.47
                1.00     1.05 |  4.00     1.68 |  7.00     3.36 | 10.00     1.47
                1.25     1.05 |  4.25     2.52 |  7.25     2.52 | 10.25     0.84
                1.50     1.05 |  4.50     2.52 |  7.50     2.52 | 10.50     0.84
                1.75     1.05 |  4.75     3.36 |  7.75     2.52 | 10.75     0.84
                2.00     1.05 |  5.00     3.36 |  8.00     2.52 | 11.00     0.84
                2.25     1.26 |  5.25     5.04 |  8.25     1.47 | 11.25     0.84
                2.50     1.26 |  5.50     5.04 |  8.50     1.47 | 11.50     0.84
                2.75     1.26 |  5.75    20.16 |  8.75     1.47 | 11.75     0.84
                3.00     1.26 |  6.00    55.44 |  9.00     1.47 | 12.00     0.84

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      91.70         66.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1026.65         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         25.13
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.11 (ii)    34.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.16          2.65          6.269 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         15.95          23.16
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.38           0.55

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.64        165.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1357.94         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         16.29
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      19.05 (ii)    41.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.84          3.94          7.426 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         13.32          18.92
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.32           0.45

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.0870      6.1196
                          0.3730     3.2753   |   7.7230      7.0042
                          1.3370     3.4678   |   9.3080      7.8876
                          2.9800     4.4433   |   9.7080      7.8976
                          4.4520     5.2716   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    276.600      7.426      6.00      18.92
     OUTFLOW: ID= 1 (5166)    276.600      1.437      8.25      18.92

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.35
               TIME SHIFT OF PEAK FLOW          (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.5273

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10   6.269     6.00    23.16
        + ID2= 2 (5166):   276.60   1.437     8.25    18.92
          ================================================
          ID = 3 (8134):   434.70   6.384     6.00    20.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.50        106.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     939.86         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.29
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.27 (ii)    41.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.21          1.58          2.826 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         10.68          15.08
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.25           0.36

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19         30.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     823.41         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         22.58
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.11 (ii)    33.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.09          1.12          6.550 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         15.02          28.01
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.36           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.6100     4.1638
                          0.3440     1.7056   |   8.2090     4.5053
                          3.1340     1.9730   |   8.8070     4.8468
                          4.1310     3.0607   |   9.2070     4.8568
                          5.1070     3.7142   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700      6.550      6.00      28.01
     OUTFLOW: ID= 1 (5164)    101.700      1.275      7.00      28.00

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.46
                    TIME SHIFT OF PEAK FLOW       (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.7977

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-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1642):   132.50   2.826     6.00    15.08
       + ID2= 2 (5164):   101.70   1.275     7.00    28.00
         ==========================================
         ID = 3 (8132):   234.20   3.004     6.00    20.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   0.776 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.501
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   0.745 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   6.825
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   0.386 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.335
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   0.295 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   1.787
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.043

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.074 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   1.047
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.025

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0148):   417.89   0.295     8.00     1.79
       + ID2= 2 (0150):   105.88   0.074     6.75     1.05
         ==========================================
         ID = 3 (8116):   523.77   0.355     7.50     1.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                  <------ DATA FOR SECTION (1521.0) ------>
                 Distance      Elevation        Manning
                    0.00         290.00         0.0500
                   15.34         286.87         0.0500
                   46.03         284.84         0.0500
                   88.22         283.07         0.0500
                  126.57         282.11         0.0500
                  153.42         280.34         0.0500
                  157.26         280.07         0.0500
                  161.09         279.72         0.0500
                  167.76         278.94    0.0500 /0.0300  Main Channel
                  168.01         278.60         0.0300      Main Channel
```

```
                168.76        278.60        0.0300      Main Channel
                169.51        278.60        0.0300      Main Channel
                169.76        278.90     0.0300 /0.0500  Main Channel
                173.76        279.40        0.0500
                180.27        279.69        0.0500
                184.11        279.93        0.0500
                218.62        281.86        0.0500
                260.82        283.20        0.0500
                360.54        289.25        0.0500
                379.72        289.80        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   278.90    .114E+04       0.4          0.80       45.70
       0.87   279.47    .932E+04       4.2          0.98       37.22
       1.45   280.05    .353E+05      17.5          1.09       33.68
       2.02   280.62    .831E+05      47.8          1.26       29.01
       2.59   281.19    .155E+06     102.9          1.46       25.06
       3.17   281.77    .250E+06     189.3          1.66       22.03
       3.74   282.34    .375E+06     298.5          1.75       20.91
       4.32   282.92    .547E+06     456.5          1.83       19.98
       4.89   283.49    .767E+06     705.7          2.02       18.12
       5.46   284.06    .102E+07    1038.0          2.24       16.34
       6.04   284.64    .130E+07    1444.1          2.45       14.98
       6.61   285.21    .161E+07    1940.1          2.66       13.79
       7.18   285.78    .194E+07    2522.6          2.86       12.80
       7.76   286.36    .229E+07    3187.4          3.06       11.98
       8.33   286.93    .267E+07    3942.3          3.25       11.28
       8.91   287.51    .306E+07    4824.9          3.46       10.58
       9.48   288.08    .347E+07    5795.7          3.67        9.99
      10.05   288.65    .390E+07    6855.4          3.86        9.48
      10.63   289.23    .434E+07    8005.0          4.05        9.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     0.36    7.50   1.64      0.26      0.80
     OUTFLOW: ID= 1 (6152)  523.77     0.33    8.50   1.64      0.24      0.80


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--------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   0.386     7.25     6.33
       + ID2= 2 (6152):   523.77   0.333     8.50     1.64
         ====================================================
         ID = 3 (8122):   648.14   0.693     8.00     2.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   0.571 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.789
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.208 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.858
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0154) |   Area    (ha)= 200.32   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.263 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   2.885
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0154):   200.32   0.263     7.50     2.88
       + ID2= 2 (0156):    83.49   0.208     6.75     3.86
         ====================================================
         ID = 3 (8118):   283.81   0.463     7.00     3.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1581.0) ------>
               Distance      Elevation        Manning
                  0.00         290.00         0.0400
                 19.20         288.88         0.0400
                 48.00         288.26         0.0400
                119.99         283.68         0.0400
                167.99         282.07         0.0400
                196.79         281.32         0.0400
                210.79         280.90         0.0400
                219.79         280.38    0.0400 /0.0300  Main Channel
                220.04         279.65         0.0300      Main Channel
                220.79         279.65         0.0300      Main Channel
                221.54         279.65         0.0300      Main Channel
                221.79         280.39    0.0300 /0.0400  Main Channel
                225.79         280.59         0.0400
                235.19         280.88         0.0400
                254.39         281.50         0.0400
                273.58         282.56         0.0400
                302.38         283.42         0.0400
                359.98         284.03         0.0400
                436.77         289.37         0.0400
                475.17         290.37         0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   280.01    .973E+03       0.5          0.86       31.78
       0.73   280.38    .210E+04       1.5          1.18       23.16
       1.30   280.95    .149E+05       8.6          0.95       28.91
       1.86   281.51    .579E+05      40.0          1.13       24.12
       2.43   282.08    .133E+06     118.5          1.46       18.75
       2.99   282.64    .236E+06     254.6          1.77       15.46
       3.56   283.21    .369E+06     450.3          2.00       13.67
       4.13   283.78    .542E+06     702.7          2.13       12.86
       4.69   284.34    .767E+06    1125.2          2.41       11.36
       5.26   284.91    .101E+07    1697.1          2.75        9.93
       5.82   285.47    .127E+07    2379.1          3.07        8.91
       6.39   286.04    .155E+07    3171.4          3.36        8.14
       6.95   286.60    .184E+07    4075.5          3.64        7.53
       7.52   287.17    .215E+07    5093.1          3.89        7.03
       8.09   287.74    .247E+07    6226.5          4.13        6.62
       8.65   288.30    .281E+07    7461.2          4.36        6.28
       9.22   288.87    .318E+07    8635.1          4.46        6.13
       9.78   289.43    .357E+07   10143.6          4.67        5.86
      10.35   290.00    .398E+07   11608.8          4.79        5.71

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     0.46    7.00   3.17      0.33      0.86
     OUTFLOW: ID= 1 (6158)  283.81     0.43    7.75   3.17      0.31      0.86


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--------------------
| ADD HYD   (8120) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0158):   178.59   0.571     7.25     6.79
       + ID2= 2 (6158):   283.81   0.434     7.75     3.17
         ====================================================
         ID = 3 (8120):   462.40   0.999     7.75     4.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8124) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8120):   462.40   0.999     7.75     4.57
       + ID2= 2 (8122):   648.14   0.693     8.00     2.54
         ==================================================
         ID = 3 (8124):  1110.54   1.686     7.75     3.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1601.0) ------>
              Distance      Elevation       Manning
                  0.00         261.02        0.0400
                 29.89         254.30        0.0400
                 40.75         252.58        0.0400
                 62.49         251.30        0.0400
                114.11         250.94        0.0400
                130.41         248.58        0.0400
                141.28         247.50        0.0400
                154.86         246.87        0.0400
                155.20         246.70        0.0400
                160.20         246.30    0.0400 /0.0300  Main Channel
                160.30         245.30        0.0300      Main Channel
                165.20         245.30        0.0300      Main Channel
                165.30         246.30    0.0300 /0.0400  Main Channel
                168.45         246.96        0.0400
                195.62         249.20        0.0400
                203.77         250.82        0.0400
                225.50         256.78        0.0400
                244.52         261.14        0.0400
                255.39         261.95        0.0400
                268.97         261.92        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.50   245.80    .120E+05         2.9          1.18      68.31
        1.00   246.30    .242E+05         8.5          1.70      47.47
        1.92   247.22    .825E+05        31.7          1.86      43.34
        2.84   248.14    .248E+06       102.5          2.00      40.39
        3.76   249.06    .506E+06       247.7          2.37      34.03
        4.68   249.98    .832E+06       486.8          2.83      28.49
        5.60   250.90    .121E+07       814.9          3.27      24.71
        6.52   251.82    .180E+07      1157.1          3.11      25.97
        7.44   252.74    .253E+07      1840.2          3.52      22.92
        8.36   253.66    .331E+07      2727.1          3.98      20.25
        9.29   254.59    .414E+07      3782.6          4.43      18.22
       10.21   255.51    .499E+07      5010.7          4.86      16.61
       11.13   256.43    .589E+07      6397.4          5.26      15.33
       12.05   257.35    .681E+07      7932.8          5.64      14.31
       12.97   258.27    .777E+07      9621.2          5.99      13.46
       13.89   259.19    .877E+07     11469.4          6.33      12.74
       14.81   260.11    .980E+07     13478.4          6.66      12.12
       15.73   261.03    .109E+08     15651.7          6.97      11.58
       16.65   261.95    .120E+08     17492.5          7.07      11.42

                                 <---- hydrograph ---->  <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     1.69    7.75   3.38      0.29      1.18
     OUTFLOW: ID= 1 (6160) 1110.54     1.47    9.25   3.38      0.25      1.18


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--------------------
| ADD HYD   (8126) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6160):   318.82   0.745     8.25     6.83
       + ID2= 2 (6160):  1110.54   1.470     9.25     3.38
         ==================================================
         ID = 3 (8126):  1429.36   2.196     9.00     4.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8162):   190.14   0.776     7.00     7.50
       + ID2= 2 (8126):  1429.36   2.196     9.00     4.15
         ==================================================
         ID = 3 (8128):  1619.50   2.802     8.50     4.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8128):  1619.50   2.802     8.50     4.54
       + ID2= 2 (8132):   234.20   3.004     6.00    20.69
         ==================================================
         ID = 3 (8130):  1853.70   4.877     7.00     6.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1661.0) ------>
              Distance      Elevation       Manning
                  0.00         248.36        0.0500
                 41.67         246.98        0.0500
                 95.82         244.93        0.0500
                149.98         242.42        0.0500
                191.64         241.88        0.0500
                224.97         239.90        0.0500
                229.13         239.35        0.0500
                233.30         237.77        0.0500
                237.47         236.57        0.0500
                240.63         235.60    0.0500 /0.0300  Main Channel
                241.63         234.10        0.0300      Main Channel
                247.13         234.10        0.0300      Main Channel
                247.53         235.60    0.0300 /0.0500  Main Channel
                254.13         236.25        0.0500
                266.63         236.77        0.0500
                283.29         237.84        0.0500
                291.63         238.89        0.0500
                329.12         244.66        0.0500
                370.78         249.55        0.0500
                412.44         253.17        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.75   234.85    .130E+05         6.0          1.36      36.45
        1.50   235.60    .276E+05        18.1          1.95      25.41
        2.25   236.35    .544E+05        40.0          2.18      22.69
        3.00   237.10    .117E+06        80.1          2.04      24.32
        3.75   237.85    .213E+06       148.9          2.07      23.89
        4.50   238.60    .334E+06       255.1          2.27      21.85
        5.25   239.35    .473E+06       395.8          2.49      19.90
        6.00   240.10    .631E+06       563.8          2.65      18.66
        6.75   240.85    .824E+06       773.2          2.79      17.77
        7.50   241.60    .106E+07      1037.9          2.92      16.97
        8.26   242.36    .135E+07      1326.7          2.92      16.94
        9.01   243.11    .173E+07      1758.5          3.01      16.44
        9.76   243.86    .217E+07      2285.9          3.13      15.81
       10.51   244.61    .265E+07      2909.5          3.26      15.17
       11.26   245.36    .318E+07      3610.1          3.37      14.67
       12.01   246.11    .377E+07      4417.4          3.48      14.21
       12.76   246.86    .441E+07      5348.0          3.60      13.75
       13.51   247.61    .512E+07      6394.0          3.71      13.34
       14.26   248.36    .589E+07      7580.3          3.82      12.95

                                 <---- hydrograph ---->  <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8130) 1853.70     4.88    7.00   6.58      0.61      1.36
     OUTFLOW: ID= 1 (6166) 1853.70     4.30    7.75   6.58      0.54      1.36


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--------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6166):  1853.70   4.303     7.75     6.58
       + ID2= 2 (8134):   434.70   6.384     6.00    20.46
         ==================================================
         ID = 3 (8136):  2288.40   7.588     6.00     9.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.48        54.72
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
```

```
     Length           (m)=     779.74        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        15.13
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     13.65 (ii)   36.43 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.55         1.29          3.071 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     40.00        12.90          19.41
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.31           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0850     2.2999
                         0.3100     0.9668   |   5.0850     2.6924
                         1.2590     1.1373   |   5.9090     3.1012
                         2.2140     1.5358   |   6.3090     3.1112
                         3.0620     1.8918   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (2021)     91.200     3.071      6.00      19.41
     OUTFLOW: ID= 1 (5202)     91.200     0.687      7.50      19.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.36
                    TIME SHIFT OF PEAK FLOW       (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.0352

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     215.06       162.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1585.98        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        20.23
               over (min)        30.00        45.00
     Storage Coeff.  (min)=     24.37 (ii)   44.64 (ii)
     Unit Hyd. Tpeak (min)=     30.00        45.00
     Unit Hyd. peak  (cms)=      0.04         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.72         4.56          13.042 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.50           6.25
     RUNOFF VOLUME    (mm)=     40.00        14.12          22.92
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.34           0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (2022):   377.30  13.042     6.25    22.92
     + ID2= 2 (5202):    91.20   0.687     7.50    19.40
       ================================================
       ID = 3 (8110):   468.50  13.235     6.25    22.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
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                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80         4.37
               over (min)        30.00        75.00
     Storage Coeff.  (min)=     25.96 (ii)   63.38 (ii)
     Unit Hyd. Tpeak (min)=     30.00        75.00
     Unit Hyd. peak  (cms)=      0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.09         2.11          3.952 (iii)
     TIME TO PEAK    (hrs)=      6.25         7.00           6.25
     RUNOFF VOLUME    (mm)=     40.00         5.46           8.56
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.13           0.20

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   3.263
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.078

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0100):   693.84   0.615     9.50     3.26
     + ID2= 2 (0102):   466.00   3.952     6.25     8.56
       ================================================
       ID = 3 (8000):  1159.84   4.251     6.25     5.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1041.0) ------>
             Distance     Elevation        Manning
                0.00        330.16         0.0450
               50.03        328.36         0.0450
               89.34        326.33         0.0450
              117.94        324.30         0.0450
              160.82        322.75         0.0450
              178.34        319.96         0.0450
              183.34        319.81         0.0450
              184.34        319.38    0.0450 /0.0300  Main Channel
              185.09        318.78         0.0300      Main Channel
              185.84        318.72         0.0300      Main Channel
              186.84        319.32    0.0300 /0.0450  Main Channel
              193.84        319.70         0.0450
              198.84        320.38         0.0450
              200.13        320.81         0.0450
              218.00        322.49         0.0450
              239.44        323.49         0.0450
              250.17        323.96         0.0450
              275.18        325.20         0.0450
              310.92        326.47         0.0450
              353.81        330.00         0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30    319.02    .624E+03        0.1         0.45      73.00
      0.60    319.32    .181E+04        0.6         0.67      49.46
      1.23    319.95    .128E+05        4.9         0.77      43.38
      1.86    320.58    .396E+05       19.1         0.96      34.50
      2.48    321.20    .757E+05       43.5         1.15      28.98
      3.11    321.83    .125E+06       81.2         1.30      25.58
```

```
  3.74   322.46    .187E+06     135.9          1.45      22.92
  4.37   323.09    .269E+06     195.6          1.45      22.90
  5.00   323.72    .387E+06     287.8          1.48      22.44
  5.63   324.35    .545E+06     428.4          1.56      21.22
  6.25   324.97    .735E+06     630.5          1.71      19.42
  6.88   325.60    .952E+06     876.1          1.83      18.12
  7.51   326.23    .120E+07    1177.0          1.95      17.03
  8.14   326.86    .149E+07    1554.4          2.08      15.93
  8.77   327.49    .179E+07    2009.7          2.23      14.88
  9.40   328.12    .213E+07    2533.9          2.37      13.99
 10.02   328.74    .249E+07    3112.6          2.49      13.31
 10.65   329.37    .288E+07    3760.9          2.60      12.75
 11.28   330.00    .330E+07    4494.8          2.71      12.23

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8000) 1159.84     4.25    6.25   5.39      1.13      0.75
OUTFLOW: ID= 1 (6104) 1159.84     3.09    7.25   5.39      0.96      0.72


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0104) |   Area    (ha)= 527.81   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.735

     PEAK FLOW       (cms)=   0.693 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.639
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.087

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):   527.81   0.693     8.00      3.64
       + ID2= 2 (6104):  1159.84   3.088     7.25      5.39
         ==============================================
         ID = 3 (8002):  1687.65   3.736     7.25      4.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0106) |   Area    (ha)= 259.52   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   3.614

     PEAK FLOW       (cms)=   0.559 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.550
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):   259.52   0.559     8.00      5.55
       + ID2= 2 (8002):  1687.65   3.736     7.25      4.84
         ==============================================
         ID = 3 (8004):  1947.17   4.271     7.25      4.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1081.0) ------>
             Distance      Elevation       Manning
                0.00         326.06        0.0400
               12.06         325.74        0.0400
               30.15         324.28        0.0400
               59.27         320.35        0.0400
               72.37         317.60        0.0400
               87.45         314.52        0.0400
               93.48         313.91        0.0400
              105.54         313.55        0.0400
              106.17         313.40    0.0400 /0.0300  Main Channel
              110.62         313.04        0.0300      Main Channel
              110.82         312.97        0.0300      Main Channel
              111.57         313.08        0.0300      Main Channel
              111.67         313.48    0.0300 /0.0400  Main Channel
              129.66         316.62        0.0400
              150.77         318.95        0.0400
              180.92         319.61        0.0400
              205.04         321.23        0.0400
              232.18         322.09        0.0400
              268.37         322.31        0.0400
              298.52         326.00        0.0400

<---------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)         (m/s)       (min)
 0.43   313.40    .244E+04        0.7          0.59       58.83
 1.09   314.06    .214E+05       10.4          1.01       34.24
 1.76   314.73    .600E+05       40.2          1.39       24.89
 2.42   315.39    .109E+06       92.1          1.75       19.80
 3.08   316.05    .169E+06      166.5          2.05       16.88
 3.75   316.72    .237E+06      264.4          2.31       14.97
 4.41   317.38    .318E+06      386.3          2.52       13.72
 5.07   318.04    .411E+06      539.3          2.72       12.71
 5.74   318.71    .517E+06      725.5          2.91       11.88
 6.40   319.37    .642E+06      909.2          2.94       11.77
 7.06   320.03    .806E+06     1179.3          3.04       11.38
 7.72   320.69    .989E+06     1515.9          3.18       10.87
 8.39   321.36    .119E+07     1895.5          3.30       10.49
 9.05   322.02    .143E+07     2310.2          3.36       10.30
 9.71   322.68    .172E+07     2763.2          3.33       10.39
10.38   323.35    .205E+07     3477.6          3.53        9.81
11.04   324.01    .238E+07     4284.3          3.73        9.27
11.70   324.67    .274E+07     5154.0          3.91        8.85
12.37   325.34    .311E+07     6104.0          4.08        8.48

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8004) 1947.17     4.27    7.25   4.94      0.67      0.76
OUTFLOW: ID= 1 (6108) 1947.17     3.74    8.25   4.94      0.64      0.68


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--------------------
| CALIB            |
| NASHYD    (0108) |   Area    (ha)= 207.05   Curve Number   (CN)= 27.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.432

     PEAK FLOW       (cms)=   0.168 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   1.873
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.045

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0108):   207.05   0.168     7.75      1.87
       + ID2= 2 (6108):  1947.17   3.740     8.25      4.94
         ==============================================
         ID = 3 (8006):  2154.22   3.903     8.25      4.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0110) |   Area    (ha)= 323.92   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   4.087

     PEAK FLOW       (cms)=   0.583 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.010
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.119

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8008) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0110):   323.92   0.583     8.00     5.01
      + ID2= 2 (8006):  2154.22   3.903     8.25     4.64
        ====================================================
        ID = 3 (8008):  2478.14   4.486     8.25     4.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1121.0) ------>
             Distance      Elevation       Manning
                0.00         320.59        0.0400
               13.48         317.93        0.0400
               40.45         311.52        0.0400
               64.04         307.68        0.0400
               74.15         307.01        0.0400
               91.00         307.22        0.0400
              107.86         305.21        0.0400
              111.23         304.86        0.0400
              113.32         304.60    0.0400 /0.0300  Main Channel
              117.77         304.24        0.0300      Main Channel
              117.97         304.17        0.0300      Main Channel
              118.72         304.28        0.0300      Main Channel
              118.82         304.68    0.0300 /0.0400  Main Channel
              124.71         304.76        0.0400
              171.90         306.30        0.0400
              205.60         307.24        0.0400
              239.31         308.24        0.0400
              262.90         310.64        0.0400
              289.86         314.34        0.0400
              333.68         317.66        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   304.60    .372E+04         0.6          0.54       97.65
       1.12   305.29    .463E+05        12.5          0.85       61.89
       1.80   305.97    .149E+06        53.0          1.13       46.85
       2.49   306.66    .311E+06       134.2          1.37       38.62
       3.18   307.35    .554E+06       261.6          1.50       35.27
       3.87   308.04    .894E+06       490.7          1.74       30.37
       4.55   308.72    .129E+07       833.0          2.05       25.75
       5.24   309.41    .171E+07      1269.8          2.36       22.39
       5.93   310.10    .215E+07      1789.0          2.64       20.01
       6.62   310.79    .261E+07      2392.7          2.90       18.21
       7.30   311.47    .310E+07      3087.8          3.16       16.74
       7.99   312.16    .361E+07      3873.6          3.40       15.52
       8.68   312.85    .413E+07      4741.0          3.64       14.52
       9.37   313.54    .467E+07      5689.3          3.86       13.69
      10.05   314.22    .523E+07      6718.4          4.07       12.97
      10.74   314.91    .581E+07      7770.7          4.24       12.46
      11.43   315.60    .641E+07      8897.5          4.40       12.01
      12.12   316.29    .704E+07     10113.2          4.55       11.61
      12.80   316.97    .770E+07     11420.1          4.70       11.24

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8008) 2478.14     4.49    8.25   4.69      0.65      0.61
    OUTFLOW: ID= 1 (6112) 2478.14     3.74   10.00   4.69      0.61      0.60


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0112) |   Area     (ha)= 414.89   Curve Number   (CN)= 30.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   3.699

     PEAK FLOW       (cms)=   0.247 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   2.166
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.052

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0112):   414.89   0.247     9.50     2.17
      + ID2= 2 (6112):  2478.14   3.736    10.00     4.69
        ====================================================
        ID = 3 (8010):  2893.03   3.981    10.00     4.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1141.0) ------>
             Distance      Elevation       Manning
                0.00         312.27        0.0500
               14.07         309.70        0.0500
               28.14         306.51        0.0500
               35.17         305.81        0.0500
               42.20         304.95        0.0500
               52.75         304.24        0.0500
               77.37         303.61        0.0500
               98.47         301.33        0.0500
              131.76         300.40    0.0500 /0.0300  Main Channel
              136.21         300.04        0.0300      Main Channel
              136.41         299.97        0.0300      Main Channel
              137.16         300.08        0.0300      Main Channel
              137.26         300.48    0.0300 /0.0500  Main Channel
              140.68         300.53        0.0500
              179.36         302.20        0.0500
              214.53         303.82        0.0500
              242.66         305.27        0.0500
              288.38         307.66        0.0500
              316.52         311.76        0.0500
              348.17         313.48        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.43   300.40    .366E+04         0.7          0.59       88.31
       1.05   301.02    .505E+05        12.1          0.75       69.49
       1.68   301.65    .165E+06        52.7          0.99       52.28
       2.30   302.27    .324E+06       130.3          1.26       41.40
       2.93   302.90    .520E+06       247.1          1.48       35.08
       3.55   303.52    .754E+06       406.8          1.68       30.91
       4.18   304.15    .104E+07       586.1          1.76       29.55
       4.80   304.77    .138E+07       856.0          1.93       26.96
       5.43   305.40    .177E+07      1201.1          2.12       24.56
       6.05   306.02    .219E+07      1612.2          2.30       22.63
       6.68   306.65    .264E+07      2090.6          2.47       21.07
       7.30   307.27    .313E+07      2653.0          2.64       19.65
       7.93   307.90    .364E+07      3303.9          2.83       18.36
       8.55   308.52    .417E+07      4053.9          3.03       17.14
       9.18   309.15    .471E+07      4871.9          3.22       16.12
       9.80   309.77    .527E+07      5756.2          3.41       15.25
      10.43   310.40    .584E+07      6699.8          3.58       14.52
      11.05   311.02    .642E+07      7710.5          3.74       13.89
      11.68   311.65    .702E+07      8788.5          3.90       13.32

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8010) 2893.03     3.98   10.00   4.33      0.61      0.63
    OUTFLOW: ID= 1 (6114) 2893.03     3.60   11.50   4.33      0.59      0.62


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| CALIB             |
| NASHYD    (6114) |   Area     (ha)= 287.65   Curve Number   (CN)= 49.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.389

     PEAK FLOW       (cms)=   0.534 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   4.503
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0114):   287.65   0.534     8.00     4.50
      + ID2= 2 (6114):  2893.03   3.600    11.50     4.33
        ====================================================
        ID = 3 (8012):  3180.68   3.935    11.25     4.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0116) |   Area     (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
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```
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   0.833 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.503
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0116):   206.43   0.833     7.00     7.50
       + ID2= 2 (8012):  3180.68   3.935    11.25     4.35
         ================================================
         ID = 3 (8014):  3387.11   4.302    11.00     4.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1181.0) ------>
              Distance      Elevation       Manning
                 0.00         307.18        0.0450
                24.89         299.75        0.0450
                37.34         296.39        0.0450
                71.57         292.75        0.0450
                96.46         291.12        0.0450
               108.90         289.43        0.0450
               112.02         288.86        0.0450
               115.13         288.46        0.0450
               117.24         288.32    0.0450 /0.0350  Main Channel
               117.49         288.15        0.0350      Main Channel
               118.24         288.00        0.0350      Main Channel
               118.99         288.20        0.0350      Main Channel
               119.24         288.36    0.0350 /0.0450  Main Channel
               121.35         288.40        0.0450
               149.35         289.36        0.0450
               171.14         290.47        0.0450
               208.47         293.14        0.0450
               236.48         295.17        0.0450
               280.04         299.48        0.0450
               308.04         307.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.32  288.32    .116E+04        0.2         0.62      81.92
        1.30  289.30    .631E+05       22.2         1.07      47.43
        2.29  290.29    .218E+06      117.5         1.64      30.95
        3.27  291.27    .448E+06      314.6         2.15      23.72
        4.25  292.25    .756E+06      625.6         2.53      20.13
        5.24  293.24    .115E+07     1093.2         2.91      17.50
        6.22  294.22    .161E+07     1731.6         3.28      15.50
        7.20  295.20    .214E+07     2547.4         3.63      14.01
        8.19  296.19    .274E+07     3584.9         4.00      12.72
        9.17  297.17    .338E+07     4859.1         4.39      11.60
       10.15  298.15    .407E+07     6341.5         4.76      10.70
       11.13  299.13    .480E+07     8024.6         5.11       9.97
       12.12  300.12    .556E+07    10006.6         5.49       9.27
       13.10  301.10    .635E+07    12244.6         5.89       8.64
       14.08  302.08    .716E+07    14681.7         6.26       8.13
       15.07  303.07    .799E+07    17316.5         6.62       7.69
       16.05  304.05    .884E+07    20148.1         6.96       7.31
       17.03  305.03    .971E+07    23176.2         7.29       6.98
       18.02  306.02    .106E+08    26400.8         7.61       6.69

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11     4.30   11.00   4.54      0.50      0.67
     OUTFLOW: ID= 1 (6118) 3387.11     4.07   12.25   4.54      0.49      0.67

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-------------------
| CALIB           |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=   0.548 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.906
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   0.548     8.00     3.91
       + ID2= 2 (6118):  3387.11   4.066    12.25     4.54
         ================================================
         ID = 3 (8016):  3727.64   4.365    12.00     4.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1221.0) ------>
              Distance      Elevation       Manning
                 0.00         277.00        0.0500
                52.18         272.82        0.0500
                86.97         269.38        0.0500
               134.80         267.35        0.0500
               160.89         263.85        0.0500
               169.58         262.88        0.0500
               178.28         262.45        0.0500
               195.67         262.07        0.0500
               213.07         260.99        0.0500
               226.01         259.80    0.0500 /0.0300  Main Channel
               226.11         259.30        0.0300      Main Channel
               230.11         259.30        0.0300      Main Channel
               230.21         259.80    0.0300 /0.0500  Main Channel
               235.01         260.20        0.0500
               239.15         260.57        0.0500
               243.50         260.93        0.0500
               300.03         264.43        0.0500
               339.16         268.34        0.0500
               373.95         272.36        0.0500
               430.48         277.46        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50  259.80    .626E+04        2.5         1.23      41.35
        1.41  260.71    .462E+05       21.8         1.44      35.27
        2.31  261.61    .149E+06       79.6         1.63      31.19
        3.22  262.52    .340E+06      200.1         1.80      28.34
        4.12  263.42    .636E+06      446.8         2.15      23.71
        5.03  264.33    .995E+06      819.9         2.52      20.23
        5.93  265.23    .141E+07     1337.0         2.90      17.56
        6.84  266.14    .187E+07     1984.8         3.25      15.67
        7.74  267.04    .237E+07     2766.0         3.57      14.26
        8.65  267.95    .292E+07     3596.9         3.76      13.53
        9.55  268.85    .355E+07     4575.4         3.93      12.95
       10.46  269.76    .427E+07     5814.9         4.16      12.23
       11.36  270.66    .503E+07     7319.0         4.44      11.46
       12.27  271.57    .584E+07     9009.7         4.71      10.81
       13.17  272.47    .670E+07    10886.3         4.96      10.26
       14.08  273.38    .761E+07    12893.2         5.17       9.84
       14.98  274.28    .858E+07    15098.1         5.37       9.48
       15.89  275.19    .961E+07    17527.6         5.57       9.14
       16.79  276.09    .107E+08    20190.3         5.76       8.83

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64     4.37   12.00   4.48      0.59      1.25
     OUTFLOW: ID= 1 (6122) 3727.64     4.29   12.75   4.48      0.58      1.25

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-------------------
| CALIB           |
| STANDHYD  (1221) |   Area    (ha)=  17.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.37         11.33
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    343.51         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     55.44          3.00
           over (min)          15.00         60.00
     Storage Coeff.  (min)=     8.35 (ii)    51.86 (ii)
     Unit Hyd. Tpeak (min)=    15.00         60.00
     Unit Hyd. peak  (cms)=     0.09          0.02

                                                    *TOTALS*
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     PEAK FLOW       (cms)=       0.46         0.05          0.474 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00         3.52          10.45
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.08           0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  35.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1840      0.4294
                          0.0600     0.1855   |   1.4870      0.5014
                          0.3430     0.2103   |   1.7310      0.5718
                          0.6390     0.2878   |   2.1310      0.5818
                          0.8860     0.3509   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)     17.700      0.474      6.00       10.45
     OUTFLOW: ID= 1 (5122)     17.700      0.038      8.25       10.41

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.00
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1174

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--------------------
| CALIB            |
| NASHYD    (1222) |   Area    (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   0.383 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   3.383
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.081

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   347.20   0.383     8.50      3.38
       + ID2= 2 (5122):    17.70   0.038     8.25     10.41
         ================================================
         ID = 3 (8018):   364.90   0.421     8.50      3.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64   4.294    12.75      4.48
       + ID2= 2 (8018):   364.90   0.421     8.50      3.72
         ================================================
         ID = 3 (8020):  4092.54   4.584    12.50      4.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.00         32.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     577.35         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          4.03
                 over (min)      15.00         60.00

     Storage Coeff.  (min)=      11.40 (ii)   50.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.62         0.21          1.679 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00         5.15          14.21
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.12           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3450      1.2129
                          0.1690     0.5421   |   4.2000      1.4164
                          0.9690     0.5941   |   4.8890      1.6153
                          1.8040     0.8130   |   5.2890      1.6253
                          2.5020     0.9912   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.000      1.679      6.00       14.21
     OUTFLOW: ID= 1 (5126)     50.000      0.142      8.50       14.19

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.48
                TIME SHIFT OF PEAK FLOW          (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4572

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--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   0.354 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.049
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.144

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.50   0.354     6.75      6.05
       + ID2= 2 (5126):    50.00   0.142     8.50     14.19
         ================================================
         ID = 3 (8024):   133.50   0.477     6.75      9.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   0.324 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   3.563
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   0.324     6.50      3.56
       + ID2= 2 (8024):   133.50   0.477     6.75      9.10
         ================================================
```

```
         ID = 3 (8026):   254.93   0.797     6.75     6.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1281.0) ------>
              Distance      Elevation       Manning
                  0.00         270.58        0.0400
                  7.71         270.36        0.0400
                 15.43         269.48        0.0400
                 23.14         265.88        0.0400
                 42.43         261.83        0.0400
                 61.71         258.31        0.0400
                 75.21         256.62        0.0400
                 90.64         255.35        0.0400
                 92.49         255.00    0.0400 /0.0300  Main Channel
                 93.49         254.00        0.0300      Main Channel
                 94.49         253.90        0.0300      Main Channel
                 94.99         253.80        0.0300      Main Channel
                 95.49         253.70        0.0300      Main Channel
                 95.99         253.80        0.0300      Main Channel
                 98.49         255.00    0.0300 /0.0400  Main Channel
                100.28         255.44        0.0400
                134.99         257.45        0.0400
                148.49         259.67        0.0400
                167.77         263.42        0.0400
                190.92         270.00        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.65    254.35    .439E+04         2.0         1.24      36.10
        1.30    255.00    .131E+05         9.4         1.92      23.39
        2.18    255.88    .433E+05        37.0         2.30      19.54
        3.06    256.76    .131E+06       113.3         2.34      19.20
        3.95    257.65    .273E+06       273.8         2.70      16.64
        4.83    258.53    .453E+06       538.5         3.21      14.01
        5.71    259.41    .658E+06       902.9         3.70      12.14
        6.59    260.29    .886E+06      1368.4         4.16      10.79
        7.48    261.18    .114E+07      1936.3         4.59       9.79
        8.36    262.06    .141E+07      2610.9         4.99       9.01
        9.24    262.94    .171E+07      3398.7         5.37       8.36
       10.12    263.82    .202E+07      4309.6         5.75       7.81
       11.01    264.71    .235E+07      5347.5         6.13       7.33
       11.89    265.59    .270E+07      6501.0         6.48       6.93
       12.77    266.47    .307E+07      7808.6         6.86       6.55
       13.65    267.35    .345E+07      9250.5         7.23       6.21
       14.54    268.24    .384E+07     10808.3         7.59       5.92
       15.42    269.12    .424E+07     12482.5         7.94       5.66
       16.30    270.00    .466E+07     14127.4         8.18       5.49

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.93     0.80    6.75   6.46      0.26      1.24
     OUTFLOW: ID= 1 (6128)  254.93     0.70    7.50   6.46      0.23      1.24


------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (8128) |   Area    (ha)= 240.24   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   0.765 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.032
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.167

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   240.24   0.765     7.50     7.03
       + ID2= 2 (6128):   254.93   0.703     7.50     6.46
         ================================================
         ID = 3 (8028):   495.17   1.468     7.50     6.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.54   4.584    12.50     4.41
       + ID2= 2 (8028):   495.17   1.468     7.50     6.74
         ================================================
         ID = 3 (8022):  4587.71   5.203    12.00     4.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          5.48
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      13.42 (ii)    47.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.41          0.50      1.560 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75       6.00
     RUNOFF VOLUME    (mm)=      40.00          6.03      10.78
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.14       0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7530     2.0863
                         0.2910     0.9015   |   7.2230     2.4361
                         1.6660     1.0219   |   8.4090     2.7784
                         3.1030     1.3984   |   8.8090     2.7884
                         4.3040     1.7049   |   0.0000     0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)     86.000      1.560      6.00      10.78
     OUTFLOW: ID= 1 (5120)     86.000      0.187      9.00      10.78

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.00
               TIME SHIFT OF PEAK FLOW         (min)=180.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.5800

------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1202) |   Area    (ha)= 161.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=   0.582 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   6.089
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):   161.00   0.582     7.00     6.09
       + ID2= 2 (5120):    86.00   0.187     9.00    10.78
         ================================================
         ID = 3 (8030):   247.00   0.733     7.00     7.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.71   5.203    12.00     4.66
       + ID2= 2 (8030):   247.00   0.733     7.00     7.72
         ==========================================
         ID = 3 (8032):  4834.71   5.546    12.00     4.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                  0.00         257.18        0.0350
                 62.45         254.70        0.0350
                109.29         252.74        0.0350
                150.92         251.55        0.0350
                192.56         248.96        0.0350
                239.39         247.16        0.0350
                291.84         246.00        0.0350
                296.84         245.00        0.0350
                298.84         245.00    0.0350 /0.0300  Main Channel
                299.24         244.60        0.0300      Main Channel
                301.84         244.60        0.0300      Main Channel
                303.44         244.60        0.0300      Main Channel
                303.84         245.00    0.0300 /0.0350  Main Channel
                306.84         245.00        0.0350
                309.84         246.00        0.0350
                317.46         247.22        0.0350
                348.68         254.83        0.0350
                359.09         256.70        0.0350
                452.76         258.23        0.0350
                515.22         258.33        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.40   245.00   .870E+04        1.2         0.64     124.12
        1.04   245.64   .468E+05        9.5         0.96      81.81
        1.68   246.28   .109E+06       25.6         1.11      70.86
        2.32   246.92   .257E+06       63.5         1.17      67.51
        2.96   247.56   .498E+06      142.7         1.36      58.18
        3.61   248.21   .800E+06      266.7         1.58      50.01
        4.25   248.85   .116E+07      437.4         1.78      44.24
        4.89   249.49   .157E+07      669.1         2.01      39.20
        5.53   250.13   .203E+07      954.9         2.23      35.36
        6.17   250.77   .252E+07     1294.4         2.43      32.42
        6.81   251.41   .305E+07     1689.6         2.62      30.07
        7.45   252.05   .363E+07     2090.7         2.73      28.93
        8.09   252.69   .429E+07     2553.1         2.82      27.98
        8.73   253.33   .501E+07     3138.4         2.96      26.60
        9.37   253.97   .579E+07     3803.8         3.11      25.36
       10.02   254.62   .662E+07     4549.3         3.25      24.25
       10.66   255.26   .751E+07     5364.9         3.38      23.32
       11.30   255.90   .845E+07     6265.7         3.51      22.49
       11.94   256.54   .946E+07     7260.1         3.63      21.72

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.71     5.55  12.00   4.82      0.74      0.77
     OUTFLOW: ID= 1 (6130) 4834.71     5.21  13.00   4.82      0.71      0.76


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-------------------
| CALIB             |
| STANDHYD  (1301) |   Area    (ha)= 228.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.39         79.91
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1233.69         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         21.89
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.98 (ii)    37.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      11.09          2.67         12.193 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         15.34          26.93
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00

     RUNOFF COEFFICIENT   =       0.95          0.37           0.64

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4560      7.0142
                         0.8210     3.9074   |  14.9550      7.8554
                         4.8550     4.4209   |  22.4790      8.9550
                         7.0620     5.2214   |  22.8790      8.9650
                         9.5970     6.0904   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    228.300     12.193      6.00       26.93
     OUTFLOW: ID= 1 (5130)    228.300      1.989      7.50       26.92

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.31
                   TIME SHIFT OF PEAK FLOW         (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.0574

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-------------------
| CALIB             |
| NASHYD    (1302) |   Area     (ha)= 157.80   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.82

     Unit Hyd Qpeak  (cms)=   1.479

     PEAK FLOW       (cms)=   0.533 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  11.631
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.277

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):   157.80   0.533     8.75     11.63
       + ID2= 2 (5130):   228.30   1.989     7.50     26.92
         ==========================================
         ID = 3 (8036):   386.10   2.476     7.50     20.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8034) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.71   5.211    13.00     4.82
       + ID2= 2 (8036):   386.10   2.476     7.50    20.67
         ==========================================
         ID = 3 (8034):  5220.81   6.344    12.75     5.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (8188) |   Area    (ha)= 308.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.50        182.03
     Dep. Storage     (mm)=       3.00          5.00
     Average Slope     (%)=       0.10          0.10
     Length            (m)=    1434.18         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.80          6.09
               over (min)        30.00        105.00
     Storage Coeff.  (min)=      37.18 (ii)    90.28 (ii)
     Unit Hyd. Tpeak (min)=      30.00        105.00
     Unit Hyd. peak  (cms)=       0.03          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.76          1.34           5.148 (iii)
     TIME TO PEAK    (hrs)=       6.25          7.50           6.25
     RUNOFF VOLUME    (mm)=      39.00          8.19          15.89
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     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.93         0.20           0.38


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80         5.57
               over (min)        30.00       105.00
     Storage Coeff.  (min)=      38.67 (ii)   93.70 (ii)
     Unit Hyd. Tpeak (min)=      30.00       105.00
     Unit Hyd. peak  (cms)=       0.03         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.68         1.35          5.066 (iii)
     TIME TO PEAK    (hrs)=       6.25         7.50           6.25
     RUNOFF VOLUME    (mm)=      39.00         7.12          14.14
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.93         0.17           0.34


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0186):   351.79   5.066     6.25    14.14
       + ID2= 2 (0188):   308.53   5.148     6.25    15.89
         ================================================
         ID = 3 (8068):   660.32  10.213     6.25    14.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         8.68
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.52 (ii)   42.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.16         0.84          2.488 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         7.09          12.68
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.17           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7800      2.5656
                         0.3790     1.0207   |   7.3720      3.0029
                         1.6240     1.1939   |   8.7710      3.5956
                         3.0930     1.6631   |   9.1710      3.6056
                         4.3530     2.1032   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     2.488      6.00      12.68
     OUTFLOW: ID= 1 (5182)    111.800     0.323      8.50      12.68

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.96
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8691

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW     (cms)=   0.142 (i)
     TIME TO PEAK  (hrs)=   7.000
     RUNOFF VOLUME   (mm)=   5.901
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.140

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.142     7.00     5.90
       + ID2= 2 (5182):   111.80   0.323     8.50    12.68
         ================================================
         ID = 3 (8062):   156.20   0.450     8.00    10.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     981.16        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        12.63
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.67 (ii)   40.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.02         1.41          3.582 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         9.01          14.90
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.21           0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.8820      2.3298
                         0.2960     1.0006   |   7.4070      2.7386
                         1.6530     1.1680   |   8.6830      3.1418
                         3.0860     1.4687   |   9.0830      3.1518
                         4.3760     1.8752   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    144.400     3.582      6.00      14.90
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     OUTFLOW: ID= 1 (5184)    144.400      1.183      7.25      14.90

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.02
                   TIME SHIFT OF PEAK FLOW          (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.1160

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-------------------
| CALIB           |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.60        68.50
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     887.32        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.66
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     14.76 (ii)   40.95 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      2.27         1.08          2.693 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     40.00         8.33         13.71
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.20          0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   118.10   2.693     6.00    13.71
       + ID2= 2 (5184):   144.40   1.183     7.25    14.90
         ================================================
         ID = 3 (8060):   262.50   2.829     6.00    14.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.50   2.829     6.00    14.36
       + ID2= 2 (8062):   156.20   0.450     8.00    10.75
         ================================================
         ID = 3 (8064):   418.70   3.032     6.00    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.00         7.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     305.51        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        20.38
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      7.78 (ii)   27.99 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.58         0.28          0.753 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     40.00        15.43         22.80
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.37          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.9360      0.3780
                         0.0470     0.1841   |  1.1760      0.4277
                         0.2710     0.2148   |  1.3690      0.4763
                         0.5050     0.2704   |  1.7690      0.4863
                         0.7010     0.3197   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)    14.000     0.753      6.00      22.80
     OUTFLOW: ID= 1 (5178)    14.000     0.131      7.25      22.73

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.43
                   TIME SHIFT OF PEAK FLOW          (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1963

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-------------------
| CALIB           |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=   1.354 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.497
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1782):   261.40   1.354     7.75    12.50
       + ID2= 2 (5178):    14.00   0.131     7.25    22.73
         ================================================
         ID = 3 (8046):   275.40   1.468     7.50    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (8180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   0.714 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.815
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8180):   226.65   0.714     8.00     7.81
       + ID2= 2 (8046):   275.40   1.468     7.50    13.02
         ================================================
         ID = 3 (8050):   502.05   2.174     7.50    10.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70        36.60
     Dep. Storage     (mm)=       2.00         5.00
```

```
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     612.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.87
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.82 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.25         0.61          1.489 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         9.56          15.04
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.23           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1370     1.3070
                         0.0580     0.5427   |   1.4280     1.5354
                         0.3290     0.6196   |   1.6620     1.7593
                         0.6130     0.8627   |   2.0620     1.7693
                         0.8510     1.0621   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300     1.489     6.00      15.04
     OUTFLOW: ID= 1 (5174)     56.300     0.213     8.25      15.00

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.28
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5868

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   0.484 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.554
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   0.484    6.75     9.55
       + ID2= 2 (5174):    56.30   0.213    8.25    15.00
         ================================================
         ID = 3 (8044):   139.10   0.614    8.00    11.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   1.274 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.449
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   0.686 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   4.965
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   0.698 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.767
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   0.686    7.00     4.96
       + ID2= 2 (0170):   166.91   0.698    7.00     7.77
         ================================================
         ID = 3 (8040):   414.04   1.384    7.00     6.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   1.274    7.25    12.45
       + ID2= 2 (8040):   414.04   1.384    7.00     6.09
         ================================================
         ID = 3 (8042):   616.27   2.656    7.00     8.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                  <------ DATA FOR SECTION (1741.0) ------>
                  Distance      Elevation        Manning
                     0.00         296.00         0.0450
                    13.36         288.94         0.0450
                    26.71         288.64         0.0450
                    51.19         287.96         0.0450
                    73.45         287.32         0.0450
                    86.81         286.48         0.0450
                   102.39         285.08         0.0450
                   110.73         282.76         0.0450
                   115.73         281.06    0.0450 /0.0350  Main Channel
                   115.74         280.35         0.0350      Main Channel
                   120.73         280.35         0.0350      Main Channel
                   120.74         281.10    0.0350 /0.0450  Main Channel
                   125.74         282.64         0.0450
                   135.78         286.87         0.0450
                   149.13         289.58         0.0450
                   162.49         292.29         0.0450
                   175.84         293.95         0.0450
                   195.88         295.13         0.0450
                   213.68         296.02         0.0450
                   220.36         296.09         0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.71    281.06    .136E+05        6.0         1.69       37.89
       1.50    281.85    .358E+05       22.5         2.42       26.43
       2.28    282.63    .726E+05       53.8         2.85       22.47
       3.07    283.42    .124E+06      104.1         3.24       19.79
       3.86    284.21    .189E+06      176.7         3.60       17.81
```

4.64	284.99	.268E+06	274.9	3.94	16.26
5.43	285.78	.369E+06	390.8	4.07	15.73
6.21	286.56	.501E+06	551.6	4.23	15.15
7.00	287.35	.674E+06	750.5	4.28	14.97
7.79	288.14	.920E+06	993.3	4.15	15.44
8.57	288.92	.126E+07	1361.5	4.14	15.47
9.36	289.71	.167E+07	1986.0	4.56	14.04
10.15	290.50	.210E+07	2739.7	5.02	12.76
10.93	291.28	.254E+07	3615.0	5.47	11.70
11.72	292.07	.300E+07	4608.8	5.91	10.83
12.50	292.85	.347E+07	5693.3	6.30	10.16
13.29	293.64	.397E+07	6892.9	6.67	9.60
14.08	294.43	.450E+07	8150.4	6.97	9.19
14.86	295.21	.506E+07	9525.0	7.23	8.86

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8042)	616.27	2.66	7.00	8.18	0.31	1.69
OUTFLOW:	ID= 1 (6174)	616.27	2.45	8.00	8.18	0.29	1.69

ADD HYD (8048)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6174):	616.27	2.452	8.00	8.18
+	ID2= 2 (8044):	139.10	0.614	8.00	11.76
	ID = 3 (8048):	755.37	3.066	8.00	8.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8052)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8048):	755.37	3.066	8.00	8.84
+	ID2= 2 (8050):	502.05	2.174	7.50	10.67
	ID = 3 (8052):	1257.42	5.226	8.00	9.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8058)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8052):	1257.42	5.226	8.00	9.57
+	ID2= 2 (8064):	418.70	3.032	6.00	13.02
	ID = 3 (8058):	1676.12	7.333	7.25	10.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1762)	Area (ha)= 162.00		
ID= 1 DT=15.0 min	Total Imp(%)= 26.00	Dir. Conn.(%)=	11.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	42.12	119.88	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	1039.23	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	8.28	
over (min)		15.00	60.00	
Storage Coeff. (min)=		16.22 (ii)	45.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	60.00	
Unit Hyd. peak (cms)=		0.07	0.02	
				TOTALS
PEAK FLOW	(cms)=	1.93	1.31	2.311 (iii)
TIME TO PEAK	(hrs)=	6.00	6.75	6.00
RUNOFF VOLUME	(mm)=	40.00	7.76	11.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1761)	Area (ha)= 48.80		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)=	21.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	24.40	24.40	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	570.38	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	14.34	
over (min)		15.00	45.00	
Storage Coeff. (min)=		11.32 (ii)	34.58 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.28	0.56	1.508 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	10.02	16.31
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5176)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.2640	1.3175
	0.1650	0.6418	4.0090	1.4908
	0.9450	0.7489	4.7720	1.6604
	1.7610	0.9426	5.1720	1.6704
	2.4420	1.1144	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (1761)	48.800	1.508	6.00	16.31
OUTFLOW:	ID= 1 (5176)	48.800	0.139	8.75	16.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.20
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.5398

ADD HYD (8056)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1762):	162.00	2.311	6.00	11.30
+	ID2= 2 (5176):	48.80	0.139	8.75	16.29
	ID = 3 (8056):	210.80	2.360	6.00	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8066)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8056):	210.80	2.360	6.00	12.46
+	ID2= 2 (8058):	1676.12	7.333	7.25	10.43
	ID = 3 (8066):	1886.92	8.748	7.00	10.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8070)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8066):	1886.92	8.748	7.00	10.66
+	ID2= 2 (8068):	660.32	10.213	6.25	14.96
	ID = 3 (8070):	2547.24	17.105	6.25	11.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1901.0) ------>
             Distance      Elevation        Manning
                0.00         261.34         0.0600
               19.76         261.64         0.0600
               59.28         261.29         0.0600
               79.04         261.09         0.0600
              103.74         255.99         0.0600
              153.13         253.42         0.0600
              192.65         252.78         0.0600
              212.29         249.80         0.0600
              217.29         249.50    0.0600 /0.0350  Main Channel
              217.30         249.05         0.0350      Main Channel
              222.29         249.05         0.0350      Main Channel
              222.30         249.50    0.0350 /0.0600  Main Channel
              227.30         249.80         0.0600
              232.17         252.31         0.0600
              276.63         253.53         0.0600
              326.03         256.97         0.0600
              355.67         257.30         0.0600
              400.12         260.08         0.0600
              469.28         261.25         0.0600
              489.04         262.53         0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.45   249.50    .436E+04       1.0          0.43       75.97
       1.07   250.12    .205E+05       5.4          0.51       62.96
       1.70   250.75    .451E+05      14.8          0.64       50.78
       2.32   251.37    .762E+05      29.2          0.74       43.46
       2.94   251.99    .114E+06      49.1          0.84       38.61
       3.57   252.62    .161E+06      70.2          0.85       38.18
       4.19   253.24    .248E+06      93.4          0.73       44.29
       4.81   253.86    .398E+06     154.9          0.76       42.79
       5.44   254.49    .576E+06     246.1          0.83       38.99
       6.06   255.11    .779E+06     362.7          0.90       35.79
       6.68   255.73    .101E+07     506.5          0.98       33.15
       7.30   256.35    .126E+07     687.6          1.06       30.52
       7.93   256.98    .153E+07     902.8          1.15       28.18
       8.55   257.60    .183E+07    1114.3          1.18       27.39
       9.17   258.22    .216E+07    1407.8          1.26       25.55
       9.80   258.85    .250E+07    1735.4          1.35       24.03
      10.42   259.47    .286E+07    2097.5          1.42       22.73
      11.04   260.09    .324E+07    2492.3          1.49       21.63
      11.67   260.72    .364E+07    2837.8          1.51       21.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.24    17.10    6.25  11.77      1.80      0.65
     OUTFLOW: ID= 1 (6190) 2547.24    12.88    7.50  11.77      1.57      0.61


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| CALIB           |
| STANDHYD  (0190) |   Area    (ha)= 287.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     146.87       141.12
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1385.62        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        14.57
               over (min)        30.00        75.00
     Storage Coeff.  (min)=      36.42 (ii)   73.89 (ii)
     Unit Hyd. Tpeak (min)=      30.00        75.00
     Unit Hyd. peak  (cms)=       0.03         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.86         2.54          5.953 (iii)
     TIME TO PEAK    (hrs)=       6.25         7.00          6.25
     RUNOFF VOLUME    (mm)=      39.00        13.79         20.60
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.93         0.33          0.49


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8072) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0190):   287.99   5.953     6.25    20.60
         + ID2= 2 (6190):  2547.24  12.881     7.50    11.77
           ==========================================
           ID = 3 (8072):  2835.23  17.173     7.00    12.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1921.0) ------>
             Distance      Elevation        Manning
                0.00         264.40         0.0500
                3.64         263.94         0.0500
               14.54         261.05         0.0500
               29.08         256.78         0.0500
               36.36         254.96         0.0500
               50.90         252.20         0.0500
               65.44         249.78         0.0500
               76.35         246.86         0.0500
               77.24         245.90         0.0500
               82.24         245.45    0.0500 /0.0350  Main Channel
               82.25         244.90         0.0350      Main Channel
               87.25         244.90         0.0350      Main Channel
               87.26         245.45    0.0350 /0.0500  Main Channel
               94.53         246.89         0.0500
              170.87         247.16         0.0500
              218.13         248.69         0.0500
              265.40         249.22         0.0500
              301.75         250.78         0.0500
              338.11         253.47         0.0500
              359.92         264.00         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   245.45    .345E+04       2.0          0.71       29.20
       1.53   246.43    .174E+05      14.6          1.05       19.92
       2.50   247.40    .767E+05      52.8          0.86       24.20
       3.48   248.38    .224E+06     199.8          1.11       18.71
       4.46   249.36    .429E+06     441.2          1.29       16.19
       5.43   250.33    .691E+06     874.3          1.58       13.18
       6.41   251.31    .987E+06    1468.3          1.86       11.20
       7.38   252.28    .131E+07    2224.8          2.13        9.79
       8.36   253.26    .165E+07    3132.4          2.37        8.78
       9.34   254.24    .201E+07    4256.4          2.65        7.87
      10.31   255.21    .238E+07    5551.0          2.92        7.15
      11.29   256.19    .276E+07    6996.8          3.17        6.57
      12.27   257.17    .314E+07    8585.9          3.42        6.10
      13.24   258.14    .353E+07   10315.9          3.65        5.71
      14.22   259.12    .393E+07   12180.7          3.87        5.38
      15.19   260.09    .434E+07   14178.2          4.09        5.10
      16.17   261.07    .475E+07   16306.5          4.29        4.85
      17.15   262.05    .517E+07   18558.6          4.49        4.64
      18.12   263.02    .559E+07   20939.7          4.68        4.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8072) 2835.23    17.17    7.00  12.67      1.59      1.03
     OUTFLOW: ID= 1 (6192) 2835.23    16.46    7.50  12.67      1.57      1.04


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| CALIB           |
| STANDHYD  (1921) |   Area    (ha)=  30.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  24.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.74        15.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     452.40        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.39
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       9.85 (ii)   36.31 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.96         0.26          1.066 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         7.98         15.66
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.19          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.0560      0.7051
                         0.1040     0.3429   |   2.5820      0.7960
                         0.5960     0.4035   |   3.2900      0.8880
                         1.1090     0.5056   |   3.6900      0.8980
                         1.5380     0.5974   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     30.700     1.066     6.00      15.66
     OUTFLOW: ID= 1 (5192)     30.700     0.095     8.50      15.63

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.95
                    TIME SHIFT OF PEAK FLOW         (min)=150.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3149

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-------------------
| CALIB             |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       58.29         157.61
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=     1199.72          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       55.44           5.16
                 over (min)       15.00          60.00
     Storage Coeff.  (min)=       17.68 (ii)     52.70 (ii)
     Unit Hyd. Tpeak (min)=       15.00          60.00
     Unit Hyd. peak  (cms)=        0.06           0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.15           1.27          3.512 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.75           6.00
     RUNOFF VOLUME    (mm)=       40.00           6.44          11.14
     TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
     RUNOFF COEFFICIENT   =        0.95           0.15           0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1922):   215.90   3.512     6.00    11.14
       + ID2= 2 (5192):    30.70   0.095     8.50    15.63
         ==========================================================
         ID = 3 (8074):   246.60   3.552     6.00    11.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8076) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.23  16.455     7.50    12.67
       + ID2= 2 (8074):   246.60   3.552     6.00    11.70
         ==========================================================
         ID = 3 (8076):  3081.83  17.794     7.25    12.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   0.489 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=   8.615
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0194) |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   1.406 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.895
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0194):   256.09   1.406     6.75     8.89
       + ID2= 2 (0196):    41.47   0.489     6.00     8.62
         ==========================================================
         ID = 3 (8078):   297.56   1.797     6.50     8.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (1981.0) ------>
                   Distance      Elevation       Manning
                      0.00         267.15        0.0500
                     22.99         265.94        0.0500
                     51.73         261.39        0.0500
                     74.72         258.75        0.0500
                     94.83         257.79        0.0500
                    114.95         254.36        0.0500
                    126.44         254.06        0.0500
                    132.19         253.68        0.0500
                    135.06         253.35        0.0500
                    137.94         252.93    0.0500 /0.0300  Main Channel
                    140.81         252.41        0.0300      Main Channel
                    143.69         251.89        0.0300      Main Channel
                    146.56         252.51        0.0300      Main Channel
                    149.43         253.36    0.0300 /0.0500  Main Channel
                    158.05         255.89        0.0500
                    172.42         256.25        0.0500
                    204.03         259.15        0.0500
                    229.90         260.36        0.0500
                    252.89         260.46        0.0500
                    284.50         260.45        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.35    252.24    .111E+04         0.6          0.97      31.07
       0.69    252.58    .442E+04         3.8          1.55      19.42
       1.04    252.93    .974E+04        11.1          2.06      14.65
       1.51    253.40    .203E+05        31.2          2.77      10.87
       1.98    253.87    .357E+05        65.0          3.30       9.14
       2.45    254.34    .596E+05       112.9          3.43       8.80
       2.92    254.81    .935E+05       186.8          3.62       8.34
       3.39    255.28    .131E+06       282.1          3.89       7.75
       3.86    255.75    .172E+06       398.2          4.18       7.22
       4.33    256.22    .221E+06       527.0          4.31       6.99
       4.80    256.69    .282E+06       697.3          4.47       6.75
       5.27    257.16    .350E+06       898.5          4.64       6.50
       5.74    257.63    .425E+06      1131.4          4.82       6.26
       6.21    258.10    .508E+06      1367.4          4.88       6.19
       6.68    258.57    .603E+06      1635.6          4.91       6.14
       7.15    259.04    .709E+06      1977.2          5.04       5.98
       7.62    259.51    .826E+06      2360.5          5.17       5.83
       8.09    259.98    .954E+06      2790.7          5.29       5.70
       8.56    260.45    .110E+07      3179.6          5.25       5.74

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     1.61    7.25   8.86      0.46      1.10
     OUTFLOW: ID= 1 (6198)  297.56     1.61    7.25   8.86      0.46      1.10

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| CALIB             |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.07        58.63
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    835.46        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44        11.36
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     14.23 (ii)   39.77 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.40         1.00          2.796 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     40.00         8.86         15.09
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.21          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   7.9640     2.3173
                          0.2850     1.2270   |   9.5520     2.6039
                          1.7410     1.4052   |  10.9290     2.8853
                          3.5350     1.7675   |  11.3290     2.8953
                          5.6580     2.0183   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1981)    104.700     2.796     6.00      15.09
     OUTFLOW: ID= 1 (5198)    104.700     0.253     9.25      15.08

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.05
                    TIME SHIFT OF PEAK FLOW         (min)=195.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.0898

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--------------------
| CALIB             |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   1.190 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.768
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   285.90   1.190     7.00      7.77
       + ID2= 2 (5198):   104.70   0.253     9.25     15.08
         ================================================
         ID = 3 (8080):   390.60   1.405     7.25      9.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   1.614     7.25      8.86
       + ID2= 2 (8080):   390.60   1.405     7.25      9.73
         ================================================
         ID = 3 (8082):   688.16   3.019     7.25      9.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.83  17.794     7.25     12.59
       + ID2= 2 (8082):   688.16   3.019     7.25      9.35
         ================================================
         ID = 3 (8084):  3769.99  20.814     7.25     12.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2001.0) ------>
              Distance      Elevation        Manning
                  0.00         252.47         0.0500
                 10.38         252.29         0.0500
                 20.76         252.28         0.0500
                 41.52         247.66         0.0500
                 62.28         247.47         0.0500
                 80.45         247.34         0.0500
                 90.83         246.85         0.0500
                103.81         245.51         0.0500
                106.00         244.50         0.0500
                108.99         244.05    0.0500 /0.0300  Main Channel
                109.00         243.50         0.0300      Main Channel
                114.00         243.50         0.0300      Main Channel
                114.01         244.05    0.0300 /0.0500  Main Channel
                118.99         244.50         0.0500
                132.36         245.09         0.0500
                150.52         245.83         0.0500
                199.83         249.24         0.0500
                207.62         250.16         0.0500
                236.16         253.11         0.0500
                256.92         253.83         0.0500

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
         0.28   243.77    .365E+04         0.7          0.54      81.42
         0.55   244.05    .730E+04         2.2          0.81      54.59
         1.05   244.55    .197E+05         7.2          0.97      45.51
         1.54   245.04    .463E+05        17.2          0.99      44.76
         2.04   245.54    .895E+05        34.8          1.03      42.81
         2.53   246.03    .152E+06        62.8          1.09      40.43
         3.03   246.53    .232E+06       104.7          1.20      36.91
         3.52   247.02    .328E+06       159.7          1.29      34.19
         4.02   247.52    .450E+06       223.4          1.32      33.56
         4.51   248.01    .627E+06       326.9          1.38      31.99
         5.01   248.51    .820E+06       463.0          1.50      29.52
         5.50   249.00    .103E+07       626.0          1.62      27.30
         6.00   249.50    .124E+07       820.1          1.75      25.24
         6.49   249.99    .147E+07      1044.4          1.89      23.42
         6.99   250.49    .170E+07      1292.6          2.01      21.95
         7.48   250.98    .195E+07      1565.6          2.13      20.71
         7.98   251.48    .220E+07      1864.5          2.25      19.65
         8.47   251.97    .246E+07      2189.4          2.36      18.73
         8.97   252.47    .274E+07      2427.5          2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    20.81    7.25  12.00      1.64      1.00
     OUTFLOW: ID= 1 (6200) 3769.99    18.55    8.25  12.00      1.58      0.99

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--------------------
| CALIB             |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.00         3.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    200.00        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44        17.79
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.04 (ii)   27.38 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.20         0.10          0.265 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     40.00        12.52         18.84
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     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.30           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4010     0.1620
                          0.0200     0.0789   |   0.5040     0.1833
                          0.1160     0.0921   |   0.5870     0.2041
                          0.2170     0.1159   |   0.9870     0.2141
                          0.3000     0.1370   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.265      6.00      18.84
     OUTFLOW: ID= 1 (5200)     6.000     0.020      8.50      18.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.43
                  TIME SHIFT OF PEAK FLOW          (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0777

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-------------------
| CALIB             |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05         85.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     853.62         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.10
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.42 (ii)    41.19 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.25          1.26          1.738 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00          9.71         12.74
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.23          0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2002):   109.30   1.738     6.00    12.74
       + ID2= 2 (5200):     6.00   0.020     8.50    18.67
         ================================================
         ID = 3 (8086):   115.30   1.746     6.00    13.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6200):  3769.99  18.550     8.25    12.00
       + ID2= 2 (8086):   115.30   1.746     6.00    13.05
         ================================================
         ID = 3 (8088):  3885.29  19.003     8.25    12.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8034):  5220.81   6.344    12.75     5.99
       + ID2= 2 (8088):  3885.29  19.003     8.25    12.03
         ================================================
         ID = 3 (8038):  9106.10  23.596     8.25     8.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                   0.00         252.00        0.0400
                   2.35         244.60        0.0400
                  39.94         243.14        0.0400
                  58.74         242.65        0.0400
                  91.63         242.03        0.0400
                 101.03         241.69        0.0400
                 103.38         241.66        0.0400
                 105.73         240.76        0.0400
                 105.93         240.59        0.0400
                 109.18         240.28    0.0400 /0.0300  Main Channel
                 110.43         239.81        0.0300      Main Channel
                 111.68         239.81        0.0300      Main Channel
                 113.43         240.09    0.0300 /0.0400  Main Channel
                 118.43         240.50        0.0400
                 138.62         241.68        0.0400
                 152.72         241.60        0.0400
                 166.82         242.68        0.0400
                 185.62         249.09        0.0400
                 197.36         251.00        0.0400
                 232.61         252.28        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.28    240.09    .118E+04        0.1          0.20      142.09
       0.91    240.72    .114E+05        2.4          0.35       79.92
       1.53    241.34    .352E+05        9.4          0.45       62.17
       2.16    241.97    .831E+05       22.8          0.46       60.69
       2.79    242.60    .172E+06       54.2          0.53       52.74
       3.41    243.22    .297E+06      111.4          0.63       44.49
       4.04    243.85    .445E+06      194.1          0.74       38.22
       4.67    244.48    .612E+06      301.1          0.83       33.88
       5.29    245.10    .793E+06      443.0          0.94       29.82
       5.92    245.73    .976E+06      611.3          1.06       26.60
       6.55    246.36    .116E+07      802.0          1.17       24.12
       7.18    246.99    .135E+07     1014.0          1.27       22.16
       7.80    247.61    .154E+07     1246.2          1.37       20.56
       8.43    248.24    .173E+07     1498.0          1.46       19.24
       9.06    248.87    .192E+07     1768.8          1.55       18.12
       9.68    249.49    .212E+07     2049.6          1.63       17.24
      10.31    250.12    .232E+07     2344.7          1.71       16.49
      10.94    250.75    .252E+07     2658.5          1.78       15.83
      11.56    251.37    .274E+07     2931.2          1.81       15.56

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8038) 9106.10    23.60    9.25   8.57      2.18      0.47
     OUTFLOW: ID= 1 (1365) 9106.10    20.22    9.25   8.57      2.04      0.46

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-------------------
| CALIB             |
| NASHYD    (1322) |   Area    (ha)= 249.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130

     PEAK FLOW       (cms)=   1.365 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  10.314
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.94         18.77
     Dep. Storage     (mm)=       2.00          5.00
```

```
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     527.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        17.45
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.80 (ii)   32.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.85         0.54          2.074 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        13.04         22.48
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.31          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9630      1.4050
                          0.1780     1.0280   |   1.4870      1.5525
                          0.4300     1.0400   |   1.9900      1.7000
                          0.8150     1.0500   |   2.3900      1.7100
                          0.8990     1.2275   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700     2.074      6.00      22.48
     OUTFLOW: ID= 1 (5132)     41.700     0.120     10.00      22.44

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.80
                    TIME SHIFT OF PEAK FLOW         (min)=240.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6954

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):   249.10   1.365     7.00    10.31
       + ID2= 2 (5132):    41.70   0.120    10.00    22.44
         ================================================
         ID = 3 (8090):   290.80   1.468     7.00    12.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0134) |   Area     (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW       (cms)=   0.747 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.460
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.178

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0134):   155.95   0.747     6.75     7.46
       + ID2= 2 (8090):   290.80   1.468     7.00    12.05
         ================================================
         ID = 3 (8092):   446.75   2.208     7.00    10.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1361.0) ------>
              Distance      Elevation       Manning
                0.00        262.81        0.0400
               37.23        260.54        0.0400
               79.12        256.98        0.0400
              111.70        254.74        0.0400
              172.20        252.76        0.0400
              251.32        248.82        0.0400
              255.97        248.75        0.0400
              260.43        248.76        0.0400
              265.43        248.49        0.0400
              268.68        248.18    0.0400 /0.0300  Main Channel
              269.93        247.71        0.0300      Main Channel
              271.18        247.71        0.0300      Main Channel
              272.93        247.99        0.0300      Main Channel
              277.93        248.40    0.0300 /0.0400  Main Channel
              283.90        248.88        0.0400
              307.17        249.60        0.0400
              321.13        251.59        0.0400
              363.01        257.08        0.0400
              400.25        257.58        0.0400
              460.75        261.91        0.0400

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.47   248.18    .881E+04        1.3         0.76     114.66
      1.19   248.90    .742E+05       17.3         1.22      71.44
      1.92   249.63    .278E+06       78.3         1.48      59.26
      2.64   250.35    .589E+06      210.3         1.87      46.69
      3.36   251.07    .974E+06      414.3         2.23      39.19
      4.08   251.79    .143E+07      696.2         2.55      34.32
      4.81   252.52    .197E+07     1063.0         2.83      30.86
      5.53   253.24    .259E+07     1505.7         3.06      28.62
      6.25   253.96    .331E+07     2051.3         3.26      26.85
      6.97   254.68    .413E+07     2720.9         3.46      25.30
      7.70   255.41    .504E+07     3584.5         3.73      23.43
      8.42   256.13    .601E+07     4580.9         4.00      21.87
      9.14   256.85    .704E+07     5707.9         4.25      20.57
      9.86   257.57    .818E+07     6636.1         4.26      20.53
     10.59   258.30    .945E+07     8115.0         4.50      19.42
     11.31   259.02    .108E+08     9759.2         4.74      18.45
     12.03   259.74    .122E+08    11569.5         4.96      17.61
     12.75   260.46    .137E+08    13550.6         5.18      16.87
     13.48   261.19    .153E+08    15636.4         5.37      16.29

                              <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.75     2.21    7.00  10.45      0.51      0.78
     OUTFLOW: ID= 1 (1366)  446.75     1.55    9.00  10.45      0.48      0.77

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--------------------
| CALIB            |
| STANDHYD  (1362) |   Area     (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
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                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       86.12        323.98
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1653.48         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.80          8.94
               over (min)         30.00         60.00
     Storage Coeff.  (min)=       24.99 (ii)    53.09 (ii)
     Unit Hyd. Tpeak (min)=       30.00         60.00
     Unit Hyd. peak  (cms)=        0.04          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.38          3.48          5.200 (iii)
     TIME TO PEAK    (hrs)=        6.25          6.75          6.25
     RUNOFF VOLUME    (mm)=       40.00          8.88         12.30
     TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
     RUNOFF COEFFICIENT   =        0.95          0.21          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1361) |   Area     (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       56.27         46.03
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
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     Length           (m)=     825.83        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        18.37
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     14.13 (ii)   35.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.18         1.34          3.725 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     40.00        12.29         19.77
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.29          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.4000      3.2690
                         0.1600     1.6363   |   2.6450      3.8640
                         0.9600     1.7470   |   2.8900      4.4590
                         1.8400     1.9320   |   3.2900      4.4690
                         2.1200     2.6005   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300     3.725      6.00      19.77
     OUTFLOW: ID= 1 (5136)    102.300     0.222     10.50      19.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.95
                    TIME SHIFT OF PEAK FLOW          (min)=270.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.6452

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-------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   410.10   5.209     6.25    12.30
       + ID2= 2 (5136):   102.30   0.222    10.50    19.75
         ================================================
         ID = 3 (8096):   512.40   5.285     6.25    13.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.75   1.548     9.00    10.45
       + ID2= 2 (8096):   512.40   5.285     6.25    13.79
         ================================================
         ID = 3 (8094):   959.15   5.906     6.75    12.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.10  20.222     9.25     8.57
       + ID2= 2 (8094):   959.15   5.906     6.75    12.23
         ================================================
         ID = 3 (8098): 10065.25  23.147     9.00     8.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   1.069 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.304
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.174

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   0.233 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   1.617
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.039

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06       120.52
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1028.20        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         2.11
               over (min)        15.00        75.00
     Storage Coeff.  (min)=     16.12 (ii)   66.21 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.07         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.62         0.39          3.703 (iii)
     TIME TO PEAK    (hrs)=      6.00         7.00          6.00
     RUNOFF VOLUME    (mm)=     40.00         3.56         11.21
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.08          0.27

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  41.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   414.79   0.233     8.25     1.62
       + ID2= 2 (0140):   158.58   3.703     6.00    11.21
         ================================================
         ID = 3 (8102):   573.37   3.801     6.00     4.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                   0.00         295.50        0.0400
                   7.25         295.36        0.0400
                  14.50         295.22        0.0400
                  21.75         295.22        0.0400
                  29.00         294.23        0.0400
                  52.56         286.45        0.0400
                  67.06         281.44        0.0400
                  77.94         278.28        0.0400
                  82.81         277.20   0.0400 /0.0300  Main Channel
                  83.21         276.80        0.0300      Main Channel
                  88.81         276.80        0.0300      Main Channel
                  96.41         276.80        0.0300      Main Channel
                  96.81         277.20    0.0300 /0.0400  Main Channel
                 103.31         278.96        0.0400
                 108.75         280.16        0.0400
                 117.81         282.73        0.0400
                 135.94         290.30        0.0400
                 159.50         292.14        0.0400
                 174.00         293.07        0.0400
                 179.44         293.37        0.0400
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	277.20	.238E+05	6.9	1.27	57.28
1.25	278.05	.889E+05	50.9	2.50	29.13
2.10	278.90	.179E+06	133.4	3.26	22.36
2.95	279.75	.293E+06	256.7	3.83	19.03
3.80	280.60	.432E+06	426.0	4.31	16.90
4.66	281.46	.593E+06	644.3	4.75	15.35
5.51	282.31	.776E+06	915.3	5.16	14.12
6.36	283.16	.978E+06	1242.2	5.55	13.12
7.21	284.01	.120E+07	1626.2	5.94	12.27
8.06	284.86	.143E+07	2065.6	6.30	11.57
8.91	285.71	.169E+07	2562.4	6.64	10.97
9.76	286.56	.196E+07	3118.0	6.97	10.46
10.61	287.41	.224E+07	3733.3	7.28	10.02
11.46	288.26	.255E+07	4411.9	7.57	9.62
12.31	289.11	.287E+07	5155.6	7.86	9.27
13.17	289.97	.321E+07	5966.6	8.14	8.96
14.02	290.82	.357E+07	6705.0	8.22	8.87
14.87	291.67	.398E+07	7494.3	8.24	8.85
15.72	292.52	.444E+07	8405.3	8.28	8.80

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8102)	573.37	3.80	6.00	4.27	0.22	1.27
OUTFLOW:	ID= 1 (6142)	573.37	1.50	6.50	4.27	0.09	1.27

ADD HYD (8104)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0142):	396.54	1.069	8.00	7.30
+	ID2= 2 (6142):	573.37	1.501	6.50	4.27
	ID = 3 (8104):	969.91	2.369	6.75	5.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0144)	Area (ha)= 135.69	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.71		

Unit Hyd Qpeak (cms)= 3.240

PEAK FLOW (cms)= 0.865 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 10.662
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8106)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0144):	135.69	0.865	7.00	10.66
+	ID2= 2 (8104):	969.91	2.369	6.75	5.51
	ID = 3 (8106):	1105.60	3.231	6.75	6.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6146)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1461.0) ------>

Distance	Elevation	Manning	
0.00	262.00	0.0350	
39.58	257.13	0.0350	
123.69	257.51	0.0350	
183.07	256.83	0.0350	
202.86	255.73	0.0350	
212.75	254.73	0.0350	
222.65	252.86	0.0350	
232.44	250.70	0.0350 /0.0300	Main Channel
236.44	250.20	0.0300	Main Channel
236.84	249.80	0.0300	Main Channel
242.44	249.80	0.0300	Main Channel
250.04	249.80	0.0300	Main Channel
250.44	250.20	0.0300	Main Channel
252.33	250.57	0.0300 /0.0350	Main Channel
286.97	253.52	0.0350	
331.50	255.80	0.0350	
380.98	255.55	0.0350	
445.30	258.40	0.0350	
455.19	259.82	0.0350	
489.83	262.22	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	250.19	.169E+05	5.4	1.04	52.00
0.77	250.57	.373E+05	16.6	1.44	37.46
1.44	251.24	.911E+05	60.3	2.14	25.19
2.11	251.91	.169E+06	136.3	2.61	20.64
2.79	252.59	.270E+06	249.7	2.99	18.05
3.46	253.26	.396E+06	405.4	3.31	16.28
4.13	253.93	.549E+06	603.3	3.56	15.15
4.80	254.60	.737E+06	857.8	3.77	14.31
5.48	255.28	.963E+06	1174.6	3.95	13.67
6.15	255.95	.128E+07	1449.5	3.66	14.74
6.82	256.62	.173E+07	2046.4	3.83	14.07
7.49	257.29	.227E+07	2665.2	3.81	14.17
8.17	257.97	.310E+07	3705.2	3.87	13.93
8.84	258.64	.400E+07	5127.4	4.15	12.99
9.51	259.31	.492E+07	6858.6	4.51	11.95
10.18	259.98	.587E+07	8815.5	4.86	11.09
10.86	260.66	.684E+07	10954.6	5.18	10.41
11.53	261.33	.785E+07	13324.3	5.49	9.82
12.20	262.00	.890E+07	15923.2	5.79	9.31

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8106)	1105.60	3.23	6.75	6.14	0.23	1.04
OUTFLOW:	ID= 1 (6146)	1105.60	2.76	8.25	6.14	0.20	1.04

CALIB	
STANDHYD (1462)	Area (ha)= 125.00
ID= 1 DT=15.0 min	Total Imp(%)= 29.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	36.25	88.75
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	912.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	14.51
over (min)		15.00	45.00
Storage Coeff. (min)=		15.01 (ii)	38.17 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	1.68	1.96	2.466 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	12.67	15.95
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.30	0.38

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (1461)	Area (ha)= 70.50
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 15.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.38	45.12
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	685.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	16.56
over (min)		15.00	45.00
Storage Coeff. (min)=		12.64 (ii)	34.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	1.27	1.20	1.756 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	13.42	17.40
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.32	0.41

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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |   8.0640     2.2344
                          0.2390    0.7085   |   9.9830     2.6409
                          2.2880    0.8391   |  11.7350     3.0631
                          4.3270    1.4661   |  12.1350     3.0731
                          6.1170    1.8197   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     70.500     1.756      6.00      17.40
     OUTFLOW: ID= 1 (5146)     70.500     0.485      7.75      17.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.64
                  TIME SHIFT OF PEAK FLOW       (min)=105.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7254

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-------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00   2.466     6.00    15.95
       + ID2= 2 (5146):    70.50   0.485     7.75    17.39
         ==========================================
         ID = 3 (8099):   195.50   2.616     6.50    16.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60   2.763     8.25     6.14
       + ID2= 2 (8099):   195.50   2.616     6.50    16.47
         ==========================================
         ID = 3 (8108):  1301.10   4.120     6.50     7.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  23.147     9.00     8.92
       + ID2= 2 (8108):  1301.10   4.120     6.50     7.69
         ==========================================
         ID = 3 (8100): 11366.35  26.528     8.75     8.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2021.0) ------>
              Distance      Elevation       Manning
                 0.00         245.48        0.0400
                29.68         242.80        0.0400
                74.20         240.39        0.0400
               155.81         237.12        0.0400
               200.33         234.48        0.0400
               244.85         234.67        0.0400
               259.69         233.96        0.0400
               274.53         233.84        0.0400
               281.68         233.40        0.0400
               285.78         232.40    0.0400 /0.0300  Main Channel
               286.78         231.40        0.0300      Main Channel
               296.78         231.40        0.0300      Main Channel
               299.78         232.40    0.0300 /0.0400  Main Channel
               311.62         233.74        0.0400
               333.88         234.34        0.0400
               497.11         235.32        0.0400
               571.31         237.32        0.0400
               675.18         239.10        0.0400
               704.86         242.71        0.0400
               734.54         242.62        0.0400

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.50   231.90    .221E+05       4.7          0.85      78.67
           1.00   232.40    .482E+05      15.3          1.28      52.40
           1.60   233.00    .913E+05      38.3          1.68      39.77
           2.20   233.60    .154E+06      72.9          1.90      35.24
           2.80   234.20    .278E+06     124.2          1.79      37.30
           3.40   234.80    .599E+06     214.3          1.44      46.59
           4.01   235.41    .125E+07     445.0          1.43      46.90
           4.61   236.01    .205E+07     838.4          1.64      40.81
           5.21   236.61    .293E+07    1361.6          1.86      35.89
           5.81   237.21    .389E+07    2011.2          2.08      32.23
           6.41   237.81    .494E+07    2753.5          2.24      29.91
           7.01   238.41    .612E+07    3635.0          2.39      28.04
           7.61   239.01    .741E+07    4672.5          2.53      26.43
           8.21   239.61    .880E+07    5999.3          2.74      24.44
           8.82   240.22    .102E+08    7510.0          2.94      22.72
           9.42   240.82    .117E+08    9201.9          3.15      21.23
          10.02   241.42    .132E+08   11059.7          3.35      19.95
          10.62   242.02    .148E+08   13073.4          3.54      18.87
          11.22   242.62    .164E+08   15242.1          3.73      17.93

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    26.53    8.75   8.78      1.29      1.45
     OUTFLOW: ID= 1 (6202) *******    25.63    9.50   8.78      1.27      1.43

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-------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35  25.630     9.50     8.78
       + ID2= 2 (8110):   468.50  13.235     6.25    22.23
         ==========================================
         ID = 3 (8112): 11834.85  27.245     9.25     9.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  *******     19.2100
                          2.8500    0.5200   |  *******     24.7300
                          8.1800    1.2600   |  *******     30.8600
                         15.0900    2.2100   |  *******     37.6100
                         23.2700    3.3900   |  *******     41.2200
                         32.5300    4.7800   |  *******     48.9000
                         36.5100    5.3900   |  *******     66.4700
                         42.7600    6.3700   |  *******    100.1200
                         53.8500    8.1300   |  *******    140.4100
                         91.7300   14.3200   |  *******    140.4200

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********    27.245      9.25       9.31
     OUTFLOW: ID= 1 (5555)  ********    27.040     10.00       9.31

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.25
                  TIME SHIFT OF PEAK FLOW       (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.9590

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-------------------
| ADD HYD   (8114) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.85  27.040    10.00     9.31
       + ID2= 2 (8136):  2288.40   7.588     6.00     9.22
         ==========================================
         ID = 3 (8114): 14123.25  32.133     9.50     9.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       23.25          1.75
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
```

```
     Length           (m)=     408.25        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44       262.37
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.26 (ii)   16.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.99         0.71          2.490 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        30.23         36.09
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.72          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   1.8990      1.7295
                        0.0850     0.5280   |   2.1560      1.9661
                        0.8990     0.8577   |   2.3740      2.2023
                        1.3460     1.1601   |   2.7740      2.2123
                        1.6060     1.4451   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000      2.490      6.00      36.09
     OUTFLOW: ID= 1 (5206)     25.000      0.303      7.00      36.03

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.16
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6163

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     155.31        95.19
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1292.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        25.16
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.49 (ii)   37.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.96         3.67         11.500 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        16.50         25.67
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.39          0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2062):   250.50  11.500     6.00    25.67
      + ID2= 2 (5206):    25.00   0.303     7.00    36.03
        ================================================
        ID = 3 (8144):   275.50  11.553     6.00    26.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      72.54       128.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1159.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.32 (ii)   44.62 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.24         1.74          4.916 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         8.60         14.88
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.20          0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  12.4660      4.9468
                        0.5050     1.9141   |  15.4770      5.3726
                        2.8390     2.2056   |  18.2610      6.4806
                        5.2410     3.6606   |  18.6610      6.4906
                        7.9920     4.3236   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500      4.916      6.00      14.88
     OUTFLOW: ID= 1 (5204)    201.500      0.755      8.25      14.87

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.35
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.9467

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-------------------
| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.74        49.16
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     905.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        17.14
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.93 (ii)   36.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.56         1.31          5.092 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        11.20         20.70
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.27          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2042):   122.90   5.092     6.00    20.70
      + ID2= 2 (5204):   201.50   0.755     8.25    14.87
        ================================================
        ID = 3 (8140):   324.40   5.263     6.00    17.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (2061.0) ------>

Distance	Elevation	Manning		
0.00	253.07	0.0350		
13.98	252.89	0.0350		
27.95	251.99	0.0350		
34.94	252.18	0.0350		
41.93	252.02	0.0350		
73.38	250.35	0.0350		
94.34	247.09	0.0350		
111.81	244.79	0.0350		
115.31	244.24	0.0350		
117.55	244.20	0.0350 /0.0300	Main Channel	
118.80	243.60	0.0300	Main Channel	
122.30	243.60	0.0300	Main Channel	
122.55	244.60	0.0300 /0.0350	Main Channel	
146.76	244.74	0.0350		
164.23	247.26	0.0350		
213.15	248.92	0.0350		
241.10	249.51	0.0350		
272.55	250.87	0.0350		
300.50	252.26	0.0350		
345.93	253.67	0.0350		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	243.90	.310E+04	1.4	1.23	36.25
0.60	244.20	.676E+04	4.6	1.81	24.64
1.12	244.72	.221E+05	17.1	2.07	21.60
1.64	245.24	.754E+05	64.1	2.28	19.60
2.17	245.77	.139E+06	149.8	2.88	15.50
2.69	246.29	.214E+06	273.3	3.43	13.04
3.21	246.81	.299E+06	436.1	3.91	11.43
3.73	247.33	.395E+06	632.6	4.30	10.40
4.25	247.85	.511E+06	836.4	4.39	10.18
4.77	248.37	.653E+06	1114.9	4.58	9.76
5.30	248.90	.822E+06	1472.1	4.81	9.30
5.82	249.42	.102E+07	1872.2	4.91	9.10
6.34	249.94	.126E+07	2444.6	5.22	8.56
6.86	250.46	.151E+07	3113.1	5.52	8.09
7.38	250.98	.180E+07	3843.5	5.74	7.79
7.90	251.50	.211E+07	4717.8	6.00	7.45
8.43	252.03	.245E+07	5701.4	6.24	7.16
8.95	252.55	.284E+07	6727.5	6.36	7.03
9.47	253.07	.326E+07	7885.3	6.48	6.90

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8140)	324.40	5.26	6.00	17.08	0.63	1.83
OUTFLOW:	ID= 1 (6206)	324.40	3.07	6.50	17.08	0.46	1.48

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--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8142) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6206):	324.40	3.066	6.50	17.08
+ ID2= 2 (8144):	275.50	11.553	6.00	26.61
ID = 3 (8142):	599.90	13.439	6.00	21.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8114):	14123.25	32.133	9.50	9.30
+ ID2= 2 (8142):	599.90	13.439	6.00	21.46
ID = 3 (8138):	14723.15	34.292	9.25	9.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (2081.0) ------>

Distance	Elevation	Manning
0.00	249.19	0.1000
73.11	244.13	0.1000
121.86	243.39	0.1000
243.71	240.01	0.1000
353.38	238.75	0.1000
450.87	235.40	0.1000
499.61	231.40	0.1000
511.80	230.96	0.1000
523.98	230.12	0.1000
534.50	227.80	0.1000 /0.0500 Main Channel
536.50	226.70	0.0500 Main Channel
546.50	226.70	0.0500 Main Channel
548.50	227.80	0.0500 /0.1000 Main Channel
572.72	230.25	0.1000
682.40	230.50	0.1000
804.25	233.95	0.1000
926.11	235.83	0.1000
1047.96	240.70	0.1000
1145.45	243.26	0.1000
1206.38	247.03	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	227.25	.111E+05	2.0	0.33	92.44
1.10	227.80	.242E+05	6.5	0.50	61.56
2.23	228.93	.700E+05	26.0	0.68	44.91
3.36	230.06	.150E+06	60.8	0.74	41.04
4.49	231.19	.446E+06	130.8	0.54	56.83
5.62	232.32	.925E+06	287.4	0.57	53.66
6.76	233.46	.152E+07	522.9	0.63	48.32
7.89	234.59	.223E+07	827.2	0.68	44.91
9.02	235.72	.312E+07	1219.5	0.72	42.61
10.15	236.85	.418E+07	1780.6	0.78	39.11
11.28	237.98	.537E+07	2479.2	0.85	36.07
12.41	239.11	.669E+07	3282.9	0.90	33.95
13.54	240.24	.824E+07	4228.6	0.94	32.47
14.67	241.37	.997E+07	5384.6	0.99	30.87
15.81	242.51	.119E+08	6698.4	1.03	29.56
16.94	243.64	.140E+08	8235.2	1.08	28.25
18.07	244.77	.162E+08	10104.2	1.14	26.73
19.20	245.90	.185E+08	12251.5	1.21	25.21
20.33	247.03	.209E+08	14597.0	1.28	23.89

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8138) *******	34.29	9.25	9.79	2.50	0.69	
OUTFLOW:	ID= 1 (6208) *******	33.35	10.00	9.79	2.47	0.69	

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	273.02	153.58	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	1686.42	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.80	24.86	
over (min)		30.00	45.00	
Storage Coeff. (min)=		25.28 (ii)	43.95 (ii)	
Unit Hyd. Tpeak (min)=		30.00	45.00	
Unit Hyd. peak (cms)=		0.04	0.03	
				TOTALS
PEAK FLOW	(cms)=	11.76	5.34	15.690 (iii)
TIME TO PEAK	(hrs)=	6.25	6.50	6.25
RUNOFF VOLUME	(mm)=	40.00	15.12	24.32
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.36	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 70.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.00	172.71
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1330.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	12.81
over (min)		15.00	45.00
Storage Coeff. (min)=		18.82 (ii)	43.15 (ii)

```
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.37         3.15          6.618 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50            6.00
     RUNOFF VOLUME    (mm)=      40.00        11.39           17.11
     TOTAL RAINFALL   (mm)=      42.00        42.00           42.00
     RUNOFF COEFFICIENT   =       0.95         0.27            0.41

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      6.3371
                          0.8360     2.7353   |  21.1630      7.3975
                          4.7810     3.1070   |  25.1140      8.4406
                          8.9050     4.2484   |  25.5140      8.4506
                         12.6070     5.1796   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK      R.V.
                                  (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (2081)    265.700     6.618      6.00      17.11
     OUTFLOW: ID= 1 (5208)    265.700     1.452      8.00      17.11

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.94
                    TIME SHIFT OF PEAK FLOW         (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.7954

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--------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2082):   426.60  15.690     6.25    24.32
      + ID2= 2 (5208):   265.70   1.452     8.00    17.11
        ================================================
        ID = 3 (8148):   692.30  16.107     6.25    21.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6208): 14723.15  33.345    10.00     9.79
      + ID2= 2 (8148):   692.30  16.107     6.25    21.55
        ================================================
        ID = 3 (8146): 15415.45  35.611     9.75    10.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)= 15.00
--------------------
             <------ DATA FOR SECTION (2101.0) ------>
             Distance      Elevation       Manning
                0.00         241.81        0.0800
               28.43         241.78        0.0800
               85.30         237.04        0.0800
              149.27         231.32        0.0800
              170.60         230.10        0.0800
              255.89         229.37        0.0800
              277.22         228.68        0.0800
              284.33         228.42        0.0800
              291.43         228.16        0.0800
              297.76         227.00    0.0800 /0.0350  Main Channel
              298.76         225.00        0.0350      Main Channel
              312.76         225.00        0.0350      Main Channel
              313.76         227.00    0.0350 /0.0800  Main Channel
              326.97         229.50        0.0800
              348.30         230.29        0.0800
              376.73         229.76        0.0800
              490.46         235.75        0.0800
              568.65         236.24        0.0800
              661.06         241.85        0.0800
              703.71         246.04        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)      (cu.m.)       (cms)         (m/s)      (min)
       0.67    225.67    .141E+05         6.6          0.69      35.86
       1.33    226.33    .289E+05        20.4          1.04      23.65
       2.00    227.00    .443E+05        39.3          1.31      18.81
       2.93    227.93    .730E+05        77.8          1.57      15.64
       3.85    228.85    .123E+06       131.1          1.57      15.65
       4.78    229.78    .228E+06       205.6          1.33      18.51
       5.70    230.70    .503E+06       356.7          1.05      23.49
       6.63    231.63    .846E+06       608.7          1.06      23.17
       7.55    232.55    .123E+07       946.4          1.14      21.65
       8.48    233.48    .165E+07      1367.0          1.22      20.13
       9.41    234.41    .211E+07      1871.8          1.31      18.80
      10.33    235.33    .261E+07      2463.2          1.40      17.65
      11.26    236.26    .317E+07      2999.4          1.40      17.63
      12.18    237.18    .384E+07      3848.3          1.48      16.63
      13.11    238.11    .454E+07      4806.0          1.56      15.75
      14.03    239.03    .528E+07      5876.9          1.64      14.97
      14.96    239.96    .605E+07      7062.7          1.72      14.29
      15.88    240.88    .687E+07      8365.0          1.80      13.68
      16.81    241.81    .771E+07      9506.9          1.82      13.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    35.61    9.75  10.32      1.87      1.25
     OUTFLOW: ID= 1 (6210) *******    35.57   10.00  10.32      1.86      1.24

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--------------------
| CALIB            |
| NASHYD    (0210) |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   1.289 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.498
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0210):   218.27   1.289     7.50    13.50
      + ID2= 2 (6210): 15415.45  35.568    10.00    10.32
        ================================================
        ID = 3 (8150): 15633.72  36.539    10.00    10.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0218) |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   0.743 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.929
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0216) |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   1.235 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.952
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.261

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (2121) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.08         3.92
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44       124.85
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.80 (ii)   21.59 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.17         0.67          5.615 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     40.00        22.72         35.68
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.54          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7460      1.9720
                         0.1900     1.1850   |   4.7040      2.0838
                         1.0850     1.4413   |   5.4760      2.1940
                         2.0210     1.5949   |   5.8760      2.2040
                         2.8030     1.7848   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (2121)     56.000      5.615      6.00      35.68
     OUTFLOW: ID= 1 (5212)     56.000      0.752      7.00      35.65

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.39
                    TIME SHIFT OF PEAK FLOW          (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3500

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-------------------
| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.00       193.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1347.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.57
               over (min)        15.00        60.00
     Storage Coeff.  (min)=     18.96 (ii)   46.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      6.31         2.40          7.003 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=     40.00         9.80         16.75
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.23          0.40


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------       (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2122):   272.40   7.003     6.00    16.75
       + ID2= 2 (5212):    56.00   0.752     7.00    35.65
         ================================================
         ID = 3 (8152):   328.40   7.123     6.00    19.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2141.0) ------>
              Distance      Elevation        Manning
                 0.00         259.29         0.0500
                15.33         258.91         0.0500
                38.33         258.57         0.0500
                65.16         257.93         0.0500
                95.82         253.44         0.0500
               111.15         251.21         0.0500
               130.32         249.67         0.0500
               149.48         248.51         0.0500
               150.66         248.50    0.0500 /0.0370  Main Channel
               150.81         247.50         0.0370      Main Channel
               154.66         247.50         0.0370      Main Channel
               155.66         248.50    0.0370 /0.0500  Main Channel
               160.98         248.50         0.0500
               187.81         249.78         0.0500
               199.31         252.13         0.0500
               245.30         254.04         0.0500
               264.46         253.99         0.0500
               298.96         255.23         0.0500
               329.62         257.02         0.0500
               379.45         258.82         0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   248.00    .648E+04        2.1         1.00      52.30
      1.00   248.50    .139E+05        6.4         1.44      36.35
      1.61   249.11    .570E+05       22.6         1.24      42.01
      2.21   249.71    .143E+06       63.6         1.39      37.61
      2.82   250.32    .263E+06      142.9         1.70      30.69
      3.43   250.93    .403E+06      257.2         2.00      26.11
      4.04   251.54    .562E+06      410.4         2.29      22.82
      4.64   252.14    .735E+06      601.3         2.56      20.37
      5.25   252.75    .933E+06      791.0         2.66      19.67
      5.86   253.36    .117E+07     1038.0         2.79      18.74
      6.46   253.96    .144E+07     1344.4         2.93      17.82
      7.07   254.57    .178E+07     1664.1         2.93      17.83
      7.68   255.18    .217E+07     2140.2         3.10      16.87
      8.28   255.78    .259E+07     2722.9         3.30      15.83
      8.89   256.39    .304E+07     3387.1         3.50      14.94
      9.50   257.00    .351E+07     4132.7         3.69      14.16
     10.11   257.61    .402E+07     4913.0         3.83      13.64
     10.71   258.21    .458E+07     5648.3         3.87      13.50
     11.32   258.82    .521E+07     6343.1         3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.40     7.12    6.00  19.97      1.03      1.43
     OUTFLOW: ID= 1 (6214)  328.40     4.04    6.75  19.97      0.73      1.16

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| CALIB            |
| STANDHYD  (6214) |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.24       237.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1453.62        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80         9.36
               over (min)        30.00        60.00
     Storage Coeff.  (min)=     23.13 (ii)   50.71 (ii)
     Unit Hyd. Tpeak (min)=     30.00        60.00
     Unit Hyd. peak  (cms)=      0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.21         2.75          3.724 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.75          6.75
     RUNOFF VOLUME    (mm)=     40.00         8.63         11.46
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.95         0.21          0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0214):   316.95   3.724     6.75    11.46
       + ID2= 2 (6214):   328.40   4.038     6.75    19.97
         ====================================================
         ID = 3 (8154):   645.35   7.762     6.75    15.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0216):   145.77   1.235     6.50    10.95
       + ID2= 2 (8154):   645.35   7.762     6.75    15.79
         ====================================================
         ID = 3 (8156):   791.12   8.976     6.75    14.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2181.0) ------>
             Distance      Elevation       Manning
                0.00         256.38        0.0450
                7.70         254.85        0.0450
               15.40         253.20        0.0450
               19.25         252.29        0.0450
               23.10         251.17        0.0450
               78.94         236.16        0.0450
               80.87         235.80        0.0450
               82.79         235.45        0.0450
               84.57         234.60    0.0450 /0.0300  Main Channel
               85.07         233.60        0.0300      Main Channel
               88.57         233.60        0.0300      Main Channel
               93.57         233.60        0.0300      Main Channel
               94.07         234.60    0.0300 /0.0450  Main Channel
               96.27         235.13        0.0450
               98.19         235.20        0.0450
              100.12         235.32        0.0450
              138.63         239.95        0.0450
              180.98         244.80        0.0450
              188.69         245.00        0.0450
              190.61         256.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       1.00   234.60   .181E+05       6.0         0.66       50.64
       2.13   235.73   .518E+05      23.8         0.93       36.27
       3.25   236.85   .119E+06      60.0         1.02       33.03
       4.38   237.98   .217E+06     120.6         1.12       29.99
       5.51   239.11   .346E+06     210.5         1.23       27.39
       6.63   240.23   .506E+06     334.1         1.33       25.22
       7.76   241.36   .697E+06     495.6         1.43       23.44
       8.88   242.48   .920E+06     699.8         1.53       21.91
      10.01   243.61   .117E+07     950.8         1.63       20.59
      11.14   244.74   .146E+07    1252.5         1.73       19.45
      12.26   245.86   .178E+07    1619.6         1.83       18.37
      13.39   246.99   .212E+07    2078.5         1.97       17.01
      14.52   248.12   .247E+07    2589.0         2.11       15.88
      15.64   249.24   .282E+07    3149.7         2.25       14.94
      16.77   250.37   .319E+07    3759.8         2.37       14.14
      17.89   251.49   .356E+07    4419.5         2.50       13.44
      19.02   252.62   .395E+07    5126.4         2.61       12.84
      20.15   253.75   .435E+07    5871.6         2.72       12.34
      21.27   254.87   .476E+07    6663.2         2.82       11.89

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.12     8.98    6.75  14.90      1.19      0.70
     OUTFLOW: ID= 1 (6218)  791.12     6.54    7.25  14.90      1.04      0.67


-------------------------------------------------------------------------------

--------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0218):   152.25   0.743     7.00     8.93
       + ID2= 2 (6218):   791.12   6.536     7.25    14.90
         ====================================================
         ID = 3 (8158):   943.37   7.273     7.25    13.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------------------------------------------------------------------

--------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.72  36.539    10.00    10.36
       + ID2= 2 (8158):   943.37   7.273     7.25    13.93
         ====================================================
         ID = 3 (8151): 16577.09  41.190     8.50    10.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  33.0100     0.6700
                         2.6400     0.0500   |  37.4800     0.7800
                         4.8300     0.0900   |  47.5400     1.0100
                         7.4100     0.1300   |  60.2300     1.2800
                        10.3300     0.1900   |  71.9530     1.5258
                        13.5300     0.2500   |  *******     3.0529
                        16.9900     0.3200   |  *******     5.3299
                        20.6800     0.3900   |  *******     8.4148
                        24.6000     0.4800   |  *******    11.7637
                        28.7100     0.5700   |  *******    11.7737

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********     41.190      8.50       10.57
     OUTFLOW: ID= 1 (5504)   ********     41.193      8.50       10.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.01
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8650

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2201.0) ------>
             Distance      Elevation       Manning
                0.00         245.59        0.0600
                5.76         245.45        0.0600
               23.03         242.27        0.0600
               57.58         232.35        0.0600
               86.37         226.18        0.0600
              109.41         224.31        0.0600
              115.17         223.86        0.0600
              120.92         222.78        0.0600
              126.68         221.93        0.0600
              128.06         221.50    0.0600 /0.0300  Main Channel
              129.56         220.00        0.0300      Main Channel
              141.56         220.00        0.0300      Main Channel
              143.06         221.50    0.0300 /0.0600  Main Channel
              149.72         223.77        0.0600
              155.47         225.09        0.0600
              253.36         229.21        0.0600
              333.98         227.50        0.0600
              454.90         229.25        0.0600
              500.97         233.11        0.0600
              570.07         237.42        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.75   220.75   .262E+05       5.5         0.57       79.44
       1.50   221.50   .555E+05      17.5         0.86       52.89
       2.44   222.44   .103E+06      42.7         1.14       40.03
       3.37   223.37   .171E+06      79.4         1.27       35.98
       4.31   224.31   .263E+06     128.1         1.33       34.22
       5.25   225.25   .393E+06     191.7         1.34       34.19
       6.18   226.18   .594E+06     276.7         1.28       35.77
       7.12   227.12   .872E+06     399.9         1.26       36.33
       8.06   228.06   .127E+07     542.7         1.17       38.92
       8.99   228.99   .199E+07     770.0         1.06       43.01
       9.93   229.93   .297E+07    1151.8         1.06       42.95
      10.86   230.86   .400E+07    1652.9         1.13       40.33
      11.80   231.80   .507E+07    2251.8         1.22       37.53
      12.74   232.74   .618E+07    2946.5         1.31       34.97
      13.67   233.67   .733E+07    3726.8         1.39       32.79
      14.61   234.61   .853E+07    4591.0         1.48       30.96
      15.55   235.55   .977E+07    5544.1         1.55       29.37
      16.48   236.48   .111E+08    6586.7         1.63       27.99
      17.42   237.42   .124E+08    7719.2         1.71       26.77

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (5504) *******    41.19    8.50  10.57      2.38      1.12
     OUTFLOW: ID= 1 (6220) *******    40.31    9.75  10.57      2.35      1.11


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD     (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW      (cms)=   0.592 (i)
     TIME TO PEAK   (hrs)=   8.250
     RUNOFF VOLUME   (mm)=  10.396
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0220):   169.10   0.592     8.25    10.40
       + ID2= 2 (6220): 16577.09  40.310     9.75    10.57
         ================================================
         ID = 3 (8160): 16746.19  40.864     9.75    10.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD     (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW      (cms)=   1.169 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  11.146
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27         92.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         16.27
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.70 (ii)    37.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.03          2.31          3.967 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         13.80         18.77
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.33          0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.6430     3.7677
                         0.4620     2.0014   |   8.2830     4.2576
                         2.0160     2.2850   |  14.1970     4.6909
                         3.6250     2.7987   |  14.5970     4.7009
                         5.0230     3.2496   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200      3.967      6.00      18.77
     OUTFLOW: ID= 1 (5222)    145.200      0.436      9.50      18.77

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.99
                TIME SHIFT OF PEAK FLOW         (min)=210.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.8882

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95         16.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     703.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         93.27
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.84 (ii)    23.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.64          1.99          4.938 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00         22.46         29.65
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.53          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2222):    74.30   4.938     6.00    29.65
       + ID2= 2 (5222):   145.20   0.436     9.50    18.77
         ================================================
         ID = 3 (8164):   219.50   5.054     6.00    22.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75         92.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     967.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         15.14
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.54 (ii)    38.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.03          2.13          4.885 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         14.42         21.07
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.34          0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0224):   140.45   4.885     6.00    21.07
        + ID2= 2 (8164):   219.50   5.054     6.00    22.45
          ================================================
          ID = 3 (8166):   359.95   9.939     6.00    21.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2261.0) ------>
               Distance      Elevation       Manning
                   0.00         245.35        0.0600
                   8.27         242.72        0.0600
                  16.54         240.01        0.0600
                  31.02         235.31        0.0600
                  41.36         233.14        0.0600
                  90.99         227.73        0.0600
                  93.06         227.50        0.0600
                  95.13         227.27        0.0600
                  95.83         227.00        0.0600
                 100.83         226.50    0.0600 /0.0350  Main Channel
                 101.33         225.50        0.0350      Main Channel
                 101.83         226.50    0.0350 /0.0600  Main Channel
                 105.83         227.00        0.0600
                 107.54         227.39        0.0600
                 109.60         227.62        0.0600
                 111.67         227.86        0.0600
                 146.83         231.76        0.0600
                 173.71         234.77        0.0600
                 186.12         238.23        0.0600
                 202.67         238.35        0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
        0.50   226.00   .403E+03         0.0          0.16     330.59
        1.00   226.50   .161E+04         0.1          0.26     208.26
        1.70   227.20   .173E+05         1.5          0.27     195.72
        2.39   227.89   .541E+05         5.9          0.35     152.27
        3.09   228.59   .119E+06        16.0          0.43     124.08
        3.79   229.29   .212E+06        33.8          0.51     104.65
        4.49   229.99   .334E+06        61.2          0.59      90.97
        5.18   230.68   .484E+06        99.7          0.66      80.88
        5.88   231.38   .663E+06       151.0          0.73      73.13
        6.58   232.08   .870E+06       216.5          0.80      66.95
        7.27   232.77   .111E+07       297.5          0.87      61.91
        7.97   233.47   .137E+07       398.1          0.94      57.29
        8.67   234.17   .165E+07       518.9          1.01      53.12
        9.36   234.86   .196E+07       658.9          1.08      49.59
       10.06   235.56   .228E+07       827.0          1.17      46.02
       10.76   236.26   .262E+07      1015.4          1.25      42.96
       11.46   236.96   .296E+07      1221.2          1.33      40.41
       12.15   237.65   .332E+07      1444.6          1.40      38.26
       12.85   238.35   .368E+07      1598.2          1.40      38.42

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.95     9.94    6.00  21.91      2.67      0.38
     OUTFLOW: ID= 1 (6226)  359.95     2.49    6.75  21.91      1.86      0.29


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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0226):   237.58   1.169     7.50    11.15
        + ID2= 2 (6226):   359.95   2.486     6.75    21.91
          ================================================
          ID = 3 (8168):   597.53   3.572     6.75    17.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8160): 16746.19  40.864     9.75    10.57
        + ID2= 2 (8168):   597.53   3.572     6.75    17.63
          ================================================
          ID = 3 (8162): 17343.72  43.595     9.25    10.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation       Manning
                   0.00         245.00        0.0600
                  18.60         244.74        0.0600
                  37.20         242.47        0.0600
                  93.01         233.71        0.0600
                 125.57         226.95        0.0600
                 213.93         221.63        0.0600
                 218.58         221.15        0.0600
                 223.23         220.45        0.0600
                 225.03         220.55    0.0600 /0.0300  Main Channel
                 225.53         218.05        0.0300      Main Channel
                 232.53         218.05        0.0300      Main Channel
                 240.03         218.05        0.0300      Main Channel
                 241.03         220.55    0.0300 /0.0600  Main Channel
                 246.48         221.00        0.0600
                 251.13         221.27        0.0600
                 255.78         221.22        0.0600
                 325.54         225.25        0.0600
                 367.40         228.91        0.0600
                 404.60         231.75        0.0600
                 460.41         245.00        0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
        1.25   219.30   .338E+05         16.0          0.86      35.15
        2.50   220.55   .696E+05         48.3          1.26      24.02
        3.94   221.99   .168E+06        116.0          1.26      24.14
        5.38   223.43   .392E+06        247.5          1.15      26.37
        6.81   224.86   .743E+06        472.6          1.16      26.20
        8.25   226.30   .122E+07        821.6          1.23      24.67
        9.69   227.74   .179E+07       1320.1          1.34      22.59
       11.13   229.18   .243E+07       1965.7          1.47      20.58
       12.57   230.62   .313E+07       2744.2          1.59      19.02
       14.01   232.06   .390E+07       3683.4          1.72      17.66
       15.44   233.49   .472E+07       4824.1          1.86      16.30
       16.88   234.93   .557E+07       6092.4          1.99      15.23
       18.32   236.37   .646E+07       7503.3          2.11      14.35
       19.76   237.81   .739E+07       9061.2          2.23      13.59
       21.20   239.25   .836E+07      10767.6          2.34      12.94
       22.64   240.69   .937E+07      12624.8          2.45      12.37
       24.07   242.12   .104E+08      14634.9          2.56      11.87
       25.51   243.56   .115E+08      16762.8          2.65      11.45
       26.95   245.00   .127E+08      18699.9          2.69      11.28

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******    43.59    9.25  10.81      2.32      1.18
     OUTFLOW: ID= 1 (6228) *******    43.24    9.50  10.81      2.31      1.18


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0228)  |   Area     (ha)= 310.54   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=   0.879 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.806
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0228):   310.54   0.879     7.75     6.81
        + ID2= 2 (6228): 17343.72  43.238     9.50    10.81
          ================================================
          ID = 3 (8170): 17654.26  43.987     9.50    10.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2302)  |   Area     (ha)= 126.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     29.14        97.56
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    919.06        40.00
```

```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.40
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.07 (ii)   40.57 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.28         1.64          2.023 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00        10.62         13.26
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.25          0.32

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.40         39.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     724.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         20.90
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.07 (ii)    33.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.78          1.35          2.332 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         13.85         18.82
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.33          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.6350     1.5914
                          0.3160     0.7624   |   6.9200     1.8001
                          1.7040     0.8931   |   7.9010     2.0070
                          3.5140     1.1218   |   8.3010     2.0170
                          4.5020     1.3405   |   0.0000     0.0000

                               AREA      QPEAK     TPEAK       R.V.
                               (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800      2.332     6.00       18.82
     OUTFLOW: ID= 1 (5230)     78.800      0.752     7.25       18.81

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.25
                    TIME SHIFT OF PEAK FLOW        (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8042

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--------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):   126.70   2.023     6.50    13.26
       + ID2= 2 (5230):    78.80   0.752     7.25    18.81
         ================================================
         ID = 3 (8172):   205.50   2.269     6.50    15.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=   0.870 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   6.133
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   314.80   0.870     7.50     6.13
       + ID2= 2 (8172):   205.50   2.269     6.50    15.39
         ================================================
         ID = 3 (8173):   520.30   3.018     6.50     9.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17654.26  43.987     9.50    10.74
       + ID2= 2 (8173):   520.30   3.018     6.50     9.79
         ================================================
         ID = 3 (8174): 18174.56  45.297     9.50    10.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                    <------ DATA FOR SECTION (2341.0) ------>
                   Distance      Elevation        Manning
                      0.00         228.00         0.0550
                     42.86         223.21         0.0550
                     85.72         219.56         0.0550
                    107.15         219.42         0.0550
                    128.58         219.39         0.0550
                    214.30         219.30         0.0550
                    225.02         219.26         0.0550
                    235.73         219.24         0.0550
                    255.16         219.20    0.0550 /0.0350  Main Channel
                    257.16         217.20         0.0350      Main Channel
                    303.16         217.20         0.0350      Main Channel
                    305.16         219.20    0.0350 /0.0550  Main Channel
                    310.74         219.28         0.0550
                    321.45         219.27         0.0550
                    332.17         219.26         0.0550
                    396.46         219.29         0.0550
                    782.20         222.91         0.0550
                    878.64         227.43         0.0550
                    964.36         227.80         0.0550
                   1060.79         228.00         0.0550

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50    217.70    .887E+05       7.2          0.31      206.54
        1.00    218.20    .179E+06      22.7          0.48      131.74
        1.50    218.70    .272E+06      44.5          0.62      101.75
        2.00    219.20    .366E+06      71.8          0.75       84.97
        2.59    219.79    .993E+06     136.1          0.52      121.59
        3.17    220.37    .189E+07     258.6          0.52      121.80
        3.76    220.96    .294E+07     434.7          0.56      112.82
        4.35    221.55    .415E+07     665.9          0.61      103.88
        4.93    222.13    .551E+07     955.0          0.66       96.22
        5.52    222.72    .703E+07    1305.1          0.71       89.80
        6.11    223.31    .868E+07    1744.9          0.77       82.91
        6.69    223.89    .104E+08    2261.4          0.83       76.46
        7.28    224.48    .121E+08    2838.0          0.89       71.12
        7.87    225.07    .139E+08    3472.9          0.95       66.63
        8.45    225.65    .157E+08    4165.0          1.01       62.82
        9.04    226.24    .176E+08    4913.5          1.07       59.54
        9.63    226.83    .194E+08    5717.7          1.12       56.68
       10.21    227.41    .214E+08    6577.1          1.17       54.18
       10.80    228.00    .235E+08    6919.5          1.12       56.61

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8174) *******    45.30    9.50  10.71      1.51      0.63
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     OUTFLOW: ID= 1 (6234) *******    39.99   11.25  10.71      1.40      0.59


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| CALIB             |
| STANDHYD  (0234) |   Area    (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.78       208.38
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1334.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         3.02
               over (min)        15.00        75.00
     Storage Coeff.  (min)=      18.85 (ii)   62.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.16         0.86          2.347 (iii)
     TIME TO PEAK    (hrs)=       6.00         7.00          6.00
     RUNOFF VOLUME    (mm)=      40.00         3.81          6.70
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.09          0.16

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  39.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0234):   267.16   2.347     6.00     6.70
       + ID2= 2 (6234): 18174.56  39.994    11.25    10.71
         ================================================
         ID = 3 (8176): 18441.72  40.228    11.00    10.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0238) |   Area    (ha)= 311.70   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   0.520 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   5.193
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0236) |   Area    (ha)= 494.49   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=   1.022 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.363
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2381.0) ------>
             Distance      Elevation       Manning
                0.00        241.54        0.0380
              602.55        227.00        0.0380
             1702.00        224.50        0.0380
             1721.25        223.00        0.0380
             1725.10        222.60        0.0380
             1780.94        222.50        0.0380
             1782.87        222.45        0.0380
             1784.79        222.40    0.0380 /0.0300  Main Channel
             1786.57        221.75        0.0300      Main Channel
             1787.07        220.75        0.0300      Main Channel
             1787.57        220.75        0.0300      Main Channel
             1791.57        220.75        0.0300      Main Channel
             1794.07        221.75        0.0300      Main Channel
             1798.27        222.00        0.0300      Main Channel
             1800.19        222.35    0.0300 /0.0380  Main Channel
             1802.12        222.47        0.0380
             1840.63        223.00        0.0380
             1900.00        225.00        0.0380
             1950.00        226.00        0.0380
             2242.61        240.00        0.0380

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.80   221.55    .101E+05        5.2         1.14      32.36
     1.60   222.35    .296E+05       18.7         1.40      26.36
     2.64   223.39    .249E+06      151.8         1.35      27.33
     3.68   224.43    .613E+06      512.2         1.85      19.94
     4.71   225.46    .152E+07     1066.8         1.55      23.80
     5.75   226.50    .359E+07     2824.9         1.75      21.16
     6.79   227.54    .663E+07     6528.0         2.18      16.93
     7.83   228.58    .994E+07    12158.6         2.71      13.62
     8.87   229.62    .134E+08    19268.8         3.19      11.58
     9.91   230.66    .170E+08    27785.3         3.63      10.19
    10.94   231.69    .207E+08    37667.1         4.03       9.18
    11.98   232.73    .246E+08    48891.7         4.40       8.40
    13.02   233.77    .287E+08    61448.0         4.75       7.78
    14.06   234.81    .329E+08    75332.7         5.08       7.28
    15.10   235.85    .372E+08    90547.8         5.39       6.85
    16.14   236.89    .417E+08    *******         5.69       6.49
    17.17   237.92    .464E+08    *******         5.98       6.18
    18.21   238.96    .512E+08    *******         6.25       5.91
    19.25   240.00    .561E+08    *******         6.52       5.67

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0236)  494.49     1.02    8.00   5.36      0.16      1.14
     OUTFLOW: ID= 1 (6238)  494.49     0.99    8.50   5.36      0.15      1.14

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| ADD HYD   (8180) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0238):   311.70   0.520     8.50     5.19
       + ID2= 2 (6238):   494.49   0.991     8.50     5.36
         ================================================
         ID = 3 (8180):   806.19   1.511     8.50     5.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8178) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18441.72  40.228    11.00    10.65
       + ID2= 2 (8180):   806.19   1.511     8.50     5.30
         ================================================
         ID = 3 (8178): 19247.91  41.487    11.00    10.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2401.0) ------>
             Distance      Elevation       Manning
                0.00        222.00        0.0450
               11.46        221.00        0.0450
              208.98        221.00        0.0450
              404.04        220.97        0.0450
              808.08        220.83        0.0450
              905.60        220.17        0.0450
              919.53        219.43        0.0450
              933.47        219.22        0.0450
              945.26        219.21    0.0450 /0.0300  Main Channel
              946.26        217.81        0.0300      Main Channel
              975.26        217.81        0.0300      Main Channel
             1003.26        217.81        0.0300      Main Channel
             1005.26        219.21    0.0300 /0.0450  Main Channel
             1017.06        219.28        0.0450
             1030.99        219.26        0.0450
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             1044.92        219.23        0.0450
             1058.86        219.23        0.0450
             1253.91        219.22        0.0450
             1323.57        221.05        0.0450
             1379.30        222.00        0.0450

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.20   218.01    .307E+05       2.2         0.20     227.52
        0.40   218.21    .617E+05       7.1         0.31     143.95
        0.60   218.41    .928E+05      14.0         0.41     110.33
        0.80   218.61    .124E+06      22.6         0.49      91.46
        1.00   218.81    .156E+06      32.8         0.57      79.15
        1.20   219.01    .188E+06      44.5         0.64      70.38
        1.40   219.21    .220E+06      57.5         0.70      63.77
        1.63   219.44    .413E+06      82.5         0.54      83.52
        1.87   219.68    .632E+06     120.9         0.51      87.03
        2.10   219.91    .858E+06     170.0         0.53      84.11
        2.33   220.14    .109E+07     228.7         0.56      79.62
        2.56   220.37    .134E+07     294.4         0.59      76.03
        2.80   220.61    .162E+07     371.1         0.61      72.75
        3.03   220.84    .192E+07     456.8         0.64      70.18
        3.26   221.07    .251E+07     552.1         0.59      75.74
        3.49   221.30    .333E+07     711.8         0.57      78.07
        3.73   221.54    .417E+07     907.0         0.58      76.62
        3.96   221.77    .502E+07    1134.1         0.61      73.70
        4.19   222.00    .587E+07    1390.9         0.64      70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******    41.49  11.00  10.43      1.15      0.62
     OUTFLOW: ID= 1 (6240) *******    39.02  12.25  10.43      1.11      0.60


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-------------------
| CALIB             |
| NASHYD    (0240)  |   Area    (ha)= 434.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   2.058

     PEAK FLOW       (cms)=   0.304 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=   4.078
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0240):   434.37   0.304    12.00     4.08
      + ID2= 2 (6240): 19247.91  39.020    12.25    10.43
        ================================================
        ID = 3 (8182): 19682.28  39.323    12.25    10.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0242)  |   Area    (ha)= 657.88   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.090

     PEAK FLOW       (cms)=   0.402 (i)
     TIME TO PEAK    (hrs)=  13.000
     RUNOFF VOLUME    (mm)=   5.039
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.120

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8184) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0242):   657.88   0.402    13.00     5.04
      + ID2= 2 (8182): 19682.28  39.323    12.25    10.29
        ================================================
        ID = 3 (8184): 20340.16  39.722    12.25    10.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (2441.0) ------>
                Distance      Elevation        Manning
                   0.00         225.00         0.0450
                   2.50         220.10         0.0450
                   3.00         220.06         0.0450
                   3.64         220.07         0.0450
                   7.28         220.08         0.0450
                  10.91         220.09         0.0450
                  14.55         219.81         0.0450
                  18.19         219.29         0.0450
                  24.13         219.21    0.0450 /0.0300  Main Channel
                  24.63         217.81         0.0300      Main Channel
                  69.13         217.81         0.0300      Main Channel
                 114.13         217.81         0.0300      Main Channel
                 115.13         219.21    0.0300 /0.0450  Main Channel
                 120.06         219.25         0.0450
                 123.70         219.32         0.0450
                 127.34         219.77         0.0450
                 130.98         219.88         0.0450
                 134.61         219.99         0.0450
                 350.00         220.18         0.0450
                 360.18         225.00         0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35   218.16    .108E+06       9.0         0.29     200.52
       0.70   218.51    .216E+06      28.4         0.45     126.89
       1.05   218.86    .325E+06      55.7         0.59      97.27
       1.40   219.21    .434E+06      89.7         0.71      80.65
       1.79   219.60    .574E+06     135.9         0.81      70.36
       2.17   219.98    .726E+06     190.8         0.90      63.38
       2.56   220.37    .111E+07     264.3         0.82      69.82
       2.94   220.75    .157E+07     371.7         0.81      70.36
       3.33   221.14    .203E+07     503.4         0.85      67.30
       3.72   221.53    .250E+07     656.6         0.90      63.40
       4.10   221.91    .296E+07     829.6         0.96      59.54
       4.49   222.30    .343E+07    1021.1         1.02      56.00
       4.87   222.68    .390E+07    1230.2         1.08      52.83
       5.26   223.07    .437E+07    1456.2         1.14      50.01
       5.65   223.46    .484E+07    1698.4         1.20      47.51
       6.03   223.84    .531E+07    1956.3         1.26      45.28
       6.42   224.23    .579E+07    2229.3         1.32      43.28
       6.80   224.61    .626E+07    2517.0         1.38      41.48
       7.19   225.00    .674E+07    2819.2         1.44      39.85

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******    39.72  12.25  10.12      0.85      0.50
     OUTFLOW: ID= 1 (6244) *******    35.55  14.00  10.12      0.79      0.48


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-------------------
| CALIB             |
| NASHYD    (0244)  |   Area    (ha)=1908.71   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  14.812

     PEAK FLOW       (cms)=   3.274 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=   6.844
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0244):  1908.71   3.274    10.00     6.84
      + ID2= 2 (6244): 20340.16  35.549    14.00    10.12
        ================================================
        ID = 3 (8186): 22248.87  37.982    13.75     9.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.50
-------------------   VOLUME      (mm)=   8.64
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
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Comments:

HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
ACTUAL PEAK FLOW: PEAK (54.56) + BASE (0.00) = 54.56 (cms).

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	0.000	57.25	0.829	114.50	0.166	171.75	0.031	229.00	0.006
0.25	0.000	57.50	0.822	114.75	0.164	172.00	0.031	229.25	0.006
0.50	0.000	57.75	0.816	115.00	0.163	172.25	0.031	229.50	0.006
0.75	0.000	58.00	0.809	115.25	0.162	172.50	0.031	229.75	0.006
1.00	0.000	58.25	0.803	115.50	0.161	172.75	0.030	230.00	0.005
1.25	0.000	58.50	0.797	115.75	0.160	173.00	0.030	230.25	0.005
1.50	0.000	58.75	0.791	116.00	0.159	173.25	0.030	230.50	0.005
1.75	0.000	59.00	0.785	116.25	0.157	173.50	0.030	230.75	0.005
2.00	0.022	59.25	0.779	116.50	0.156	173.75	0.029	231.00	0.005
2.25	0.087	59.50	0.773	116.75	0.155	174.00	0.029	231.25	0.005
2.50	0.146	59.75	0.767	117.00	0.154	174.25	0.029	231.50	0.005
2.75	0.206	60.00	0.761	117.25	0.153	174.50	0.029	231.75	0.005
3.00	0.262	60.25	0.756	117.50	0.152	174.75	0.029	232.00	0.005
3.25	0.333	60.50	0.750	117.75	0.151	175.00	0.028	232.25	0.005
3.50	0.394	60.75	0.744	118.00	0.150	175.25	0.028	232.50	0.005
3.75	0.449	61.00	0.739	118.25	0.149	175.50	0.028	232.75	0.005
4.00	0.499	61.25	0.733	118.50	0.148	175.75	0.028	233.00	0.005
4.25	0.590	61.50	0.728	118.75	0.147	176.00	0.028	233.25	0.005
4.50	0.677	61.75	0.723	119.00	0.146	176.25	0.027	233.50	0.005
4.75	0.822	62.00	0.718	119.25	0.145	176.50	0.027	233.75	0.005
5.00	0.976	62.25	0.712	119.50	0.144	176.75	0.027	234.00	0.005
5.25	1.262	62.50	0.707	119.75	0.142	177.00	0.027	234.25	0.005
5.50	1.581	62.75	0.702	120.00	0.141	177.25	0.027	234.50	0.005
5.75	3.097	63.00	0.697	120.25	0.140	177.50	0.026	234.75	0.005
6.00	8.465	63.25	0.692	120.50	0.139	177.75	0.026	235.00	0.005
6.25	11.205	63.50	0.687	120.75	0.138	178.00	0.026	235.25	0.005
6.50	15.084	63.75	0.682	121.00	0.137	178.25	0.026	235.50	0.005
6.75	18.655	64.00	0.677	121.25	0.137	178.50	0.026	235.75	0.005
7.00	21.721	64.25	0.673	121.50	0.136	178.75	0.025	236.00	0.005
7.25	24.356	64.50	0.668	121.75	0.135	179.00	0.025	236.25	0.005
7.50	26.745	64.75	0.663	122.00	0.134	179.25	0.025	236.50	0.004
7.75	29.014	65.00	0.658	122.25	0.133	179.50	0.025	236.75	0.004
8.00	31.242	65.25	0.654	122.50	0.132	179.75	0.025	237.00	0.004
8.25	33.355	65.50	0.649	122.75	0.131	180.00	0.024	237.25	0.004
8.50	35.441	65.75	0.645	123.00	0.130	180.25	0.024	237.50	0.004
8.75	37.479	66.00	0.640	123.25	0.129	180.50	0.024	237.75	0.004
9.00	39.458	66.25	0.636	123.50	0.128	180.75	0.024	238.00	0.004
9.25	41.376	66.50	0.631	123.75	0.127	181.00	0.024	238.25	0.004
9.50	43.210	66.75	0.627	124.00	0.126	181.25	0.024	238.50	0.004
9.75	44.938	67.00	0.622	124.25	0.125	181.50	0.023	238.75	0.004
10.00	46.560	67.25	0.618	124.50	0.124	181.75	0.023	239.00	0.004
10.25	48.000	67.50	0.614	124.75	0.123	182.00	0.023	239.25	0.004
10.50	49.300	67.75	0.609	125.00	0.123	182.25	0.023	239.50	0.004
10.75	50.447	68.00	0.605	125.25	0.122	182.50	0.023	239.75	0.004
11.00	51.444	68.25	0.601	125.50	0.121	182.75	0.023	240.00	0.004
11.25	52.304	68.50	0.597	125.75	0.120	183.00	0.022	240.25	0.004
11.50	53.035	68.75	0.593	126.00	0.119	183.25	0.022	240.50	0.004
11.75	53.644	69.00	0.589	126.25	0.118	183.50	0.022	240.75	0.004
12.00	54.139	69.25	0.585	126.50	0.117	183.75	0.022	241.00	0.004
12.25	54.422	69.50	0.580	126.75	0.117	184.00	0.022	241.25	0.004
12.50	54.556	69.75	0.576	127.00	0.116	184.25	0.022	241.50	0.004
12.75	54.531	70.00	0.573	127.25	0.115	184.50	0.021	241.75	0.004
13.00	54.357	70.25	0.569	127.50	0.114	184.75	0.021	242.00	0.004
13.25	54.056	70.50	0.565	127.75	0.113	185.00	0.021	242.25	0.004
13.50	53.643	70.75	0.561	128.00	0.112	185.25	0.021	242.50	0.004
13.75	53.124	71.00	0.557	128.25	0.112	185.50	0.021	242.75	0.004
14.00	52.489	71.25	0.553	128.50	0.111	185.75	0.021	243.00	0.004
14.25	51.742	71.50	0.549	128.75	0.110	186.00	0.020	243.25	0.004
14.50	50.902	71.75	0.545	129.00	0.109	186.25	0.020	243.50	0.004
14.75	49.985	72.00	0.542	129.25	0.109	186.50	0.020	243.75	0.004
15.00	48.998	72.25	0.538	129.50	0.108	186.75	0.020	244.00	0.004
15.25	47.955	72.50	0.534	129.75	0.107	187.00	0.020	244.25	0.004
15.50	46.869	72.75	0.531	130.00	0.106	187.25	0.020	244.50	0.004
15.75	45.750	73.00	0.527	130.25	0.105	187.50	0.020	244.75	0.003
16.00	44.609	73.25	0.523	130.50	0.105	187.75	0.019	245.00	0.003
16.25	43.457	73.50	0.520	130.75	0.104	188.00	0.019	245.25	0.003
16.50	42.301	73.75	0.516	131.00	0.103	188.25	0.019	245.50	0.003
16.75	41.145	74.00	0.513	131.25	0.102	188.50	0.019	245.75	0.003
17.00	39.991	74.25	0.509	131.50	0.102	188.75	0.019	246.00	0.003
17.25	38.842	74.50	0.506	131.75	0.101	189.00	0.019	246.25	0.003
17.50	37.702	74.75	0.502	132.00	0.100	189.25	0.019	246.50	0.003
17.75	36.573	75.00	0.498	132.25	0.100	189.50	0.018	246.75	0.003
18.00	35.459	75.25	0.495	132.50	0.099	189.75	0.018	247.00	0.003
18.25	34.362	75.50	0.492	132.75	0.098	190.00	0.018	247.25	0.003
18.50	33.282	75.75	0.488	133.00	0.097	190.25	0.018	247.50	0.003
18.75	32.222	76.00	0.485	133.25	0.097	190.50	0.018	247.75	0.003
19.00	31.180	76.25	0.481	133.50	0.096	190.75	0.018	248.00	0.003
19.25	30.158	76.50	0.478	133.75	0.095	191.00	0.018	248.25	0.003
19.50	29.156	76.75	0.475	134.00	0.095	191.25	0.018	248.50	0.003
19.75	28.175	77.00	0.472	134.25	0.094	191.50	0.017	248.75	0.003
20.00	27.218	77.25	0.468	134.50	0.093	191.75	0.017	249.00	0.003
20.25	26.284	77.50	0.465	134.75	0.093	192.00	0.017	249.25	0.003
20.50	25.374	77.75	0.462	135.00	0.092	192.25	0.017	249.50	0.003
20.75	24.488	78.00	0.459	135.25	0.091	192.50	0.017	249.75	0.003
21.00	23.628	78.25	0.456	135.50	0.091	192.75	0.017	250.00	0.003
21.25	22.792	78.50	0.453	135.75	0.090	193.00	0.017	250.25	0.003
21.50	21.982	78.75	0.450	136.00	0.089	193.25	0.016	250.50	0.003
21.75	21.198	79.00	0.446	136.25	0.089	193.50	0.016	250.75	0.003
22.00	20.444	79.25	0.443	136.50	0.088	193.75	0.016	251.00	0.003
22.25	19.717	79.50	0.440	136.75	0.087	194.00	0.016	251.25	0.003
22.50	19.016	79.75	0.437	137.00	0.087	194.25	0.016	251.50	0.003
22.75	18.339	80.00	0.434	137.25	0.086	194.50	0.016	251.75	0.003
23.00	17.684	80.25	0.431	137.50	0.085	194.75	0.016	252.00	0.003
23.25	17.052	80.50	0.428	137.75	0.085	195.00	0.016	252.25	0.003
23.50	16.442	80.75	0.425	138.00	0.084	195.25	0.016	252.50	0.003
23.75	15.852	81.00	0.423	138.25	0.084	195.50	0.015	252.75	0.003
24.00	15.282	81.25	0.420	138.50	0.083	195.75	0.015	253.00	0.003
24.25	14.732	81.50	0.417	138.75	0.082	196.00	0.015	253.25	0.003
24.50	14.201	81.75	0.414	139.00	0.082	196.25	0.015	253.50	0.003
24.75	13.688	82.00	0.411	139.25	0.081	196.50	0.015	253.75	0.003
25.00	13.194	82.25	0.408	139.50	0.081	196.75	0.015	254.00	0.003
25.25	12.717	82.50	0.405	139.75	0.080	197.00	0.015	254.25	0.003
25.50	12.257	82.75	0.403	140.00	0.080	197.25	0.015	254.50	0.003
25.75	11.813	83.00	0.400	140.25	0.079	197.50	0.015	254.75	0.003
26.00	11.386	83.25	0.397	140.50	0.078	197.75	0.014	255.00	0.003
26.25	10.973	83.50	0.394	140.75	0.078	198.00	0.014	255.25	0.003
26.50	10.576	83.75	0.392	141.00	0.077	198.25	0.014	255.50	0.003
26.75	10.194	84.00	0.389	141.25	0.076	198.50	0.014	255.75	0.002
27.00	9.825	84.25	0.386	141.50	0.076	198.75	0.014	256.00	0.002
27.25	9.470	84.50	0.384	141.75	0.075	199.00	0.014	256.25	0.002
27.50	9.129	84.75	0.381	142.00	0.075	199.25	0.014	256.50	0.002
27.75	8.800	85.00	0.378	142.25	0.074	199.50	0.014	256.75	0.002
28.00	8.484	85.25	0.376	142.50	0.074	199.75	0.014	257.00	0.002
28.25	8.181	85.50	0.373	142.75	0.073	200.00	0.013	257.25	0.002
28.50	7.889	85.75	0.371	143.00	0.073	200.25	0.013	257.50	0.002
28.75	7.608	86.00	0.368	143.25	0.072	200.50	0.013	257.75	0.002
29.00	7.339	86.25	0.366	143.50	0.072	200.75	0.013	258.00	0.002
29.25	7.080	86.50	0.363	143.75	0.071	201.00	0.013	258.25	0.002
29.50	6.832	86.75	0.361	144.00	0.070	201.25	0.013	258.50	0.002
29.75	6.593	87.00	0.358	144.25	0.070	201.50	0.013	258.75	0.002
30.00	6.365	87.25	0.356	144.50	0.069	201.75	0.013	259.00	0.002
30.25	6.146	87.50	0.353	144.75	0.069	202.00	0.013	259.25	0.002
30.50	5.935	87.75	0.351	145.00	0.068	202.25	0.013	259.50	0.002
30.75	5.734	88.00	0.348	145.25	0.068	202.50	0.013	259.75	0.002
31.00	5.540	88.25	0.346	145.50	0.067	202.75	0.012	260.00	0.002
31.25	5.355	88.50	0.344	145.75	0.067	203.00	0.012	260.25	0.002
31.50	5.177	88.75	0.341	146.00	0.066	203.25	0.012	260.50	0.002
31.75	5.007	89.00	0.339	146.25	0.066	203.50	0.012	260.75	0.002
32.00	4.843	89.25	0.336	146.50	0.066	203.75	0.012	261.00	0.002
32.25	4.687	89.50	0.334	146.75	0.065	204.00	0.012	261.25	0.002
32.50	4.536	89.75	0.332	147.00	0.065	204.25	0.012	261.50	0.002
32.75	4.392	90.00	0.330	147.25	0.064	204.50	0.012	261.75	0.002
33.00	4.254	90.25	0.327	147.50	0.064	204.75	0.012	262.00	0.002
33.25	4.121	90.50	0.325	147.75	0.063	205.00	0.012	262.25	0.002
33.50	3.994	90.75	0.323	148.00	0.063	205.25	0.012	262.50	0.002
33.75	3.872	91.00	0.320	148.25	0.062	205.50	0.011	262.75	0.002
34.00	3.755	91.25	0.318	148.50	0.062	205.75	0.011	263.00	0.002
34.25	3.643	91.50	0.316	148.75	0.061	206.00	0.011	263.25	0.002
34.50	3.535	91.75	0.314	149.00	0.061	206.25	0.011	263.50	0.002
34.75	3.431	92.00	0.312	149.25	0.060	206.50	0.011	263.75	0.002
35.00	3.332	92.25	0.310	149.50	0.060	206.75	0.011	264.00	0.002
35.25	3.237	92.50	0.307	149.75	0.060	207.00	0.011	264.25	0.002
35.50	3.145	92.75	0.305	150.00	0.059	207.25	0.011	264.50	0.002
35.75	3.058	93.00	0.303	150.25	0.059	207.50	0.011	264.75	0.002
36.00	2.973	93.25	0.301	150.50	0.058	207.75	0.011	265.00	0.002
36.25	2.893	93.50	0.299	150.75	0.058	208.00	0.011	265.25	0.002
36.50	2.815	93.75	0.297	151.00	0.057	208.25	0.011	265.50	0.002
36.75	2.740	94.00	0.295	151.25	0.057	208.50	0.010	265.75	0.002
37.00	2.669	94.25	0.293	151.50	0.057	208.75	0.010	266.00	0.002
37.25	2.600	94.50	0.291	151.75	0.056	209.00	0.010	266.25	0.002
37.50	2.534	94.75	0.289	152.00	0.056	209.25	0.010	266.50	0.002
37.75	2.471	95.00	0.287	152.25	0.055	209.50	0.010	266.75	0.002
38.00	2.410	95.25	0.285	152.50	0.055	209.75	0.010	267.00	0.002
38.25	2.352	95.50	0.283	152.75	0.055	210.00	0.010	267.25	0.002
38.50	2.295	95.75	0.281	153.00	0.054	210.25	0.010	267.50	0.002
38.75	2.241	96.00	0.279	153.25	0.054	210.50	0.010	267.75	0.002
39.00	2.190	96.25	0.277	153.50	0.053	210.75	0.010	268.00	0.002
39.25	2.140	96.50	0.275	153.75	0.053	211.00	0.010	268.25	0.002
39.50	2.092	96.75	0.273	154.00	0.053	211.25	0.010	268.50	0.002
39.75	2.046	97.00	0.271	154.25	0.052	211.50	0.010	268.75	0.002
40.00	2.001	97.25	0.269	154.50	0.052	211.75	0.009	269.00	0.002
40.25	1.959	97.50	0.267	154.75	0.052	212.00	0.009	269.25	0.002
40.50	1.918	97.75	0.266	155.00	0.051	212.25	0.009	269.50	0.002
40.75	1.878	98.00	0.264	155.25	0.051	212.50	0.009	269.75	0.002
41.00	1.840	98.25	0.262	155.50	0.050	212.75	0.009	270.00	0.002
41.25	1.804	98.50	0.260	155.75	0.050	213.00	0.009	270.25	0.002
41.50	1.769	98.75	0.258	156.00	0.050	213.25	0.009	270.50	0.002
41.75	1.735	99.00	0.256	156.25	0.049	213.50	0.009	270.75	0.002
42.00	1.702	99.25	0.255	156.50	0.049	213.75	0.009	271.00	0.002
42.25	1.671	99.50	0.253	156.75	0.049	214.00	0.009	271.25	0.002
42.50	1.640	99.75	0.251	157.00	0.048	214.25	0.009	271.50	0.002
42.75	1.611	100.00	0.249	157.25	0.048	214.50	0.009	271.75	0.002
43.00	1.583	100.25	0.248	157.50	0.048	214.75	0.009	272.00	0.002
43.25	1.556	100.50	0.246	157.75	0.047	215.00	0.009	272.25	0.002
43.50	1.530	100.75	0.244	158.00	0.047	215.25	0.009	272.50	0.001
43.75	1.504	101.00	0.242	158.25	0.046	215.50	0.008	272.75	0.001
44.00	1.480	101.25	0.241	158.50	0.046	215.75	0.008	273.00	0.001
44.25	1.456	101.50	0.239	158.75	0.046	216.00	0.008	273.25	0.001
44.50	1.434	101.75	0.237	159.00	0.045	216.25	0.008	273.50	0.001
44.75	1.412	102.00	0.236	159.25	0.045	216.50	0.008	273.75	0.001
45.00	1.390	102.25	0.234	159.50	0.045	216.75	0.008	274.00	0.001
45.25	1.370	102.50	0.232	159.75	0.044	217.00	0.008	274.25	0.001
45.50	1.350	102.75	0.231	160.00	0.044	217.25	0.008	274.50	0.001
45.75	1.331	103.00	0.229	160.25	0.044	217.50	0.008	274.75	0.001

```
 46.00   1.312 |103.25   0.228 |160.50   0.044 |217.75   0.008 |275.00   0.001
 46.25   1.294 |103.50   0.226 |160.75   0.043 |218.00   0.008 |275.25   0.001
 46.50   1.277 |103.75   0.224 |161.00   0.043 |218.25   0.008 |275.50   0.001
 46.75   1.260 |104.00   0.223 |161.25   0.043 |218.50   0.008 |275.75   0.001
 47.00   1.243 |104.25   0.221 |161.50   0.042 |218.75   0.008 |276.00   0.001
 47.25   1.227 |104.50   0.220 |161.75   0.042 |219.00   0.008 |276.25   0.001
 47.50   1.212 |104.75   0.218 |162.00   0.042 |219.25   0.008 |276.50   0.001
 47.75   1.197 |105.00   0.217 |162.25   0.041 |219.50   0.008 |276.75   0.001
 48.00   1.182 |105.25   0.215 |162.50   0.041 |219.75   0.007 |277.00   0.001
 48.25   1.168 |105.50   0.214 |162.75   0.041 |220.00   0.007 |277.25   0.001
 48.50   1.154 |105.75   0.212 |163.00   0.040 |220.25   0.007 |277.50   0.001
 48.75   1.141 |106.00   0.211 |163.25   0.040 |220.50   0.007 |277.75   0.001
 49.00   1.128 |106.25   0.209 |163.50   0.040 |220.75   0.007 |278.00   0.001
 49.25   1.115 |106.50   0.208 |163.75   0.040 |221.00   0.007 |278.25   0.001
 49.50   1.103 |106.75   0.206 |164.00   0.039 |221.25   0.007 |278.50   0.001
 49.75   1.091 |107.00   0.205 |164.25   0.039 |221.50   0.007 |278.75   0.001
 50.00   1.079 |107.25   0.203 |164.50   0.039 |221.75   0.007 |279.00   0.001
 50.25   1.067 |107.50   0.202 |164.75   0.038 |222.00   0.007 |279.25   0.001
 50.50   1.056 |107.75   0.200 |165.00   0.038 |222.25   0.007 |279.50   0.001
 50.75   1.045 |108.00   0.199 |165.25   0.038 |222.50   0.007 |279.75   0.001
 51.00   1.035 |108.25   0.198 |165.50   0.038 |222.75   0.007 |280.00   0.001
 51.25   1.024 |108.50   0.196 |165.75   0.037 |223.00   0.007 |280.25   0.001
 51.50   1.014 |108.75   0.195 |166.00   0.037 |223.25   0.007 |280.50   0.001
 51.75   1.004 |109.00   0.193 |166.25   0.037 |223.50   0.007 |280.75   0.001
 52.00   0.994 |109.25   0.192 |166.50   0.036 |223.75   0.007 |281.00   0.001
 52.25   0.985 |109.50   0.191 |166.75   0.036 |224.00   0.007 |281.25   0.001
 52.50   0.976 |109.75   0.189 |167.00   0.036 |224.25   0.006 |281.50   0.001
 52.75   0.966 |110.00   0.188 |167.25   0.036 |224.50   0.006 |281.75   0.001
 53.00   0.958 |110.25   0.187 |167.50   0.035 |224.75   0.006 |282.00   0.001
 53.25   0.949 |110.50   0.185 |167.75   0.035 |225.00   0.006 |282.25   0.001
 53.50   0.940 |110.75   0.184 |168.00   0.035 |225.25   0.006 |282.50   0.001
 53.75   0.932 |111.00   0.183 |168.25   0.035 |225.50   0.006 |282.75   0.001
 54.00   0.924 |111.25   0.182 |168.50   0.034 |225.75   0.006 |283.00   0.001
 54.25   0.916 |111.50   0.180 |168.75   0.034 |226.00   0.006 |283.25   0.001
 54.50   0.908 |111.75   0.179 |169.00   0.034 |226.25   0.006 |283.50   0.001
 54.75   0.900 |112.00   0.178 |169.25   0.034 |226.50   0.006 |283.75   0.001
 55.00   0.892 |112.25   0.176 |169.50   0.033 |226.75   0.006 |284.00   0.001
 55.25   0.885 |112.50   0.175 |169.75   0.033 |227.00   0.006 |284.25   0.001
 55.50   0.877 |112.75   0.174 |170.00   0.033 |227.25   0.006 |284.50   0.001
 55.75   0.870 |113.00   0.173 |170.25   0.033 |227.50   0.006 |284.75   0.001
 56.00   0.863 |113.25   0.171 |170.50   0.032 |227.75   0.006 |285.00   0.001
 56.25   0.856 |113.50   0.170 |170.75   0.032 |228.00   0.006 |285.25   0.001
 56.50   0.849 |113.75   0.169 |171.00   0.032 |228.25   0.006 |285.50   0.001
 56.75   0.842 |114.00   0.168 |171.25   0.032 |228.50   0.006 |285.75   0.001
 57.00   0.835 |114.25   0.167 |171.50   0.031 |228.75   0.006 |
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| ADD HYD   (8188) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8186): 22248.87  37.982    13.75     9.84
      + ID2= 2 (8190):  1908.71   3.274    10.00     6.84
        ================================================
        ID = 3 (8188): 24157.57  40.477    13.50     9.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (4462) |   Area    (ha)=1366.10   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   4.22

     Unit Hyd Qpeak  (cms)=   5.524

     PEAK FLOW       (cms)=   1.411 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   6.858
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4461) |   Area    (ha)= 108.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      54.45         54.45
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     852.06         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         12.08
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.40 (ii)    39.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.73          0.99          4.121 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00          9.56          18.69
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.23           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  1.6700     2.9494
                         0.3690     1.4413   |  1.8200     3.3343
                         0.5700     1.6830   |  1.9700     3.7111
                         1.0600     2.1139   |  2.3700     3.7211
                         1.3800     2.4971   |  0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    108.900     4.121      6.00      18.69
     OUTFLOW: ID= 1 (5446)    108.900     0.355      8.75      18.69

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.62
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3873

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| ADD HYD   (8192) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4462):  1366.10   1.411    12.25     6.86
      + ID2= 2 (5446):   108.90   0.355     8.75    18.69
        ================================================
        ID = 3 (8192):  1475.00   1.732    12.00     7.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8188): 24157.57  40.477    13.50     9.60
      + ID2= 2 (8192):  1475.00   1.732    12.00     7.73
        ================================================
        ID = 3 (8194): 25632.58  42.140    13.50     9.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.170 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.634
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.087

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   0.621 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.577
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.157

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0438) |   Area     (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   0.416 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   4.765
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.113

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0436) |   Area     (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   0.592 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.501
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0434) |   Area     (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.167 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   3.974
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.167     6.50     3.97
       + ID2= 2 (0436):   187.51   0.592     7.00     5.50
         ================================================
         ID = 3 (8206):   244.15   0.751     7.00     5.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4381.0) ------>
              Distance      Elevation       Manning
                  0.00         256.00        0.0600
                  9.23         255.50        0.0600
                 27.69         255.00        0.0600
                 50.77         254.90        0.0600
                 64.62         254.85        0.0600
                 78.47         252.26        0.0600
                 96.93         249.44        0.0600
                129.24         245.94        0.0600
                145.40         245.76        0.0600
                146.20         245.80    0.0600 /0.0350  Main Channel
                146.70         245.30        0.0350      Main Channel
                147.70         245.30        0.0350      Main Channel
                148.20         245.80    0.0350 /0.0600  Main Channel
                150.01         245.78        0.0600
                152.32         245.79        0.0600
                163.86         246.72        0.0600
                175.40         249.07        0.0600
                186.94         253.15        0.0600
                196.17         255.38        0.0600
                228.48         255.55        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   245.80    .221E+04       0.9          1.02      40.44
        1.01   246.31    .352E+05      14.0          0.99      41.77
        1.53   246.83    .841E+05      47.3          1.39      29.61
        2.04   247.34    .144E+06     102.0          1.76      23.49
        2.55   247.85    .213E+06     177.3          2.07      19.99
        3.07   248.37    .291E+06     274.4          2.34      17.66
        3.58   248.88    .378E+06     394.6          2.58      15.97
        4.09   249.39    .474E+06     541.4          2.83      14.60
        4.61   249.91    .578E+06     719.9          3.08      13.38
        5.12   250.42    .688E+06     923.8          3.33      12.40
        5.63   250.93    .803E+06    1153.3          3.56      11.61
        6.14   251.44    .925E+06    1408.6          3.77      10.95
        6.66   251.96    .105E+07    1690.6          3.98      10.38
        7.17   252.47    .119E+07    2002.3          4.18       9.88
        7.68   252.98    .133E+07    2345.4          4.38       9.43
        8.20   253.50    .147E+07    2710.1          4.56       9.05
        8.71   254.01    .162E+07    3101.0          4.73       8.72
        9.22   254.52    .178E+07    3521.8          4.90       8.43
        9.74   255.04    .195E+07    3467.6          4.39       9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     0.75    7.00   5.15      0.41      1.02
    OUTFLOW: ID= 1 (6438)  244.15     0.67    7.75   5.15      0.37      1.02

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| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   0.416     6.75     4.76
       + ID2= 2 (8438):   244.15   0.666     7.75     5.15
         ================================================
         ID = 3 (8208):   374.85   1.025     7.50     5.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   0.621     7.75     6.58
       + ID2= 2 (8208):   374.85   1.025     7.50     5.01
         ================================================
         ID = 3 (8210):   601.20   1.644     7.50     5.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0432) |   Area     (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.232 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.180
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0430) |   Area     (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   0.457 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   5.441
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.130

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0428) |   Area     (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725
```

```
     PEAK FLOW      (cms)=   0.184 (i)
     TIME TO PEAK   (hrs)=   6.500
     RUNOFF VOLUME   (mm)=   4.733
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.113

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW      (cms)=   0.770 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=   6.793
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW      (cms)=   0.296 (i)
     TIME TO PEAK   (hrs)=   6.500
     RUNOFF VOLUME   (mm)=   6.128
     TOTAL RAINFALL  (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   0.296     6.50      6.13
       + ID2= 2 (0426):   247.17   0.770     7.50      6.79
         ================================================
         ID = 3 (8198):   296.74   0.999     7.00      6.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4281.0) ------>
             Distance      Elevation       Manning
                 0.00        246.54        0.0900
                 8.80        246.29        0.0900
                30.78        246.03        0.0900
                41.78        243.97        0.0900
                63.77        237.16        0.0900
                85.76        232.53        0.0900
                96.75        230.16        0.0900
               109.94        228.40        0.0900
               112.14        228.28    0.0900 /0.0450  Main Channel
               112.84        228.00        0.0450      Main Channel
               113.34        227.50        0.0450      Main Channel
               114.34        227.50        0.0450      Main Channel
               114.84        228.00        0.0450      Main Channel
               116.54        228.29    0.0450 /0.0900  Main Channel
               118.74        228.40        0.0900
               120.94        228.52        0.0900
               149.52        229.51        0.0900
               169.31        230.69        0.0900
               186.00        234.27        0.0900
               217.69        243.56        0.0900

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.78   228.28    .205E+04       1.6          0.97       21.60
       1.58   229.08    .202E+05      16.6          1.02       20.37
       2.39   229.89    .665E+05      64.8          1.22       17.11
       3.19   230.69    .133E+06     158.1          1.49       14.05
       4.00   231.50    .213E+06     308.6          1.82       11.48
       4.80   232.30    .299E+06     504.9          2.11        9.89
       5.61   233.11    .394E+06     746.6          2.37        8.79
       6.41   233.91    .496E+06    1034.5          2.61        7.99
       7.21   234.71    .605E+06    1373.3          2.84        7.35
       8.02   235.52    .722E+06    1763.3          3.06        6.82
       8.82   236.32    .844E+06    2202.0          3.27        6.39
       9.63   237.13    .974E+06    2690.5          3.46        6.03
      10.43   237.93    .111E+07    3239.5          3.66        5.71
      11.23   238.73    .125E+07    3839.0          3.84        5.43
      12.04   239.54    .140E+07    4489.1          4.03        5.18
      12.84   240.34    .155E+07    5190.5          4.20        4.97
      13.65   241.15    .170E+07    5943.8          4.36        4.78
      14.45   241.95    .187E+07    6749.8          4.53        4.61
      15.26   242.76    .204E+07    7609.4          4.68        4.46

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     1.00   7.00   6.68      0.49      0.97
     OUTFLOW: ID= 1 (6428)  296.74     0.96   7.50   6.68      0.47      0.97

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.184     6.50      4.73
       + ID2= 2 (6428):   296.74   0.963     7.50      6.68
         ================================================
         ID = 3 (8200):   347.27   1.118     7.25      6.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   0.457     6.50      5.44
       + ID2= 2 (8200):   347.27   1.118     7.25      6.40
         ================================================
         ID = 3 (8202):   458.91   1.531     7.00      6.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4321.0) ------>
             Distance      Elevation       Manning
                 0.00        221.00        0.0600
                15.29        219.85        0.0600
                45.86        219.86        0.0600
                76.44        219.96        0.0600
               110.84        220.23        0.0600
               112.00        220.15        0.0600
               114.66        220.09        0.0600
               118.48        219.73        0.0600
               120.80        219.70    0.0600 /0.0350  Main Channel
               121.30        219.20        0.0350      Main Channel
               122.30        219.20        0.0350      Main Channel
               122.80        219.70    0.0350 /0.0600  Main Channel
               129.95        220.11        0.0600
               175.81        220.24        0.0600
               214.03        220.55        0.0600
               252.25        220.61        0.0600
               290.47        220.70        0.0600
               328.69        221.04        0.0600
               347.80        221.08        0.0600
               378.37        221.04        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.08   219.28    .185E+03       0.0          0.23      149.38
       0.17   219.37    .399E+03       0.1          0.34      100.62
       0.25   219.45    .641E+03       0.1          0.42       80.98
       0.33   219.53    .911E+03       0.2          0.49       69.79
       0.42   219.62    .121E+04       0.3          0.55       62.35
       0.50   219.70    .154E+04       0.5          0.60       56.91
       0.61   219.81    .267E+04       0.7          0.56       61.28
       0.71   219.91    .901E+04       1.3          0.30      112.96
       0.82   220.02    .249E+05       3.4          0.28      122.71
       0.92   220.12    .452E+05       6.8          0.31      109.98
       1.03   220.23    .747E+05      12.2          0.33      102.05
       1.14   220.34    .112E+06      21.3          0.39       87.59
       1.24   220.44    .153E+06      33.0          0.44       77.01
       1.35   220.55    .196E+06      47.2          0.49       69.22
       1.46   220.66    .248E+06      62.3          0.51       66.48
       1.56   220.76    .310E+06      83.4          0.55       62.06
       1.67   220.87    .376E+06     108.8          0.59       57.56
       1.77   220.97    .444E+06     137.7          0.64       53.77
       1.88   221.08    .517E+06     163.6          0.65       52.70
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     1.53    7.00   6.17      0.72      0.30
     OUTFLOW: ID= 1 (6432)  458.91     1.14    9.50   6.17      0.68      0.35


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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.232     8.00     5.18
       + ID2= 2 (6432):   458.91   1.138     9.50     6.17
         ==========================================
         ID = 3 (8204):   573.12   1.344     9.25     5.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   1.344     9.25     5.97
       + ID2= 2 (8210):   601.20   1.644     7.50     5.60
         ==========================================
         ID = 3 (8212):  1174.32   2.836     8.00     5.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation       Manning
                 0.00         221.00        0.0350
                26.73         220.80        0.0350
                53.47         220.60        0.0350
                66.83         220.40        0.0350
                80.20         220.20        0.0350
               347.52         220.00        0.0350
               354.21         219.59        0.0350
               360.89         219.50        0.0350
               367.57         219.08        0.0350
               368.76         219.00    0.0350 /0.0300  Main Channel
               369.26         218.50        0.0300      Main Channel
               374.26         218.50        0.0300      Main Channel
               374.76         219.00    0.0300 /0.0350  Main Channel
               380.94         220.33        0.0350
               387.62         219.62        0.0350
               394.31         219.23        0.0350
               454.45         219.07        0.0350
               514.60         219.09        0.0350
               660.00         219.19        0.0350
               661.63         221.00        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.12   218.62    .100E+04        0.2         0.28      92.89
      0.25   218.75    .205E+04        0.6         0.43      60.09
      0.37   218.87    .315E+04        1.1         0.55      46.99
      0.50   219.00    .430E+04        1.8         0.66      39.67
      0.63   219.13    .141E+05        3.4         0.37      69.99
      0.77   219.27    .652E+05       13.7         0.33      79.14
      0.90   219.40    .124E+06       35.5         0.45      58.02
      1.03   219.53    .183E+06       65.7         0.56      46.45
      1.17   219.67    .245E+06      103.8         0.66      39.30
      1.30   219.80    .307E+06      149.3         0.76      34.30
      1.43   219.93    .371E+06      201.6         0.85      30.65
      1.57   220.07    .440E+06      256.5         0.91      28.56
      1.70   220.20    .541E+06      325.7         0.94      27.70
      1.83   220.33    .663E+06      415.2         0.98      26.62
      1.97   220.47    .787E+06      520.3         1.03      25.21
      2.10   220.60    .913E+06      638.5         1.09      23.82
      2.23   220.73    .104E+07      767.2         1.15      22.62
      2.37   220.87    .117E+07      908.0         1.21      21.54
      2.50   221.00    .131E+07     1060.7         1.27      20.57

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32     2.84    8.00   5.78      0.59      0.44
     OUTFLOW: ID= 1 (6442) 1174.32     2.60    9.75   5.78      0.57      0.47


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-------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.170     8.00     3.63
       + ID2= 2 (6442):  1174.32   2.599     9.75     5.78
         ==========================================
         ID = 3 (8214):  1291.58   2.744     9.75     5.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 25632.58  42.140    13.50     9.49
       + ID2= 2 (8214):  1291.58   2.744     9.75     5.59
         ==========================================
         ID = 3 (8196): 26924.15  43.675    13.25     9.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0444) |   Area     (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.03

    Unit Hyd Qpeak  (cms)=   3.656

    PEAK FLOW      (cms)=   0.556 (i)
    TIME TO PEAK   (hrs)=   7.500
    RUNOFF VOLUME   (mm)=   5.731
    TOTAL RAINFALL  (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.136

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   0.556     7.50     5.73
       + ID2= 2 (8196): 26924.15  43.675    13.25     9.31
         ==========================================
         ID = 3 (8216): 27145.80  43.879    13.00     9.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
================================================================================================================
```

EXISTING
EAST HOLLAND RIVER 5-YEAR STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\814cdde6-6a8a-4471-bdfd-8b92ff416e4b\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\814cdde6-6a8a-4471-bdfd-8b92ff416e4b\Scenario.sum

DATE: 08/22/2012                          TIME: 01:21:03

USER:

COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   6 **
  ****************************

-------------------
| CHICAGO STORM    |    IDF curve parameters: A=1770.000
| Ptotal= 78.03 mm |                          B=   4.000
-------------------                          C=   0.820
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.34 |  1.17   38.21 |  2.17   10.60 |  3.17    5.19
                0.33    5.00 |  1.33  203.31 |  2.33    8.96 |  3.33    4.81
                0.50    5.92 |  1.50   50.96 |  2.50    7.78 |  3.50    4.48
                0.67    7.33 |  1.67   25.51 |  2.67    6.90 |  3.67    4.20
                0.83    9.77 |  1.83   17.18 |  2.83    6.21 |  3.83    3.96
                1.00   15.10 |  2.00   13.06 |  3.00    5.65 |  4.00    3.74

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      91.70        66.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1026.65        40.00
     Mannings n             =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO  15.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.250    4.56 | 1.250   93.24 | 2.250   10.05 |  3.25    5.07
               0.500    5.61 | 1.500  101.74 | 2.500    8.17 |  3.50    4.59
               0.750    8.14 | 1.750   22.73 | 2.750    6.67 |  3.75    4.12
               1.000   13.32 | 2.000   14.44 | 3.000    5.84 |  4.00    3.81

     Max.Eff.Inten.(mm/hr)=     101.74       111.68
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.63 (ii)   22.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.06        11.28         20.444 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03        42.84          52.80
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.55           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.64       165.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1357.94        40.00
     Mannings n             =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        78.37
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.94 (ii)   26.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      14.12        18.12         26.958 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        37.85         45.87
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.49          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.0870     6.1196
                         0.3730     3.2753   |   7.7230     7.0042
                         1.3370     3.4678   |   9.3080     7.8876
                         2.9800     4.4433   |   9.7080     7.8976
                         4.4520     5.2716   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    276.600     26.958      1.50       45.87
     OUTFLOW: ID= 1 (5166)    276.600      8.367      2.50       45.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.04
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.4077

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10  20.444     1.50    52.80
        + ID2= 2 (5166):   276.60   8.367     2.50    45.86
          ================================================
          ID = 3 (8134):   434.70  20.753     1.75    48.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.50       106.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     939.86        40.00
     Mannings n             =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        54.14
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.98 (ii)   25.65 (ii)
```

```
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.11         8.03        10.650 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        32.33         38.88
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.41          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19        30.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     823.41        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74       102.87
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.07 (ii)   21.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.83         4.87        17.437 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        41.06         59.24
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.53          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.6100     4.1638
                         0.3440     1.7056   |   8.2090     4.5053
                         3.1340     1.9730   |   8.8070     4.8468
                         4.1310     3.0607   |   9.2070     4.8568
                         5.1070     3.7142   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700     17.437      1.50      59.24
     OUTFLOW: ID= 1 (5164)    101.700      4.621      2.25      59.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.50
                    TIME SHIFT OF PEAK FLOW        (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.4059

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1642):   132.50  10.650     1.50    38.88
       + ID2= 2 (5164):   101.70   4.621     2.25    59.23
         ================================================
         ID = 3 (8132):   234.20  14.386     1.75    47.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   3.102 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  24.344
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.312

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   3.011 (i)
     TIME TO PEAK    (hrs)=   3.750
     RUNOFF VOLUME    (mm)=  22.520
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.289

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.596 (i)
     TIME TO PEAK    (hrs)=   2.750
     RUNOFF VOLUME    (mm)=  21.114
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   1.360 (i)
     TIME TO PEAK    (hrs)=   3.500
     RUNOFF VOLUME    (mm)=   6.646
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.348 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=   3.968
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.051

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0148):   417.89   1.360     3.50     6.65
       + ID2= 2 (0150):   105.88   0.348     2.25     3.97
         ================================================
         ID = 3 (8116):   523.77   1.659     3.00     6.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <----- DATA FOR SECTION (1521.0) ------>
```

```
             Distance      Elevation       Manning
                0.00         290.00        0.0500
               15.34         286.87        0.0500
               46.03         284.84        0.0500
               88.22         283.07        0.0500
              126.57         282.11        0.0500
              153.42         280.34        0.0500
              157.26         280.07        0.0500
              161.09         279.72        0.0500
              167.76         278.94    0.0500 /0.0300  Main Channel
              168.01         278.60        0.0300      Main Channel
              168.76         278.60        0.0300      Main Channel
              169.51         278.60        0.0300      Main Channel
              169.76         278.90    0.0300 /0.0500  Main Channel
              173.76         279.40        0.0500
              180.27         279.69        0.0500
              184.11         279.93        0.0500
              218.62         281.86        0.0500
              260.82         283.20        0.0500
              360.54         289.25        0.0500
              379.72         289.80        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.30  278.90   .114E+04        0.4        0.80       45.70
        0.87  279.47   .932E+04        4.2        0.98       37.22
        1.45  280.05   .353E+05       17.5        1.09       33.68
        2.02  280.62   .831E+05       47.8        1.26       29.01
        2.59  281.19   .155E+06      102.9        1.46       25.06
        3.17  281.77   .250E+06      189.3        1.66       22.03
        3.74  282.34   .375E+06      298.5        1.75       20.91
        4.32  282.92   .547E+06      456.5        1.83       19.98
        4.89  283.49   .767E+06      705.7        2.02       18.12
        5.46  284.06   .102E+07     1038.0        2.24       16.34
        6.04  284.64   .130E+07     1444.1        2.45       14.98
        6.61  285.21   .161E+07     1940.1        2.66       13.79
        7.18  285.78   .194E+07     2522.6        2.86       12.80
        7.76  286.36   .229E+07     3187.4        3.06       11.98
        8.33  286.93   .267E+07     3942.3        3.25       11.28
        8.91  287.51   .306E+07     4824.9        3.46       10.58
        9.48  288.08   .347E+07     5795.7        3.67        9.99
       10.05  288.65   .390E+07     6855.4        3.86        9.48
       10.63  289.23   .434E+07     8005.0        4.05        9.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)  (hrs)  (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     1.66   3.00  6.10      0.49      0.85
     OUTFLOW: ID= 1 (6152)  523.77     1.56   4.00  6.10      0.47      0.85


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-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0152):   124.37   1.596     2.75    21.11
      + ID2= 2 (6152):   523.77   1.558     4.00     6.10
        ================================================
        ID = 3 (8122):   648.14   3.031     3.50     8.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   2.333 (i)
     TIME TO PEAK    (hrs)=   2.750
     RUNOFF VOLUME    (mm)=  22.401
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.906 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  13.618
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.175

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0154) |   Area    (ha)= 200.32   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.188 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  10.436
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.134

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0154):   200.32   1.188     3.00    10.44
       + ID2= 2 (0156):    83.49   0.906     2.25    13.62
         ================================================
         ID = 3 (8118):   283.81   2.054     2.75    11.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <----- DATA FOR SECTION (1581.0) ------>
              Distance      Elevation       Manning
                 0.00         290.00        0.0400
                19.20         288.88        0.0400
                48.00         288.26        0.0400
               119.99         283.68        0.0400
               167.99         282.07        0.0400
               196.79         281.32        0.0400
               210.79         280.90        0.0400
               219.79         280.38    0.0400 /0.0300  Main Channel
               220.04         279.65        0.0300      Main Channel
               220.79         279.65        0.0300      Main Channel
               221.54         279.65        0.0300      Main Channel
               221.79         280.39    0.0300 /0.0400  Main Channel
               225.79         280.59        0.0400
               235.19         280.88        0.0400
               254.39         281.50        0.0400
               273.58         282.56        0.0400
               302.38         283.42        0.0400
               359.98         284.03        0.0400
               436.77         289.37        0.0400
               475.17         290.37        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.37  280.01   .973E+03        0.5        0.86       31.78
        0.73  280.38   .210E+04        1.5        1.18       23.16
        1.30  280.95   .149E+05        8.6        0.95       28.91
        1.86  281.51   .579E+05       40.0        1.13       24.12
        2.43  282.08   .133E+06      118.5        1.46       18.75
        2.99  282.64   .236E+06      254.6        1.77       15.46
        3.56  283.21   .369E+06      450.3        2.00       13.67
        4.13  283.78   .542E+06      702.7        2.13       12.86
        4.69  284.34   .767E+06     1125.2        2.41       11.36
        5.26  284.91   .101E+07     1697.1        2.75        9.93
        5.82  285.47   .127E+07     2379.1        3.07        8.91
        6.39  286.04   .155E+07     3171.4        3.36        8.14
        6.95  286.60   .184E+07     4075.5        3.64        7.53
        7.52  287.17   .215E+07     5093.1        3.89        7.03
        8.09  287.74   .247E+07     6226.5        4.13        6.62
        8.65  288.30   .281E+07     7461.2        4.36        6.28
        9.22  288.87   .318E+07     8635.1        4.46        6.13
        9.78  289.43   .357E+07    10143.6        4.67        5.86
       10.35  290.00   .398E+07    11608.8        4.79        5.71

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)  (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     2.05   2.75  11.37      0.77      1.16
     OUTFLOW: ID= 1 (6158)  283.81     1.99   3.25  11.37      0.77      1.16


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| ADD HYD   (8120) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0158):   178.59   2.333    2.75    22.40
      + ID2= 2 (6158):   283.81   1.990    3.25    11.37
        ================================================
        ID = 3 (8120):   462.40   4.318    3.00    15.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8124) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8120):   462.40   4.318    3.00    15.63
      + ID2= 2 (8122):   648.14   3.031    3.50     8.98
        ================================================
        ID = 3 (8124):  1110.54   7.308    3.25    11.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (1601.0) ------>
            Distance      Elevation       Manning
               0.00         261.02        0.0400
              29.89         254.30        0.0400
              40.75         252.58        0.0400
              62.49         251.30        0.0400
             114.11         250.94        0.0400
             130.41         248.58        0.0400
             141.28         247.50        0.0400
             154.86         246.87        0.0400
             155.20         246.70        0.0400
             160.20         246.30    0.0400 /0.0300  Main Channel
             160.30         245.30        0.0300      Main Channel
             165.20         245.30        0.0300      Main Channel
             165.30         246.30    0.0300 /0.0400  Main Channel
             168.45         246.96        0.0400
             195.62         249.20        0.0400
             203.77         250.82        0.0400
             225.50         256.78        0.0400
             244.52         261.14        0.0400
             255.39         261.95        0.0400
             268.97         261.92        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   245.80    .120E+05        2.9         1.18      68.31
        1.00   246.30    .242E+05        8.5         1.70      47.47
        1.92   247.22    .825E+05       31.7         1.86      43.34
        2.84   248.14    .248E+06      102.5         2.00      40.39
        3.76   249.06    .506E+06      247.7         2.37      34.03
        4.68   249.98    .832E+06      486.8         2.83      28.49
        5.60   250.90    .121E+07      814.9         3.27      24.71
        6.52   251.82    .180E+07     1157.1         3.11      25.97
        7.44   252.74    .253E+07     1840.2         3.52      22.92
        8.36   253.66    .331E+07     2727.1         3.98      20.25
        9.29   254.59    .414E+07     3782.6         4.43      18.22
       10.21   255.51    .499E+07     5010.7         4.86      16.61
       11.13   256.43    .589E+07     6397.4         5.26      15.33
       12.05   257.35    .681E+07     7932.8         5.64      14.31
       12.97   258.27    .777E+07     9621.2         5.99      13.46
       13.89   259.19    .877E+07    11469.4         6.33      12.74
       14.81   260.11    .980E+07    13478.4         6.66      12.12
       15.73   261.03    .109E+08    15651.7         6.97      11.58
       16.65   261.95    .120E+08    17492.5         7.07      11.42

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8124) 1110.54     7.31    3.25  11.75      0.89      1.55
    OUTFLOW: ID= 1 (6160) 1110.54     6.67    4.00  11.75      0.83      1.48
```

```
| ADD HYD   (8126) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0160):   318.82   3.011    3.75    22.52
      + ID2= 2 (6160):  1110.54   6.668    4.00    11.75
        ================================================
        ID = 3 (8126):  1429.36   9.670    4.00    14.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0162):   190.14   3.102    2.50    24.34
      + ID2= 2 (8126):  1429.36   9.670    4.00    14.15
        ================================================
        ID = 3 (8128):  1619.50  12.239    3.75    15.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8128):  1619.50  12.239    3.75    15.35
      + ID2= 2 (8132):   234.20  14.386    1.75    47.72
        ================================================
        ID = 3 (8130):  1853.70  19.676    1.75    19.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (1661.0) ------>
            Distance      Elevation       Manning
               0.00         248.36        0.0500
              41.67         246.98        0.0500
              95.82         244.93        0.0500
             149.98         242.42        0.0500
             191.64         241.88        0.0500
             224.97         239.90        0.0500
             229.13         239.35        0.0500
             233.30         237.77        0.0500
             237.47         236.57        0.0500
             240.63         235.60    0.0500 /0.0300  Main Channel
             241.63         234.10        0.0300      Main Channel
             247.13         234.10        0.0300      Main Channel
             247.53         235.60    0.0300 /0.0500  Main Channel
             254.13         236.25        0.0500
             266.63         236.77        0.0500
             283.29         237.84        0.0500
             291.63         238.89        0.0500
             329.12         244.66        0.0500
             370.78         249.55        0.0500
             412.44         253.17        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.75   234.85    .130E+05        6.0         1.36      36.45
        1.50   235.60    .276E+05       18.1         1.95      25.41
        2.25   236.35    .544E+05       40.0         2.18      22.69
        3.00   237.10    .117E+06       80.1         2.04      24.32
        3.75   237.85    .213E+06      148.9         2.07      23.89
        4.50   238.60    .334E+06      255.1         2.27      21.85
        5.25   239.35    .473E+06      395.8         2.49      19.90
        6.00   240.10    .631E+06      563.8         2.65      18.66
        6.75   240.85    .824E+06      773.2         2.79      17.77
        7.50   241.60    .106E+07     1037.9         2.92      16.97
        8.26   242.36    .135E+07     1326.7         2.92      16.94
        9.01   243.11    .173E+07     1758.5         3.01      16.44
        9.76   243.86    .217E+07     2285.9         3.13      15.81
       10.51   244.61    .265E+07     2909.5         3.26      15.17
       11.26   245.36    .318E+07     3619.1         3.37      14.67
       12.01   246.11    .377E+07     4417.4         3.48      14.21
       12.76   246.86    .441E+07     5348.0         3.60      13.75
       13.51   247.61    .512E+07     6394.0         3.71      13.34
       14.26   248.36    .589E+07     7580.3         3.82      12.95

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8130) 1853.70    19.68    1.75  19.44      1.55      1.96
    OUTFLOW: ID= 1 (6166) 1853.70    17.69    2.75  19.44      1.47      1.91
```

```
| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6166):  1853.70  17.691    2.75    19.44
      + ID2= 2 (8134):   434.70  20.753    1.75    48.38
        ================================================
        ID = 3 (8136):  2288.40  32.929    2.00    24.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     36.48         54.72
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    779.74         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    101.74         73.79
               over (min)      15.00         30.00
     Storage Coeff.  (min)=     10.71 (ii)    22.79 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.76          6.05         10.101 (iii)
     TIME TO PEAK    (hrs)=      1.50          1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03         37.02         46.38
     TOTAL RAINFALL   (mm)=     78.03         78.03         78.03
     RUNOFF COEFFICIENT   =      0.97          0.47          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0850     2.2999
                         0.3100     0.9668   |   5.0850     2.6924
                         1.2590     1.1373   |   5.9090     3.1012
                         2.2140     1.5358   |   6.3090     3.1112
                         3.0620     1.8918   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)     91.200     10.101      1.50      46.38
     OUTFLOW: ID= 1 (5202)     91.200      3.767      2.25      46.37

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.29
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.1767

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    215.06        162.24
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1585.98         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    101.74         94.45
               over (min)      15.00         30.00
     Storage Coeff.  (min)=     16.40 (ii)    27.34 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     30.29         21.25         45.473 (iii)
     TIME TO PEAK    (hrs)=      1.50          1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03         39.27         51.77
     TOTAL RAINFALL   (mm)=     78.03         78.03         78.03
     RUNOFF COEFFICIENT   =      0.97          0.50          0.66


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   377.30  45.473     1.50    51.77
       + ID2= 2 (5202):    91.20   3.767     2.25    46.37
         ==========================================================
         ID = 3 (8110):   468.50  46.110     1.50    50.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    107.18        358.82
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1762.57         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    101.74         23.39
               over (min)      15.00         45.00
     Storage Coeff.  (min)=     17.47 (ii)    36.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.69         12.77         16.125 (iii)
     TIME TO PEAK    (hrs)=      1.50          2.00          2.00
     RUNOFF VOLUME    (mm)=     76.03         18.31         23.50
     TOTAL RAINFALL   (mm)=     78.03         78.03         78.03
     RUNOFF COEFFICIENT   =      0.97          0.23          0.30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   2.676 (i)
     TIME TO PEAK    (hrs)=   4.000
     RUNOFF VOLUME    (mm)=  11.701
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------


-------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   2.676     4.00    11.70
       + ID2= 2 (0102):   466.00  16.125     2.00    23.50
         ==========================================================
         ID = 3 (8000):  1159.84  17.756     2.00    16.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                 0.00         330.16        0.0450
                50.03         328.36        0.0450
                89.34         326.33        0.0450
               117.94         324.30        0.0450
               160.82         322.75        0.0450
               178.34         319.96        0.0450
               183.34         319.81        0.0450
               184.34         319.38    0.0450 /0.0300  Main Channel
               185.09         318.78        0.0300      Main Channel
               185.84         318.72        0.0300      Main Channel
               186.84         319.32    0.0300 /0.0450  Main Channel
               193.84         319.70        0.0450
               198.84         320.38        0.0450
               200.13         320.81        0.0450
               218.00         322.49        0.0450
               239.44         323.49        0.0450
               250.17         323.96        0.0450
               275.18         325.20        0.0450
               310.92         326.47        0.0450
```

353.81 330.00 0.0450

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	319.02	.624E+03	0.1	0.45	73.00
0.60	319.32	.181E+04	0.6	0.67	49.46
1.23	319.95	.128E+05	4.9	0.77	43.38
1.86	320.58	.396E+05	19.1	0.96	34.50
2.48	321.20	.757E+05	43.5	1.15	28.98
3.11	321.83	.125E+06	81.2	1.30	25.58
3.74	322.46	.187E+06	135.9	1.45	22.92
4.37	323.09	.269E+06	195.6	1.45	22.90
5.00	323.72	.387E+06	287.8	1.48	22.44
5.63	324.35	.545E+06	428.4	1.56	21.22
6.25	324.97	.735E+06	630.5	1.71	19.42
6.88	325.60	.952E+06	876.1	1.83	18.12
7.51	326.23	.120E+07	1177.0	1.95	17.03
8.14	326.86	.149E+07	1554.4	2.08	15.93
8.77	327.49	.179E+07	2009.7	2.23	14.88
9.40	328.12	.213E+07	2533.9	2.37	13.99
10.02	328.74	.249E+07	3112.6	2.49	13.31
10.65	329.37	.288E+07	3760.9	2.60	12.75
11.28	330.00	.330E+07	4494.8	2.71	12.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8000)	1159.84	17.76	2.00	16.44	1.80	0.94
OUTFLOW: ID= 1 (6104)	1159.84	13.44	2.25	16.44	1.60	0.87

CALIB					
NASHYD (0104)	Area (ha)= 527.81	Curve Number (CN)= 43.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.34				

Unit Hyd Qpeak (cms)= 6.735

PEAK FLOW (cms)= 3.038 (i)
TIME TO PEAK (hrs)= 3.750
RUNOFF VOLUME (mm)= 12.930
TOTAL RAINFALL (mm)= 78.027
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8002)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0104):	527.81	3.038	3.75	12.93	
+ ID2= 2 (6104):	1159.84	13.441	2.25	16.44	
ID = 3 (8002):	1687.65	15.947	2.25	15.34	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0106)	Area (ha)= 259.52	Curve Number (CN)= 55.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.23				

Unit Hyd Qpeak (cms)= 3.614

PEAK FLOW (cms)= 2.330 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 18.846
TOTAL RAINFALL (mm)= 78.027
RUNOFF COEFFICIENT = 0.242

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8004)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0106):	259.52	2.330	3.50	18.85	
+ ID2= 2 (8002):	1687.65	15.947	2.25	15.34	
ID = 3 (8004):	1947.17	18.002	2.50	15.81	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6108)					
IN= 2---> OUT= 1	Routing time step (min)'= 15.00				

<----- DATA FOR SECTION (1081.0) ------>

Distance	Elevation	Manning	
0.00	326.06	0.0400	
12.06	325.74	0.0400	
30.15	324.28	0.0400	
59.27	320.35	0.0400	
72.37	317.60	0.0400	
87.45	314.52	0.0400	
93.48	313.91	0.0400	
105.54	313.55	0.0400	
106.17	313.40	0.0400 /0.0300	Main Channel
110.62	313.04	0.0300	Main Channel
110.82	312.97	0.0300	Main Channel
111.57	313.08	0.0300	Main Channel
111.67	313.48	0.0300 /0.0400	Main Channel
129.66	316.62	0.0400	
150.77	318.95	0.0400	
180.92	319.61	0.0400	
205.04	321.23	0.0400	
232.18	322.09	0.0400	
268.37	322.31	0.0400	
298.52	326.00	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	313.40	.244E+04	0.7	0.59	58.83
1.09	314.06	.214E+05	10.4	1.01	34.24
1.76	314.73	.600E+05	40.2	1.39	24.89
2.42	315.39	.109E+06	92.1	1.75	19.80
3.08	316.05	.169E+06	166.5	2.05	16.88
3.75	316.72	.237E+06	264.4	2.31	14.97
4.41	317.38	.318E+06	386.3	2.52	13.72
5.07	318.04	.411E+06	539.3	2.72	12.71
5.74	318.71	.517E+06	725.5	2.91	11.88
6.40	319.37	.642E+06	909.2	2.94	11.77
7.06	320.03	.806E+06	1179.3	3.04	11.38
7.72	320.69	.989E+06	1515.9	3.18	10.87
8.39	321.36	.119E+07	1895.5	3.30	10.49
9.05	322.02	.143E+07	2310.2	3.36	10.30
9.71	322.68	.172E+07	2763.2	3.33	10.39
10.38	323.35	.205E+07	3477.6	3.53	9.81
11.04	324.01	.238E+07	4284.3	3.73	9.27
11.70	324.67	.274E+07	5154.0	3.91	8.85
12.37	325.34	.311E+07	6104.0	4.08	8.48

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8004)	1947.17	18.00	2.50	15.81	1.26	1.09
OUTFLOW: ID= 1 (6108)	1947.17	16.29	3.00	15.81	1.22	1.07

CALIB					
NASHYD (0108)	Area (ha)= 207.05	Curve Number (CN)= 27.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.03				

Unit Hyd Qpeak (cms)= 3.432

PEAK FLOW (cms)= 0.777 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 6.951
TOTAL RAINFALL (mm)= 78.027
RUNOFF COEFFICIENT = 0.089

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8006)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0108):	207.05	0.777	3.25	6.95	
+ ID2= 2 (6108):	1947.17	16.288	3.00	15.81	
ID = 3 (8006):	2154.22	17.065	3.00	14.96	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0110)	Area (ha)= 323.92	Curve Number (CN)= 52.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 1.35				

Unit Hyd Qpeak (cms)= 4.087

PEAK FLOW (cms)= 2.465 (i)

```
     TIME TO PEAK    (hrs)=   3.750
     RUNOFF VOLUME    (mm)=  17.231
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0110):   323.92   2.465     3.75    17.23
      + ID2= 2 (8006):  2154.22  17.065     3.00    14.96
        ================================================
        ID = 3 (8008):  2478.14  19.465     3.00    15.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1121.0) ------>
              Distance      Elevation       Manning
                 0.00         320.59        0.0400
                13.48         317.93        0.0400
                40.45         311.52        0.0400
                64.04         307.68        0.0400
                74.15         307.01        0.0400
                91.00         307.22        0.0400
               107.86         305.21        0.0400
               111.23         304.86        0.0400
               113.32         304.60    0.0400 /0.0300  Main Channel
               117.77         304.24        0.0300      Main Channel
               117.97         304.17        0.0300      Main Channel
               118.72         304.28        0.0300      Main Channel
               118.82         304.68    0.0300 /0.0400  Main Channel
               124.71         304.76        0.0400
               171.90         306.30        0.0400
               205.60         307.24        0.0400
               239.31         308.24        0.0400
               262.90         310.64        0.0400
               289.86         314.34        0.0400
               333.68         317.66        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43  304.60    .372E+04        0.6         0.54      97.65
        1.12  305.29    .463E+05       12.5         0.85      61.89
        1.80  305.97    .149E+06       53.0         1.13      46.85
        2.49  306.66    .311E+06      134.2         1.37      38.62
        3.18  307.35    .554E+06      261.6         1.50      35.27
        3.87  308.04    .894E+06      490.7         1.74      30.37
        4.55  308.72    .129E+07      833.0         2.05      25.75
        5.24  309.41    .171E+07     1269.8         2.36      22.39
        5.93  310.10    .215E+07     1789.0         2.64      20.01
        6.62  310.79    .261E+07     2392.7         2.90      18.21
        7.30  311.47    .310E+07     3087.8         3.16      16.74
        7.99  312.16    .361E+07     3873.6         3.40      15.52
        8.68  312.85    .413E+07     4741.0         3.64      14.52
        9.37  313.54    .467E+07     5689.3         3.86      13.69
       10.05  314.22    .523E+07     6718.4         4.07      12.97
       10.74  314.91    .581E+07     7770.7         4.24      12.46
       11.43  315.60    .641E+07     8897.5         4.40      12.01
       12.12  316.29    .704E+07    10113.2         4.55      11.61
       12.80  316.97    .770E+07    11420.1         4.70      11.24

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.14    19.46    3.00  15.26      1.24      0.89
     OUTFLOW: ID= 1 (6112) 2478.14    16.60    4.25  15.26      1.19      0.87
```

```
-------------------
| CALIB           |
| NASHYD   (0112) |   Area    (ha)= 414.89   Curve Number   (CN)= 30.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   3.699

     PEAK FLOW       (cms)=   1.107 (i)
     TIME TO PEAK    (hrs)=   4.000
     RUNOFF VOLUME    (mm)=   7.980
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.102

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0112):   414.89   1.107     4.00     7.98
      + ID2= 2 (6112):  2478.14  16.596     4.25    15.26
        ================================================
        ID = 3 (8010):  2893.03  17.700     4.25    14.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1141.0) ------>
              Distance      Elevation       Manning
                 0.00         312.27        0.0500
                14.07         309.70        0.0500
                28.14         306.51        0.0500
                35.17         305.81        0.0500
                42.20         304.95        0.0500
                52.75         304.24        0.0500
                77.37         303.61        0.0500
                98.47         301.33        0.0500
               131.76         300.40    0.0500 /0.0300  Main Channel
               136.21         300.04        0.0300      Main Channel
               136.41         299.97        0.0300      Main Channel
               137.16         300.08        0.0300      Main Channel
               137.26         300.48    0.0300 /0.0500  Main Channel
               140.68         300.53        0.0500
               179.36         302.20        0.0500
               214.53         303.82        0.0500
               242.66         305.27        0.0500
               288.38         307.66        0.0500
               316.52         311.76        0.0500
               348.17         313.48        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43  300.40    .366E+04        0.7         0.59      88.31
        1.05  301.02    .505E+05       12.1         0.75      69.49
        1.68  301.65    .165E+06       52.7         0.99      52.28
        2.30  302.27    .324E+06      130.3         1.26      41.40
        2.93  302.90    .520E+06      247.1         1.48      35.08
        3.55  303.52    .754E+06      406.8         1.68      30.91
        4.18  304.15    .104E+07      586.1         1.76      29.55
        4.80  304.77    .138E+07      856.0         1.93      26.96
        5.43  305.40    .177E+07     1201.1         2.12      24.56
        6.05  306.02    .219E+07     1612.2         2.30      22.63
        6.68  306.65    .264E+07     2090.6         2.47      21.07
        7.30  307.27    .313E+07     2653.0         2.64      19.65
        7.93  307.90    .364E+07     3303.9         2.83      18.36
        8.55  308.52    .417E+07     4053.9         3.03      17.14
        9.18  309.15    .471E+07     4871.9         3.22      16.12
        9.80  309.77    .527E+07     5756.2         3.41      15.25
       10.43  310.40    .584E+07     6699.8         3.58      14.52
       11.05  311.02    .642E+07     7710.5         3.74      13.89
       11.68  311.65    .702E+07     8788.5         3.90      13.32

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.03    17.70    4.25  14.21      1.14      0.77
     OUTFLOW: ID= 1 (6114) 2893.03    15.47    5.25  14.21      1.11      0.76
```

```
-------------------
| CALIB           |
| NASHYD   (0114) |   Area    (ha)= 287.65   Curve Number   (CN)= 49.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.389

     PEAK FLOW       (cms)=   2.300 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  15.670
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0114):   287.65   2.300     3.25    15.67
```

```
       + ID2= 2 (6114):  2893.03  15.465     5.25    14.21
         ==================================================
         ID = 3 (8012):  3180.68  17.112     5.25    14.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0116)  |   Area     (ha)= 206.43   Curve Number    (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   4.394

    PEAK FLOW       (cms)=   3.331 (i)
    TIME TO PEAK    (hrs)=   2.500
    RUNOFF VOLUME    (mm)=  24.351
    TOTAL RAINFALL   (mm)=  78.027
    RUNOFF COEFFICIENT   =   0.312

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0116):   206.43   3.331     2.50    24.35
       + ID2= 2 (8012):  3180.68  17.112     5.25    14.34
         ==================================================
         ID = 3 (8014):  3387.11  18.875     5.00    14.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1181.0) ------>
            Distance      Elevation       Manning
               0.00         307.18        0.0450
              24.89         299.75        0.0450
              37.34         296.39        0.0450
              71.57         292.75        0.0450
              96.46         291.12        0.0450
             108.90         289.43        0.0450
             112.02         288.86        0.0450
             115.13         288.46        0.0450
             117.24         288.32    0.0450 /0.0350  Main Channel
             117.49         288.15        0.0350      Main Channel
             118.24         288.00        0.0350      Main Channel
             118.99         288.20        0.0350      Main Channel
             119.24         288.36    0.0350 /0.0450  Main Channel
             121.35         288.40        0.0450
             149.35         289.36        0.0450
             171.14         290.47        0.0450
             208.47         293.14        0.0450
             236.48         295.17        0.0450
             280.04         299.48        0.0450
             308.04         307.00        0.0450

    <-------------------- TRAVEL TIME TABLE --------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.32   288.32    .116E+04       0.2          0.62       81.92
     1.30   289.30    .631E+05      22.2          1.07       47.43
     2.29   290.29    .218E+06     117.5          1.64       30.95
     3.27   291.27    .448E+06     314.6          2.15       23.72
     4.25   292.25    .756E+06     625.6          2.53       20.13
     5.24   293.24    .115E+07    1093.2          2.91       17.50
     6.22   294.22    .161E+07    1731.6          3.28       15.50
     7.20   295.20    .214E+07    2547.4          3.63       14.01
     8.19   296.19    .274E+07    3584.9          4.00       12.72
     9.17   297.17    .338E+07    4859.1          4.39       11.60
    10.15   298.15    .407E+07    6341.5          4.76       10.70
    11.13   299.13    .480E+07    8024.6          5.11        9.97
    12.12   300.12    .556E+07   10006.6          5.49        9.27
    13.10   301.10    .635E+07   12244.6          5.89        8.64
    14.08   302.08    .716E+07   14681.7          6.26        8.13
    15.07   303.07    .799E+07   17316.5          6.62        7.69
    16.05   304.05    .884E+07   20148.1          6.96        7.31
    17.03   305.03    .971E+07   23176.2          7.29        6.98
    18.02   306.02    .106E+08   26400.8          7.61        6.69

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8014) 3387.11    18.87    5.00  14.95      1.16      0.97
    OUTFLOW: ID= 1 (6118) 3387.11    17.91    5.75  14.95      1.11      0.94


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0118)  |   Area     (ha)= 340.53   Curve Number    (CN)= 45.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

    Unit Hyd Qpeak  (cms)=   5.200

    PEAK FLOW       (cms)=   2.396 (i)
    TIME TO PEAK    (hrs)=   3.250
    RUNOFF VOLUME    (mm)=  13.787
    TOTAL RAINFALL   (mm)=  78.027
    RUNOFF COEFFICIENT   =   0.177

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   2.396     3.25    13.79
       + ID2= 2 (6118):  3387.11  17.914     5.75    14.95
         ==================================================
         ID = 3 (8016):  3727.64  19.506     5.50    14.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1221.0) ------>
            Distance      Elevation       Manning
               0.00         277.00        0.0500
              52.18         272.82        0.0500
              86.97         269.38        0.0500
             134.80         267.35        0.0500
             160.89         263.85        0.0500
             169.58         262.88        0.0500
             178.28         262.45        0.0500
             195.67         262.07        0.0500
             213.07         260.99        0.0500
             226.01         259.80    0.0500 /0.0300  Main Channel
             226.11         259.30        0.0300      Main Channel
             230.11         259.30        0.0300      Main Channel
             230.21         259.80    0.0300 /0.0500  Main Channel
             235.01         260.20        0.0500
             239.15         260.57        0.0500
             243.50         260.93        0.0500
             300.03         264.43        0.0500
             339.16         268.34        0.0500
             373.95         272.36        0.0500
             430.48         277.46        0.0500

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.50   259.80    .626E+04       2.5          1.23       41.35
     1.41   260.71    .462E+05      21.8          1.44       35.27
     2.31   261.61    .149E+06      79.6          1.63       31.19
     3.22   262.52    .340E+06     200.1          1.80       28.34
     4.12   263.42    .636E+06     446.8          2.15       23.71
     5.03   264.33    .995E+06     819.9          2.52       20.23
     5.93   265.23    .141E+07    1337.0          2.90       17.56
     6.84   266.14    .187E+07    1984.8          3.25       15.67
     7.74   267.04    .237E+07    2766.0          3.57       14.26
     8.65   267.95    .292E+07    3596.9          3.76       13.53
     9.55   268.85    .355E+07    4575.4          3.93       12.95
    10.46   269.76    .427E+07    5814.9          4.16       12.23
    11.36   270.66    .503E+07    7319.0          4.44       11.46
    12.27   271.57    .584E+07    9009.7          4.71       10.81
    13.17   272.47    .670E+07   10886.3          4.96       10.26
    14.08   273.38    .761E+07   12893.2          5.17        9.84
    14.98   274.28    .858E+07   15098.1          5.37        9.48
    15.89   275.19    .961E+07   17527.6          5.57        9.14
    16.79   276.09    .107E+08   20190.3          5.76        8.83

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8016) 3727.64    19.51    5.50  14.85      1.30      1.41
    OUTFLOW: ID= 1 (6122) 3727.64    18.83    6.00  14.85      1.26      1.41


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1221)  |   Area     (ha)=  17.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       6.37        11.33
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     343.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        16.42
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.55 (ii)   28.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.93         0.35          1.160 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        12.28         24.39
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.16          0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  35.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1840      0.4294
                         0.0600     0.1855   |   1.4870      0.5014
                         0.3430     0.2103   |   1.7310      0.5718
                         0.6390     0.2878   |   2.1310      0.5818
                         0.8860     0.3509   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)     17.700     1.160      1.50      24.39
     OUTFLOW: ID= 1 (5122)     17.700     0.395      2.00      24.35

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.01
                    TIME SHIFT OF PEAK FLOW        (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2256

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1222) |   Area    (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   1.695 (i)
     TIME TO PEAK    (hrs)=   4.000
     RUNOFF VOLUME    (mm)=  12.094
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   347.20   1.695    4.00     12.09
       + ID2= 2 (5122):    17.70   0.395    2.00     24.35
         ================================================
         ID = 3 (8018):   364.90   1.822    2.75     12.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  18.831     6.00     14.85
       + ID2= 2 (8018):   364.90   1.822     2.75     12.69
         ================================================
         ID = 3 (8020):  4092.54  20.141     6.00     14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.00

|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.00        32.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     577.35        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        21.69
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.94 (ii)   28.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.51         1.29          4.358 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        17.43         32.66
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.22          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3450      1.2129
                         0.1690     0.5421   |   4.2000      1.4164
                         0.9690     0.5941   |   4.8890      1.6153
                         1.8040     0.8130   |   5.2890      1.6253
                         2.5020     0.9912   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.000     4.358      1.50      32.66
     OUTFLOW: ID= 1 (5126)     50.000     1.756      2.00      32.65

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.29
                    TIME SHIFT OF PEAK FLOW        (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8021

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   1.461 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  20.262
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.260

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.50   1.461     2.25     20.26
       + ID2= 2 (5126):    50.00   1.756     2.00     32.65
         ================================================
         ID = 3 (8024):   133.50   3.194     2.00     24.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.406 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  12.659
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.162
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8026)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0124):	121.43	1.406	2.25	12.66
	+ ID2= 2 (8024):	133.50	3.194	2.00	24.90
	ID = 3 (8026):	254.93	4.595	2.00	19.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6128)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1281.0) ------>

Distance	Elevation	Manning	
0.00	270.58	0.0400	
7.71	270.36	0.0400	
15.43	269.48	0.0400	
23.14	265.88	0.0400	
42.43	261.83	0.0400	
61.71	258.31	0.0400	
75.21	256.62	0.0400	
90.64	255.35	0.0400	
92.49	255.00	0.0400 /0.0300	Main Channel
93.49	254.00	0.0300	Main Channel
94.49	253.90	0.0300	Main Channel
94.99	253.80	0.0300	Main Channel
95.49	253.70	0.0300	Main Channel
95.99	253.80	0.0300	Main Channel
98.49	255.00	0.0300 /0.0400	Main Channel
100.28	255.44	0.0400	
134.99	257.45	0.0400	
148.49	259.67	0.0400	
167.77	263.42	0.0400	
190.92	270.00	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	254.35	.439E+04	2.0	1.24	36.10
1.30	255.00	.131E+05	9.4	1.92	23.39
2.18	255.88	.433E+05	37.0	2.30	19.54
3.06	256.76	.131E+06	113.3	2.34	19.20
3.95	257.65	.273E+06	273.8	2.70	16.64
4.83	258.53	.453E+06	538.5	3.21	14.01
5.71	259.41	.658E+06	902.9	3.70	12.14
6.59	260.29	.886E+06	1368.4	4.16	10.79
7.48	261.18	.114E+07	1936.3	4.59	9.79
8.36	262.06	.141E+07	2610.9	4.99	9.01
9.24	262.94	.171E+07	3398.7	5.37	8.36
10.12	263.82	.202E+07	4309.6	5.75	7.81
11.01	264.71	.235E+07	5347.5	6.13	7.33
11.89	265.59	.270E+07	6501.0	6.48	6.93
12.77	266.47	.307E+07	7808.6	6.86	6.55
13.65	267.35	.345E+07	9250.5	7.23	6.21
14.54	268.24	.384E+07	10808.3	7.59	5.92
15.42	269.12	.424E+07	12482.5	7.94	5.66
16.30	270.00	.466E+07	14127.4	8.18	5.49

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8026)	254.93	4.60	2.00	19.07	0.88	1.42
OUTFLOW:	ID= 1 (6128)	254.93	3.90	2.75	19.07	0.82	1.37

CALIB				
NASHYD (8028)	Area (ha)= 240.24	Curve Number (CN)= 62.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 1.00			

Unit Hyd Qpeak (cms)= 4.118

PEAK FLOW (cms)= 3.108 (i)
TIME TO PEAK (hrs)= 3.000
RUNOFF VOLUME (mm)= 23.079
TOTAL RAINFALL (mm)= 78.027
RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8028)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6128):	240.24	3.108	3.00	23.08
	+ ID2= 2 (6128):	254.93	3.905	2.75	19.07
	ID = 3 (8028):	495.17	6.999	2.75	21.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8022)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8020):	4092.54	20.141	6.00	14.65
	+ ID2= 2 (8028):	495.17	6.999	2.75	21.01
	ID = 3 (8022):	4587.71	22.719	5.75	15.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1201)	Area (ha)= 86.00		
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 14.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.96	55.04
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	757.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		101.74	28.99
over (min)		15.00	30.00
Storage Coeff. (min)=		10.52 (ii)	28.08 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.04

		TOTALS
PEAK FLOW	(cms)=	3.18 2.98 5.157 (iii)
TIME TO PEAK	(hrs)=	1.50 1.75 1.50
RUNOFF VOLUME	(mm)=	76.03 19.78 27.66
TOTAL RAINFALL	(mm)=	78.03 78.03 78.03
RUNOFF COEFFICIENT	=	0.97 0.25 0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5120)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	5.7530	2.0863	
	0.2910	0.9015	7.2230	2.4361	
	1.6660	1.0219	8.4090	2.7784	
	3.1030	1.3984	8.8090	2.7884	
	4.3040	1.7049	0.0000	0.0000	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (1201)	86.000	5.157	1.50	27.66
OUTFLOW:	ID= 1 (5120)	86.000	2.281	2.25	27.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.22
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.1840

CALIB				
NASHYD (1202)	Area (ha)= 161.00	Curve Number (CN)= 58.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.70			

Unit Hyd Qpeak (cms)= 3.932

PEAK FLOW (cms)= 2.409 (i)
TIME TO PEAK (hrs)= 2.500
RUNOFF VOLUME (mm)= 20.394
TOTAL RAINFALL (mm)= 78.027
RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):   161.00   2.409     2.50    20.39
       + ID2= 2 (5120):    86.00   2.281     2.25    27.65
         ================================================
         ID = 3 (8030):   247.00   4.670     2.25    22.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.71  22.719     5.75    15.34
       + ID2= 2 (8030):   247.00   4.670     2.25    22.92
         ================================================
         ID = 3 (8032):  4834.71  23.776     5.50    15.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1301.0) ------>
             Distance      Elevation       Manning
                0.00         257.18        0.0350
               62.45         254.70        0.0350
              109.29         252.74        0.0350
              150.92         251.55        0.0350
              192.56         248.96        0.0350
              239.39         247.16        0.0350
              291.84         246.00        0.0350
              296.84         245.00        0.0350
              298.84         245.00    0.0350 /0.0300  Main Channel
              299.24         244.60        0.0300      Main Channel
              301.84         244.60        0.0300      Main Channel
              303.44         244.60        0.0300      Main Channel
              303.84         245.00    0.0300 /0.0350  Main Channel
              306.84         245.00        0.0350
              309.84         246.00        0.0350
              317.46         247.22        0.0350
              348.68         254.83        0.0350
              359.09         256.70        0.0350
              452.76         258.23        0.0350
              515.22         258.33        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.40   245.00    .870E+04       1.2          0.64     124.12
        1.04   245.64    .468E+05       9.5          0.96      81.81
        1.68   246.28    .109E+06      25.6          1.11      70.86
        2.32   246.92    .257E+06      63.5          1.17      67.51
        2.96   247.56    .498E+06     142.7          1.36      58.18
        3.61   248.21    .800E+06     266.7          1.58      50.01
        4.25   248.85    .116E+07     437.4          1.78      44.24
        4.89   249.49    .157E+07     669.1          2.01      39.20
        5.53   250.13    .203E+07     954.9          2.23      35.36
        6.17   250.77    .252E+07    1294.4          2.43      32.42
        6.81   251.41    .305E+07    1689.6          2.62      30.07
        7.45   252.05    .363E+07    2090.7          2.73      28.93
        8.09   252.69    .429E+07    2553.1          2.82      27.98
        8.73   253.33    .501E+07    3138.4          2.96      26.60
        9.37   253.97    .579E+07    3803.8          3.11      25.36
       10.02   254.62    .662E+07    4549.3          3.25      24.25
       10.66   255.26    .751E+07    5364.9          3.38      23.32
       11.30   255.90    .845E+07    6265.7          3.51      22.49
       11.94   256.54    .946E+07    7260.1          3.63      21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)       (m/s)
     INFLOW : ID= 2 (8032) 4834.71    23.78    5.50  15.73      1.61      1.09
     OUTFLOW: ID= 1 (6130) 4834.71    22.16    6.50  15.73      1.55      1.08
```

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--------------------
| CALIB            |
| STANDHYD  (1301) |   Area    (ha)= 228.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.39         79.91
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1233.69         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74        99.20
               over (min)       15.00        30.00
     Storage Coeff. (min)=      14.10 (ii)   24.84 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     26.52        11.57       34.968 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75        1.50
     RUNOFF VOLUME    (mm)=     76.03        41.78       57.87
     TOTAL RAINFALL   (mm)=     78.03        78.03       78.03
     RUNOFF COEFFICIENT   =      0.97         0.54        0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4560     7.0142
                          0.8210     3.9074   |  14.9550     7.8554
                          4.8550     4.4209   |  22.4790     8.9550
                          7.0620     5.2214   |  22.8790     8.9650
                          9.5970     6.0904   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    228.300     34.968      1.50      57.87
     OUTFLOW: ID= 1 (5130)    228.300     12.646      2.25      57.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.16
                   TIME SHIFT OF PEAK FLOW        (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.1666
```

```
--------------------
| CALIB            |
| NASHYD    (1302) |   Area    (ha)= 157.80   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.82

     Unit Hyd Qpeak  (cms)=   1.479

     PEAK FLOW       (cms)=   1.913 (i)
     TIME TO PEAK    (hrs)=   4.000
     RUNOFF VOLUME    (mm)=  34.656
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):   157.80   1.913     4.00    34.66
       + ID2= 2 (5130):   228.30  12.646     2.25    57.87
         ================================================
         ID = 3 (8036):   386.10  14.102     2.25    48.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.71  22.162     6.50    15.73
       + ID2= 2 (8036):   386.10  14.102     2.25    48.38
         ================================================
         ID = 3 (8034):  5220.81  24.380     6.25    18.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (6188) |   Area    (ha)= 308.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.50        182.03
     Dep. Storage     (mm)=       3.00          5.00
     Average Slope     (%)=       0.10          0.10
```

```
     Length           (m)=    1434.18        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      97.49        36.61
               over (min)        30.00        60.00
     Storage Coeff.  (min)=     25.45 (ii)   51.37 (ii)
     Unit Hyd. Tpeak (min)=     30.00        60.00
     Unit Hyd. peak  (cms)=      0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=     13.27         7.88        17.560 (iii)
     TIME TO PEAK    (hrs)=      1.75         2.25         1.75
     RUNOFF VOLUME    (mm)=     75.03        25.78        38.09
     TOTAL RAINFALL   (mm)=     78.03        78.03        78.03
     RUNOFF COEFFICIENT   =      0.96         0.33         0.49


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      97.49        33.92
               over (min)        30.00        60.00
     Storage Coeff.  (min)=     26.47 (ii)   53.19 (ii)
     Unit Hyd. Tpeak (min)=     30.00        60.00
     Unit Hyd. peak  (cms)=      0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=     13.11         8.06        17.473 (iii)
     TIME TO PEAK    (hrs)=      1.75         2.25         1.75
     RUNOFF VOLUME    (mm)=     75.03        22.84        34.32
     TOTAL RAINFALL   (mm)=     78.03        78.03        78.03
     RUNOFF COEFFICIENT   =      0.96         0.29         0.44


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8068) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0186):   351.79  17.473     1.75    34.32
       + ID2= 2 (0188):   308.53  17.560     1.75    38.09
         ================================================
         ID = 3 (8068):   660.32  35.033     1.75    36.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        48.56
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.39 (ii)   25.67 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      4.94         4.54         8.008 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75         1.50
     RUNOFF VOLUME    (mm)=     76.03        22.70        31.77
     TOTAL RAINFALL   (mm)=     78.03        78.03        78.03
     RUNOFF COEFFICIENT   =      0.97         0.29         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7800     2.5656
                         0.3790     1.0287   |   7.3720     3.0829
                         1.6240     1.1939   |   8.7710     3.5956
                         3.0930     1.6631   |   9.1710     3.6056
                         4.3530     2.1032   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     8.008      1.50      31.77
     OUTFLOW: ID= 1 (5182)    111.800     3.284      2.25      31.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.01
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.7312

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.591 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  19.857
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.254

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.591     2.50    19.86
       + ID2= 2 (5182):   111.80   3.284     2.25    31.76
         ================================================
         ID = 3 (8062):   156.20   3.861     2.25    28.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     981.16        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        66.71
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.29 (ii)   24.87 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      7.02         7.14        11.961 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75         1.50
     RUNOFF VOLUME    (mm)=     76.03        27.58        36.79
     TOTAL RAINFALL   (mm)=     78.03        78.03        78.03
     RUNOFF COEFFICIENT   =      0.97         0.35         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.8820     2.3298
                          0.2960     1.0006   |   7.4070     2.7386
                          1.6530     1.1680   |   8.6830     3.1418
                          3.0860     1.4687   |   9.0830     3.1518
                          4.3760     1.8752   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    144.400     11.961      1.50      36.79
     OUTFLOW: ID= 1 (5184)    144.400      5.715      2.25      36.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.78
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.3105

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--------------------
| CALIB            |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.60        68.50
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     887.32        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        57.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.57 (ii)   24.91 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.20         5.61          9.049 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=     76.03        25.96          34.47
     TOTAL RAINFALL   (mm)=     78.03        78.03          78.03
     RUNOFF COEFFICIENT   =      0.97         0.33           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1842):   118.10   9.049     1.50    34.47
        + ID2= 2 (5184):   144.40   5.715     2.25    36.78
          ================================================
          ID = 3 (8060):   262.50  12.413     1.75    35.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8060):   262.50  12.413     1.75    35.74
        + ID2= 2 (8062):   156.20   3.861     2.25    28.38
          ================================================
          ID = 3 (8064):   418.70  15.102     1.75    32.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.00         7.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     305.51        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        92.57
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      6.10 (ii)   17.14 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.17         1.10          2.012 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=     76.03        42.08          52.26
     TOTAL RAINFALL   (mm)=     78.03        78.03          78.03
     RUNOFF COEFFICIENT   =      0.97         0.54           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9360     0.3780
                          0.0470     0.1841   |   1.1760     0.4277
                          0.2710     0.2148   |   1.3690     0.4763
                          0.5050     0.2704   |   1.7690     0.4863
                          0.7010     0.3197   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)    14.000      2.012      1.50      52.26
     OUTFLOW: ID= 1 (5178)    14.000      0.853      2.00      52.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.39
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3583

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=   4.813 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  36.559
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.469

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1782):   261.40   4.813     3.00    36.56
        + ID2= 2 (5178):    14.00   0.853     2.00    52.19
          ================================================
          ID = 3 (8046):   275.40   5.355     2.75    37.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   2.826 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  25.215
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0180):   226.65   2.826     3.25    25.21
        + ID2= 2 (8046):   275.40   5.355     2.75    37.35
          ================================================
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         ID = 3 (8050):   502.05   8.126     3.00    31.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70        36.60
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     612.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        57.75
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.27 (ii)   22.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.73         3.14          4.919 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        29.28         37.70
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.38          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1370     1.3070
                         0.0580     0.5427   |   1.4280     1.5354
                         0.3290     0.6196   |   1.6620     1.7593
                         0.6130     0.8627   |   2.0620     1.7693
                         0.8510     1.0621   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300     4.919     1.50      37.70
     OUTFLOW: ID= 1 (5174)     56.300     1.160     2.75      37.66

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.58
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3278

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.842 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  29.633
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   1.842    2.50     29.63
       + ID2= 2 (5174):    56.30   1.160    2.75     37.66
         ==================================================
         ID = 3 (8044):   139.10   2.989     2.50    32.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   4.557 (i)
     TIME TO PEAK    (hrs)=   2.750
     RUNOFF VOLUME    (mm)=  36.417
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   2.916 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  17.074
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.775 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  25.060
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   2.916     2.50     17.07
       + ID2= 2 (0170):   166.91   2.775     2.50     25.06
         ==================================================
         ID = 3 (8040):   414.04   5.691     2.50     20.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   4.557     2.75     36.42
       + ID2= 2 (8040):   414.04   5.691     2.50     20.29
         ==================================================
         ID = 3 (8042):   616.27  10.231     2.50     25.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1741.0) ------>
              Distance      Elevation        Manning
                 0.00         296.00         0.0450
                13.36         288.94         0.0450
                26.71         288.64         0.0450
                51.19         287.96         0.0450
                73.45         287.32         0.0450
                86.81         286.48         0.0450
               102.39         285.08         0.0450
               110.73         282.76         0.0450
               115.73         281.06    0.0450 /0.0350  Main Channel
               115.74         280.35         0.0350      Main Channel
               120.73         280.35         0.0350      Main Channel
               120.74         281.10    0.0350 /0.0450  Main Channel
               125.74         282.64         0.0450
               135.78         286.87         0.0450
               149.13         289.58         0.0450
               162.49         292.29         0.0450
```

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            175.84        293.95        0.0450
            195.88        295.13        0.0450
            213.68        296.02        0.0450
            220.36        296.09        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.71   281.06    .136E+05       6.0         1.69      37.89
       1.50   281.85    .358E+05      22.5         2.42      26.43
       2.28   282.63    .726E+05      53.8         2.85      22.47
       3.07   283.42    .124E+06     104.1         3.24      19.79
       3.86   284.21    .189E+06     176.7         3.60      17.81
       4.64   284.99    .268E+06     274.9         3.94      16.26
       5.43   285.78    .369E+06     390.8         4.07      15.73
       6.21   286.56    .501E+06     551.6         4.23      15.15
       7.00   287.35    .674E+06     750.5         4.28      14.97
       7.79   288.14    .920E+06     993.3         4.15      15.44
       8.57   288.92    .126E+07    1361.5         4.14      15.47
       9.36   289.71    .167E+07    1986.0         4.56      14.04
      10.15   290.50    .210E+07    2739.7         5.02      12.76
      10.93   291.28    .254E+07    3615.0         5.47      11.70
      11.72   292.07    .300E+07    4608.8         5.91      10.83
      12.50   292.85    .347E+07    5693.3         6.30      10.16
      13.29   293.64    .397E+07    6892.9         6.67       9.60
      14.08   294.43    .450E+07    8150.4         6.97       9.19
      14.86   295.21    .506E+07    9525.0         7.23       8.86

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27    10.23    2.50  25.58      0.91      1.83
     OUTFLOW: ID= 1 (6174)  616.27     9.54    3.25  25.58      0.88      1.81


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| ADD HYD   (8048) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   9.539     3.25    25.58
       + ID2= 2 (8044):   139.10   2.989     2.50    32.88
         ================================================
         ID = 3 (8048):   755.37  12.281     3.25    26.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37  12.281     3.25    26.93
       + ID2= 2 (8050):   502.05   8.126     3.00    31.87
         ================================================
         ID = 3 (8052):  1257.42  20.332     3.00    28.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8058) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.42  20.332     3.00    28.90
       + ID2= 2 (8064):   418.70  15.102     1.75    32.99
         ================================================
         ID = 3 (8058):  1676.12  31.011     2.50    29.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        46.27
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.73 (ii)   27.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.52         7.48          9.647 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.75
     RUNOFF VOLUME    (mm)=      76.03        24.73          30.37
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.32           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        73.87
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.88 (ii)   20.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.77         2.79          4.756 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03        30.04          39.70
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.38           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.2640      1.3175
                          0.1650     0.6418   |   4.0090      1.4908
                          0.9450     0.7489   |   4.7720      1.6604
                          1.7610     0.9426   |   5.1720      1.6704
                          2.4420     1.1144   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      4.756      1.50      39.70
     OUTFLOW: ID= 1 (5176)     48.800      1.937      2.25      39.68

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.73
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.9979

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| ADD HYD   (8056) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00   9.647     1.75    30.37
       + ID2= 2 (5176):    48.80   1.937     2.25    39.68
         ================================================
         ID = 3 (8056):   210.80  10.922     1.75    32.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80  10.922     1.75    32.53
       + ID2= 2 (8058):  1676.12  31.011     2.50    29.92
         ================================================
         ID = 3 (8066):  1886.92  38.662     2.00    30.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8070) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.92  38.662     2.00    30.22
       + ID2= 2 (8068):   660.32  35.033     1.75    36.08
         ================================================
         ID = 3 (8070):  2547.24  72.687     1.75    31.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1901.0) ------>
               Distance      Elevation       Manning
                   0.00         261.34        0.0600
                  19.76         261.64        0.0600
                  59.28         261.29        0.0600
                  79.04         261.09        0.0600
                 103.74         255.99        0.0600
                 153.13         253.42        0.0600
                 192.65         252.78        0.0600
                 212.29         249.80        0.0600
                 217.29         249.50   0.0600 /0.0350  Main Channel
                 217.30         249.05        0.0350      Main Channel
                 222.29         249.05        0.0350      Main Channel
                 222.30         249.50   0.0350 /0.0600  Main Channel
                 227.30         249.80        0.0600
                 232.17         252.31        0.0600
                 276.63         253.53        0.0600
                 326.03         256.97        0.0600
                 355.67         257.30        0.0600
                 400.12         260.08        0.0600
                 469.28         261.25        0.0600
                 489.04         262.53        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.45   249.50   .436E+04       1.0         0.43      75.97
        1.07   250.12   .205E+05       5.4         0.51      62.96
        1.70   250.75   .451E+05      14.8         0.64      50.78
        2.32   251.37   .762E+05      29.2         0.74      43.46
        2.94   251.99   .114E+06      49.1         0.84      38.61
        3.57   252.62   .161E+06      70.2         0.85      38.18
        4.19   253.24   .248E+06      93.4         0.73      44.29
        4.81   253.86   .398E+06     154.9         0.76      42.79
        5.44   254.49   .576E+06     246.1         0.83      38.99
        6.06   255.11   .779E+06     362.7         0.90      35.79
        6.68   255.73   .101E+07     506.5         0.98      33.15
        7.30   256.35   .126E+07     687.6         1.06      30.52
        7.93   256.98   .153E+07     902.8         1.15      28.18
        8.55   257.60   .183E+07    1114.3         1.18      27.39
        9.17   258.22   .216E+07    1407.8         1.26      25.55
        9.80   258.85   .250E+07    1735.4         1.35      24.03
       10.42   259.47   .286E+07    2097.5         1.42      22.73
       11.04   260.09   .324E+07    2492.3         1.49      21.63
       11.67   260.72   .364E+07    2837.8         1.51      21.39

                                 <---- hydrograph ---->  <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.24    72.69    1.75  31.74      3.63      0.83
     OUTFLOW: ID= 1 (6190) 2547.24    55.12    2.50  31.74      3.12      0.84


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| CALIB            |
| STANDHYD  (6190) |   Area    (ha)= 287.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    146.87         141.12
     Dep. Storage     (mm)=      3.00           5.00
     Average Slope     (%)=      0.10           0.10
     Length            (m)=   1385.62          40.00
     Mannings n            =     0.013          0.250

     Max.Eff.Inten.(mm/hr)=     97.49          68.02
               over (min)       30.00          60.00
     Storage Coeff.  (min)=     24.93 (ii)     45.16 (ii)
     Unit Hyd. Tpeak (min)=     30.00          60.00
     Unit Hyd. peak  (cms)=      0.04           0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=     13.48          11.82       20.245 (iii)
     TIME TO PEAK    (hrs)=      1.75           2.25        1.75
     RUNOFF VOLUME    (mm)=     75.03          38.64       48.46
     TOTAL RAINFALL   (mm)=     78.03          78.03       78.03
     RUNOFF COEFFICIENT   =      0.96           0.50        0.62

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):   287.99  20.245     1.75    48.46
       + ID2= 2 (6192):  2547.24  55.122     2.50    31.74
         ================================================
         ID = 3 (8072):  2835.23  72.898     2.25    33.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                   0.00         264.40        0.0500
                   3.64         263.94        0.0500
                  14.54         261.05        0.0500
                  29.08         256.78        0.0500
                  36.36         254.96        0.0500
                  50.90         252.20        0.0500
                  65.44         249.78        0.0500
                  76.35         246.86        0.0500
                  77.24         245.90        0.0500
                  82.24         245.45   0.0500 /0.0350  Main Channel
                  82.25         244.90        0.0350      Main Channel
                  87.25         244.90        0.0350      Main Channel
                  87.26         245.45   0.0350 /0.0500  Main Channel
                  94.53         246.89        0.0500
                 170.87         247.16        0.0500
                 218.13         248.69        0.0500
                 265.40         249.22        0.0500
                 301.75         250.78        0.0500
                 338.11         253.47        0.0500
                 359.92         264.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.55   245.45   .345E+04       2.0         0.71      29.20
        1.53   246.43   .174E+05      14.6         1.05      19.92
        2.50   247.40   .767E+05      52.8         0.86      24.20
        3.48   248.38   .224E+06     199.8         1.11      18.71
        4.46   249.36   .429E+06     441.2         1.29      16.19
        5.43   250.33   .691E+06     874.3         1.58      13.18
        6.41   251.31   .987E+06    1468.3         1.86      11.20
        7.38   252.28   .131E+07    2224.8         2.13       9.79
        8.36   253.26   .165E+07    3132.4         2.37       8.78
        9.34   254.24   .201E+07    4256.4         2.65       7.87
       10.31   255.21   .238E+07    5551.0         2.92       7.15
       11.29   256.19   .276E+07    6996.8         3.17       6.57
       12.27   257.17   .314E+07    8585.9         3.42       6.10
       13.24   258.14   .353E+07   10315.9         3.65       5.71
       14.22   259.12   .393E+07   12180.7         3.87       5.38
       15.19   260.09   .434E+07   14178.2         4.09       5.10
       16.17   261.07   .475E+07   16306.5         4.29       4.85
       17.15   262.05   .517E+07   18558.6         4.49       4.64
       18.12   263.02   .559E+07   20939.7         4.68       4.45

                                 <---- hydrograph ---->  <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8072) 2835.23    72.90    2.25  33.44      2.64      0.89
     OUTFLOW: ID= 1 (6192) 2835.23    64.50    2.75  33.44      2.58      0.88


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| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  30.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     14.74          15.96
     Dep. Storage     (mm)=      2.00           5.00
     Average Slope     (%)=      0.50           0.50
     Length            (m)=    452.40          40.00
     Mannings n            =     0.013          0.250

     Max.Eff.Inten.(mm/hr)=    101.74          56.62
               over (min)       15.00          30.00
     Storage Coeff.  (min)=      7.73 (ii)     21.16 (ii)
     Unit Hyd. Tpeak (min)=     15.00          30.00
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     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.02         1.38          2.986 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03        25.00          37.25
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.32           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000    0.0000    |   2.0560     0.7051
                         0.1040    0.3429    |   2.5820     0.7960
                         0.5960    0.4035    |   3.2900     0.8880
                         1.1090    0.5056    |   3.6900     0.8980
                         1.5380    0.5974    |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)    30.700     2.986      1.50      37.25
     OUTFLOW: ID= 1 (5192)    30.700     1.328      2.00      37.22

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.49
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5530

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-------------------
| CALIB             |
| STANDHYD  (1922)  |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min  |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.29       157.61
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1199.72        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        27.25
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     13.87 (ii)   31.87 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      7.50         6.98          10.350 (iii)
     TIME TO PEAK    (hrs)=      1.50         2.00           1.50
     RUNOFF VOLUME    (mm)=     76.03        21.15          28.83
     TOTAL RAINFALL   (mm)=     78.03        78.03          78.03
     RUNOFF COEFFICIENT   =      0.97         0.27           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1922):   215.90  10.350     1.50    28.83
        + ID2= 2 (5192):    30.70   1.328     2.00    37.22
          ================================================
          ID = 3 (8074):   246.60  10.453     1.50    29.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6192):  2835.23  64.503     2.75    33.44
        + ID2= 2 (8074):   246.60  10.453     1.50    29.87
          ================================================
          ID = 3 (8076):  3081.83  69.685     2.75    33.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0196)  |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.851 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  26.913
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0194)  |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   5.432 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  27.979
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.359

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0194):   256.09   5.432     2.25    27.98
        + ID2= 2 (0196):    41.47   1.851     1.75    26.91
          ================================================
          ID = 3 (8078):   297.56   6.846     2.00    27.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1981.0) ------>
              Distance      Elevation       Manning
                 0.00         267.15        0.0500
                22.99         265.94        0.0500
                51.73         261.39        0.0500
                74.72         258.75        0.0500
                94.83         257.79        0.0500
               114.95         254.36        0.0500
               126.44         254.06        0.0500
               132.19         253.68        0.0500
               135.06         253.35        0.0500
               137.94         252.93    0.0500 /0.0300  Main Channel
               140.81         252.41        0.0300      Main Channel
               143.69         251.89        0.0300      Main Channel
               146.56         252.51        0.0300      Main Channel
               149.43         253.36    0.0300 /0.0500  Main Channel
               158.05         255.89        0.0500
               172.42         256.25        0.0500
               204.03         259.15        0.0500
               229.90         260.36        0.0500
               252.89         260.46        0.0500
               284.50         260.45        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.35   252.24    .111E+04        0.6         0.97       31.07
      0.69   252.58    .442E+04        3.8         1.55       19.42
      1.04   252.93    .974E+04       11.1         2.06       14.65
      1.51   253.40    .203E+05       31.2         2.77       10.87
      1.98   253.87    .357E+05       65.0         3.30        9.14
      2.45   254.34    .596E+05      112.9         3.43        8.80
      2.92   254.81    .935E+05      186.8         3.62        8.34
      3.39   255.28    .131E+06      282.1         3.89        7.75
      3.86   255.75    .172E+06      398.2         4.18        7.22
      4.33   256.22    .221E+06      527.0         4.31        6.99
      4.80   256.69    .282E+06      697.3         4.47        6.75
      5.27   257.16    .350E+06      898.5         4.64        6.50
      5.74   257.63    .425E+06     1131.4         4.82        6.26
      6.21   258.10    .508E+06     1367.4         4.88        6.19
```

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      6.68   258.57    .603E+06    1635.6          4.91       6.14
      7.15   259.04    .709E+06    1977.2          5.04       5.98
      7.62   259.51    .826E+06    2360.5          5.17       5.83
      8.09   259.98    .954E+06    2790.7          5.29       5.70
      8.56   260.45    .110E+07    3179.6          5.25       5.74

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     6.85    2.00  27.83      0.84      1.73
     OUTFLOW: ID= 1 (6198)  297.56     6.64    2.50  27.83      0.83      1.72


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.07        58.63
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    835.46        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        60.70
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    11.16 (ii)   24.23 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     5.47         5.13        9.009 (iii)
     TIME TO PEAK    (hrs)=     1.50         1.75        1.50
     RUNOFF VOLUME    (mm)=    76.03        27.32       37.06
     TOTAL RAINFALL   (mm)=    78.03        78.03       78.03
     RUNOFF COEFFICIENT   =     0.97         0.35        0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  58.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |       OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------        (cms)    (ha.m.)   |   (cms)     (ha.m.)
                            0.0000     0.0000   |   7.9640      2.3173
                            0.2850     1.2270   |   9.5520      2.6039
                            1.7410     1.4052   |  10.9290      2.8853
                            3.5350     1.7675   |  11.3290      2.8953
                            5.6580     2.0183   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    104.700     9.009      1.50      37.06
     OUTFLOW: ID= 1 (5198)    104.700     4.232      2.25      37.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.97
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.8798

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   4.729 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  25.063
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   285.90   4.729     2.50     25.06
       + ID2= 2 (5198):   104.70   4.232     2.25     37.05
         ================================================
         ID = 3 (8080):   390.60   8.847     2.25     28.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   6.636     2.50     27.83
       + ID2= 2 (8080):   390.60   8.847     2.25     28.28
         ================================================
         ID = 3 (8082):   688.16  15.481     2.25     28.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.83  69.685     2.75     33.15
       + ID2= 2 (8082):   688.16  15.481     2.25     28.08
         ================================================
         ID = 3 (8084):  3769.99  84.188     2.50     32.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (2001.0) ------>
             Distance      Elevation       Manning
                0.00         252.47        0.0500
               10.38         252.29        0.0500
               20.76         252.28        0.0500
               41.52         247.66        0.0500
               62.28         247.47        0.0500
               80.45         247.34        0.0500
               90.83         246.85        0.0500
              103.81         245.51        0.0500
              106.00         244.50        0.0500
              108.99         244.05    0.0500 /0.0300  Main Channel
              109.00         243.50        0.0300      Main Channel
              114.00         243.50        0.0300      Main Channel
              114.01         244.05    0.0300 /0.0500  Main Channel
              118.99         244.50        0.0500
              132.36         245.09        0.0500
              150.52         245.83        0.0500
              199.83         249.24        0.0500
              207.62         250.16        0.0500
              236.16         253.11        0.0500
              256.92         253.83        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28   243.77    .365E+04       0.7          0.54      81.42
      0.55   244.05    .730E+04       2.2          0.81      54.59
      1.05   244.55    .197E+05       7.2          0.97      45.51
      1.54   245.04    .463E+05      17.2          0.99      44.76
      2.04   245.54    .895E+05      34.8          1.03      42.81
      2.53   246.03    .152E+06      62.8          1.09      40.43
      3.03   246.53    .232E+06     104.7          1.20      36.91
      3.52   247.02    .328E+06     159.7          1.29      34.19
      4.02   247.52    .450E+06     223.4          1.32      33.56
      4.51   248.01    .627E+06     326.9          1.38      31.99
      5.01   248.51    .820E+06     463.0          1.50      29.52
      5.50   249.00    .103E+07     626.0          1.62      27.30
      6.00   249.50    .124E+07     820.1          1.75      25.24
      6.49   249.99    .147E+07    1044.4          1.89      23.42
      6.99   250.49    .170E+07    1292.6          2.01      21.95
      7.48   250.98    .195E+07    1565.6          2.13      20.71
      7.98   251.48    .220E+07    1864.5          2.25      19.65
      8.47   251.97    .246E+07    2189.4          2.36      18.73
      8.97   252.47    .274E+07    2427.5          2.35      18.80

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8084) 3769.99    84.19    2.50  32.23      2.78      1.14
    OUTFLOW: ID= 1 (6200) 3769.99    73.41    3.25  32.23      2.66      1.12


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--------------------
| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       3.00         3.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     200.00        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        86.36
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       4.73 (ii)   16.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.39         0.45          0.723 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        35.84         45.08
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.46          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4010     0.1620
                         0.0200     0.0789   |   0.5040     0.1833
                         0.1160     0.0921   |   0.5870     0.2041
                         0.2170     0.1159   |   0.9870     0.2141
                         0.3000     0.1370   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.723     1.50      45.08
     OUTFLOW: ID= 1 (5200)     6.000     0.304     2.00      44.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.01
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1392

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-------------------
| CALIB           |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        85.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     853.62        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        53.95
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.31 (ii)   25.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.85         6.51          7.774 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.75
     RUNOFF VOLUME    (mm)=      76.03        29.82         34.44
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.38          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2002):   109.30   7.774     1.75    34.44
       + ID2= 2 (5200):     6.00   0.304     2.00    44.92
         ==========================================================
         ID = 3 (8086):   115.30   8.020     1.75    34.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6200):  3769.99  73.407     3.25    32.23
       + ID2= 2 (8086):   115.30   8.020     1.75    34.99
         ==========================================================
         ID = 3 (8088):  3885.29  75.030     3.25    32.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8034):  5220.81  24.380     6.25    18.14
       + ID2= 2 (8088):  3885.29  75.030     3.25    32.31
         ==========================================================
         ID = 3 (8038):  9106.10  97.089     3.25    24.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1362.0) ------>
              Distance      Elevation       Manning
                 0.00         252.00        0.0400
                 2.35         244.60        0.0400
                39.94         243.14        0.0400
                58.74         242.65        0.0400
                91.63         242.03        0.0400
               101.03         241.69        0.0400
               103.38         241.66        0.0400
               105.73         240.76        0.0400
               105.93         240.59        0.0400
               109.18         240.28    0.0400 /0.0300  Main Channel
               110.43         239.81        0.0300      Main Channel
               111.68         239.81        0.0300      Main Channel
               113.43         240.09    0.0300 /0.0400  Main Channel
               118.43         240.50        0.0400
               138.62         241.68        0.0400
               152.72         241.60        0.0400
               166.82         242.68        0.0400
               185.62         249.09        0.0400
               197.36         251.00        0.0400
               232.61         252.28        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.28   240.09    .118E+04       0.1          0.20     142.09
      0.91   240.72    .114E+05       2.4          0.35      79.92
      1.53   241.34    .352E+05       9.4          0.45      62.17
      2.16   241.97    .831E+05      22.8          0.46      60.69
      2.79   242.60    .172E+06      54.2          0.53      52.74
      3.41   243.22    .297E+06     111.4          0.63      44.49
      4.04   243.85    .445E+06     194.1          0.74      38.22
      4.67   244.48    .612E+06     301.1          0.83      33.88
      5.29   245.10    .793E+06     443.0          0.94      29.82
      5.92   245.73    .976E+06     611.3          1.06      26.60
      6.55   246.36    .116E+07     802.0          1.17      24.12
      7.18   246.99    .135E+07    1014.0          1.27      22.16
      7.80   247.61    .154E+07    1246.2          1.37      20.56
      8.43   248.24    .173E+07    1498.0          1.46      19.24
      9.06   248.87    .192E+07    1768.8          1.55      18.12
      9.68   249.49    .212E+07    2049.6          1.63      17.24
     10.31   250.12    .232E+07    2344.7          1.71      16.49
     10.94   250.75    .252E+07    2658.5          1.78      15.83
     11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.10    97.09    3.25  24.19      3.26      0.61
     OUTFLOW: ID= 1 (1365) 9106.10    84.33    4.00  24.19      3.12      0.58

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| CALIB           |
| NASHYD    (1322) |   Area    (ha)= 249.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130

     PEAK FLOW       (cms)=   5.111 (i)
     TIME TO PEAK    (hrs)=   2.500
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     RUNOFF VOLUME    (mm)=  31.509
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.404

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     22.94        18.77
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    527.26        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        84.00
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     8.47 (ii)   19.94 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=     3.97         2.51          5.811 (iii)
     TIME TO PEAK    (hrs)=     1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=    76.03        37.08         50.71
     TOTAL RAINFALL   (mm)=    78.03        78.03         78.03
     RUNOFF COEFFICIENT   =     0.97         0.48          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  70.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   0.9630     1.4050
                         0.1780     1.0280   |   1.4870     1.5525
                         0.4300     1.0400   |   1.9900     1.7000
                         0.8150     1.0500   |   2.3900     1.7100
                         0.8990     1.2275   |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700     5.811     1.50      50.71
     OUTFLOW: ID= 1 (5132)     41.700     0.985     2.75      50.68

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.95
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4157

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1322):   249.10   5.111     2.50    31.51
      + ID2= 2 (5132):    41.70   0.985     2.75    50.68
        ==========================================================
        ID = 3 (8090):   290.80   6.085     2.75    34.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW       (cms)=   2.983 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  24.212
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.310

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0134):   155.95   2.983     2.25    24.21
      + ID2= 2 (8090):   290.80   6.085     2.75    34.26
        ==========================================================
        ID = 3 (8092):   446.75   9.045     2.50    30.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (1361.0) ------>
                Distance      Elevation       Manning
                   0.00         262.81         0.0400
                  37.23         260.54         0.0400
                  79.12         256.98         0.0400
                 111.70         254.74         0.0400
                 172.20         252.76         0.0400
                 251.32         248.82         0.0400
                 255.97         248.75         0.0400
                 260.43         248.76         0.0400
                 265.43         248.49         0.0400
                 268.68         248.18    0.0400 /0.0300  Main Channel
                 269.93         247.71         0.0300      Main Channel
                 271.18         247.71         0.0300      Main Channel
                 272.93         247.99         0.0300      Main Channel
                 277.93         248.40    0.0300 /0.0400  Main Channel
                 283.90         248.88         0.0400
                 307.17         249.60         0.0400
                 321.13         251.59         0.0400
                 363.01         257.08         0.0400
                 400.25         257.58         0.0400
                 460.75         261.91         0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.47    248.18     .881E+04         1.3          0.76       114.66
       1.19    248.90     .742E+05        17.3          1.22        71.44
       1.92    249.63     .278E+06        78.3          1.48        59.26
       2.64    250.35     .589E+06       210.3          1.87        46.69
       3.36    251.07     .974E+06       414.3          2.23        39.19
       4.08    251.79     .143E+07       696.2          2.55        34.32
       4.81    252.52     .197E+07      1063.0          2.83        30.86
       5.53    253.24     .259E+07      1505.7          3.06        28.62
       6.25    253.96     .331E+07      2051.3          3.26        26.85
       6.97    254.68     .413E+07      2720.9          3.46        25.30
       7.70    255.41     .504E+07      3584.5          3.73        23.43
       8.42    256.13     .601E+07      4580.9          4.00        21.87
       9.14    256.85     .704E+07      5707.9          4.25        20.57
       9.86    257.57     .818E+07      6636.1          4.26        20.53
      10.59    258.30     .945E+07      8115.0          4.50        19.42
      11.31    259.02     .108E+08      9759.2          4.74        18.45
      12.03    259.74     .122E+08     11569.5          4.96        17.61
      12.75    260.46     .137E+08     13550.6          5.18        16.87
      13.48    261.19     .153E+08     15636.4          5.37        16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)     (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.75      9.04     2.50  30.75      0.82      0.93
     OUTFLOW: ID= 1 (1366)  446.75      6.51     4.25  30.75      0.70      0.87

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     86.12       323.98
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1653.48        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        48.96
               over (min)      15.00        45.00
     Storage Coeff.  (min)=     16.81 (ii)   31.05 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
     Unit Hyd. peak  (cms)=     0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=    10.56        18.52         22.049 (iii)
     TIME TO PEAK    (hrs)=     1.50         2.00          2.00
     RUNOFF VOLUME    (mm)=    76.03        27.77         33.08
     TOTAL RAINFALL   (mm)=    78.03        78.03         78.03
     RUNOFF COEFFICIENT   =     0.97         0.36          0.42

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
          CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1361) |   Area    (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.27        46.03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     825.83        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        89.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.09 (ii)   22.27 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.22         6.24         11.724 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03        35.27          46.27
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.45           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.4000     3.2690
                         0.1600     1.6363   |   2.6450     3.8640
                         0.9600     1.7470   |   2.8900     4.4590
                         1.8400     1.9320   |   3.2900     4.4690
                         2.1200     2.6005   |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300     11.724     1.50      46.27
     OUTFLOW: ID= 1 (5136)    102.300      2.305     2.75      46.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.66
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.0445

--------------------------------------------------------------------------------
------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1362):   410.10  22.049     2.00    33.08
      + ID2= 2 (5136):   102.30   2.305     2.75    46.25
        ================================================
        ID = 3 (8096):   512.40  24.184     2.00    35.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1366):   446.75   6.509     4.25    30.75
      + ID2= 2 (8096):   512.40  24.184     2.00    35.71
        ================================================
        ID = 3 (8094):   959.15  26.413     2.00    33.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1365):  9106.10  84.335     4.00    24.19
      + ID2= 2 (8094):   959.15  26.413     2.00    33.40
        ================================================
        ID = 3 (8098): 10065.25  97.002     4.00    25.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB             |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   4.267 (i)
     TIME TO PEAK    (hrs)=   3.500
     RUNOFF VOLUME    (mm)=  23.838
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB             |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   1.083 (i)
     TIME TO PEAK    (hrs)=   3.750
     RUNOFF VOLUME    (mm)=   6.040
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.077

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB             |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06       120.52
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1028.20        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        13.79
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      12.64 (ii)   36.27 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.46         2.57          9.465 (iii)
     TIME TO PEAK    (hrs)=       1.50         2.00          1.50
     RUNOFF VOLUME    (mm)=      76.03        12.62         25.93
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.16          0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  41.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0138):   414.79   1.083     3.75     6.04
      + ID2= 2 (0140):   158.58   9.465     1.50    25.93
        ================================================
        ID = 3 (8102):   573.37   9.895     1.50    11.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1421.0) ------>
              Distance      Elevation        Manning
                 0.00         295.50         0.0400
                 7.25         295.36         0.0400
                14.50         295.22         0.0400
                21.75         295.22         0.0400
                29.00         294.23         0.0400
```

52.56	286.45	0.0400		
67.06	281.44	0.0400		
77.94	278.20	0.0400		
82.81	277.20	0.0400 /0.0300	Main Channel	
83.21	276.80	0.0300	Main Channel	
88.81	276.80	0.0300	Main Channel	
96.41	276.80	0.0300	Main Channel	
96.81	277.20	0.0300 /0.0400	Main Channel	
103.31	278.96	0.0400		
108.75	280.16	0.0400		
117.81	282.73	0.0400		
135.94	290.30	0.0400		
159.50	292.14	0.0400		
174.00	293.07	0.0400		
179.44	293.37	0.0400		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	277.20	.238E+05	6.9	1.27	57.28
1.25	278.05	.889E+05	50.9	2.50	29.13
2.10	278.90	.179E+06	133.4	3.26	22.36
2.95	279.75	.293E+06	256.7	3.83	19.03
3.80	280.60	.432E+06	426.0	4.31	16.90
4.66	281.46	.593E+06	644.3	4.75	15.35
5.51	282.31	.776E+06	915.3	5.16	14.12
6.36	283.16	.978E+06	1242.2	5.55	13.12
7.21	284.01	.120E+07	1626.2	5.94	12.27
8.06	284.86	.143E+07	2065.6	6.30	11.57
8.91	285.71	.169E+07	2562.4	6.64	10.97
9.76	286.56	.196E+07	3118.0	6.97	10.46
10.61	287.41	.224E+07	3733.3	7.28	10.02
11.46	288.26	.255E+07	4411.9	7.57	9.62
12.31	289.11	.287E+07	5155.6	7.86	9.27
13.17	289.97	.321E+07	5966.6	8.14	8.96
14.02	290.82	.357E+07	6705.0	8.22	8.87
14.87	291.67	.398E+07	7494.3	8.24	8.85
15.72	292.52	.444E+07	8405.3	8.28	8.80

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8102)	573.37	9.90	1.50	11.54	0.46	1.32
OUTFLOW:	ID= 1 (6142)	573.37	4.58	2.25	11.54	0.26	1.27

```
-------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0142):	396.54	4.267	3.50	23.84
+ ID2= 2 (6142):	573.37	4.583	2.25	11.54
ID = 3 (8104):	969.91	8.342	2.50	16.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB           |
| NASHYD   (0144) |   Area    (ha)= 135.69   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71
```

Unit Hyd Qpeak (cms)= 3.240

PEAK FLOW	(cms)=	3.211 (i)
TIME TO PEAK	(hrs)=	2.500
RUNOFF VOLUME	(mm)=	32.314
TOTAL RAINFALL	(mm)=	78.027
RUNOFF COEFFICIENT	=	0.414

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0144):	135.69	3.211	2.50	32.31
+ ID2= 2 (8104):	969.91	8.342	2.50	16.57
ID = 3 (8106):	1105.60	11.552	2.50	18.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1461.0) ------>
```

Distance	Elevation	Manning		
0.00	262.00	0.0350		
39.58	257.13	0.0350		
123.69	257.51	0.0350		
183.07	256.83	0.0350		
202.86	255.73	0.0350		
212.75	254.73	0.0350		
222.65	252.86	0.0350		
232.44	250.70	0.0350 /0.0300	Main Channel	
236.44	250.20	0.0300	Main Channel	
236.84	249.80	0.0300	Main Channel	
242.44	249.80	0.0300	Main Channel	
250.04	249.80	0.0300	Main Channel	
250.44	250.20	0.0300	Main Channel	
252.33	250.57	0.0300 /0.0350	Main Channel	
286.97	253.52	0.0350		
331.50	255.80	0.0350		
380.98	255.55	0.0350		
445.30	258.40	0.0350		
455.19	259.82	0.0350		
489.83	262.22	0.0350		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	250.19	.169E+05	5.4	1.04	52.00
0.77	250.57	.373E+05	16.6	1.44	37.46
1.44	251.24	.911E+05	60.3	2.14	25.19
2.11	251.91	.169E+06	136.3	2.61	20.64
2.79	252.59	.270E+06	249.7	2.99	18.05
3.46	253.26	.396E+06	405.4	3.31	16.28
4.13	253.93	.549E+06	603.3	3.56	15.15
4.80	254.60	.737E+06	857.8	3.77	14.31
5.48	255.28	.963E+06	1174.6	3.95	13.67
6.15	255.95	.128E+07	1449.5	3.66	14.74
6.82	256.62	.173E+07	2046.4	3.83	14.07
7.49	257.29	.227E+07	2665.2	3.81	14.17
8.17	257.97	.310E+07	3705.2	3.87	13.93
8.84	258.64	.400E+07	5127.4	4.15	12.99
9.51	259.31	.492E+07	6858.6	4.51	11.95
10.18	259.98	.587E+07	8815.5	4.86	11.09
10.86	260.66	.684E+07	10954.6	5.18	10.41
11.53	261.33	.785E+07	13324.3	5.49	9.82
12.20	262.00	.890E+07	15923.2	5.79	9.31

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8106)	1105.60	11.55	2.50	18.50	0.60	1.23
OUTFLOW:	ID= 1 (6146)	1105.60	10.30	3.50	18.50	0.55	1.18

```
-------------------
| CALIB           |
| STANDHYD  (1462) |   Area    (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	36.25	88.75
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	912.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		101.74	71.32
over (min)		15.00	30.00
Storage Coeff. (min)=		11.77 (ii)	24.02 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	9.25 11.014 (iii)
TIME TO PEAK	(hrs)=	1.75 1.75
RUNOFF VOLUME	(mm)=	36.55 41.29
TOTAL RAINFALL	(mm)=	78.03 78.03
RUNOFF COEFFICIENT	=	0.47 0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1461) |   Area    (ha)=  70.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  15.00
-------------------
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.38	45.12

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     685.57        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        79.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.91 (ii)   21.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.82         5.51          6.822 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        38.03         43.73
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.49          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  73.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  8.0640      2.2344
                          0.2390     0.7085   |  9.9830      2.6409
                          2.2880     0.8391   | 11.7350      3.0631
                          4.3270     1.4661   | 12.1350      3.0731
                          6.1170     1.8197   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     70.500     6.822      1.50      43.73
     OUTFLOW: ID= 1 (5146)     70.500     3.746      2.25      43.72

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.91
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3188

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--------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00  11.014     1.75    41.29
       + ID2= 2 (5146):    70.50   3.746     2.25    43.72
         ================================================
         ID = 3 (8099):   195.50  14.137     1.75    42.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60  10.299     3.50    18.50
       + ID2= 2 (8099):   195.50  14.137     1.75    42.17
         ================================================
         ID = 3 (8108):  1301.10  17.360     1.75    22.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  97.002     4.00    25.06
       + ID2= 2 (8108):  1301.10  17.360     1.75    22.06
         ================================================
         ID = 3 (8100): 11366.35 109.369     3.75    24.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2021.0) ------>
             Distance      Elevation       Manning
                 0.00         245.48        0.0400
                29.68         242.80        0.0400
                74.20         240.39        0.0400
               155.81         237.12        0.0400
               200.33         234.48        0.0400
               244.85         234.67        0.0400
               259.69         233.96        0.0400
               274.53         233.84        0.0400
               281.68         233.40        0.0400
               285.78         232.40   0.0400 /0.0300  Main Channel
               286.78         231.40        0.0300     Main Channel
               296.78         231.40        0.0300     Main Channel
               299.78         232.40   0.0300 /0.0400  Main Channel
               311.62         233.74        0.0400
               333.88         234.34        0.0400
               497.11         235.32        0.0400
               571.31         237.32        0.0400
               675.18         239.10        0.0400
               704.86         242.71        0.0400
               734.54         242.62        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   231.90    .221E+05       4.7          0.85       78.67
       1.00   232.40    .482E+05      15.3          1.28       52.40
       1.60   233.00    .913E+05      38.3          1.68       39.77
       2.20   233.60    .154E+06      72.9          1.90       35.24
       2.80   234.20    .278E+06     124.2          1.79       37.30
       3.40   234.80    .599E+06     214.3          1.44       46.59
       4.01   235.41    .125E+07     445.0          1.43       46.90
       4.61   236.01    .205E+07     838.4          1.64       40.81
       5.21   236.61    .293E+07    1361.6          1.86       35.89
       5.81   237.21    .389E+07    2011.2          2.08       32.23
       6.41   237.81    .494E+07    2753.5          2.24       29.91
       7.01   238.41    .612E+07    3635.0          2.39       28.04
       7.61   239.01    .741E+07    4672.5          2.53       26.43
       8.21   239.61    .880E+07    5999.3          2.74       24.44
       8.82   240.22    .102E+08    7510.0          2.94       22.72
       9.42   240.82    .117E+08    9201.9          3.15       21.23
      10.02   241.42    .132E+08   11059.7          3.35       19.95
      10.62   242.02    .148E+08   13073.4          3.54       18.87
      11.22   242.62    .164E+08   15242.1          3.73       17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) ******* ********  109.37     3.75   24.72     2.63      1.82
     OUTFLOW: ID= 1 (6202) ******* ********  103.81     4.50   24.72     2.56      1.83

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--------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35 103.807     4.50    24.72
       + ID2= 2 (8110):   468.50  46.110     1.50    50.72
         ================================================
         ID = 3 (8112): 11834.85 108.055     4.00    25.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********  108.055      4.00      25.75
     OUTFLOW: ID= 1 (5555)  ********  105.481      4.75      25.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.62
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 16.7091

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--------------------
| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (5555): 11834.85 105.481     4.75    25.75
        + ID2= 2 (8136):  2288.40  32.929     2.00    24.94
          ==========================================================
          ID = 3 (8114): 14123.25 126.744     4.25    25.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.25         1.75
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    408.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74       541.36
               over (min)        15.00        15.00
     Storage Coeff.  (min)=     7.26 (ii)   12.71 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=      4.14         2.26         6.405 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.50          1.50
     RUNOFF VOLUME    (mm)=     76.03        64.72         71.50
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.83          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8990      1.7295
                         0.0850     0.5280   |   2.1560      1.9661
                         0.8990     0.8577   |   2.3740      2.2023
                         1.3460     1.1601   |   2.7740      2.2123
                         1.6060     1.4451   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000     6.405     1.50      71.50
     OUTFLOW: ID= 1 (5206)     25.000     1.334     2.00      71.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.84
                  TIME SHIFT OF PEAK FLOW       (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.1535

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-------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    155.31        95.19
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1292.28        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74       110.45
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     14.50 (ii)   24.78 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     23.96        15.46        35.379 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03        43.96         56.47
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.56          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   250.50  35.379     1.50    56.47
        + ID2= 2 (5206):    25.00   1.334     2.00    71.44
          ==========================================================
          ID = 3 (8144):   275.50  36.109     1.50    57.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     72.54       128.96
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1159.02        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        52.36
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     13.59 (ii)   27.44 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     10.06         9.11        16.230 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03        26.87         36.70
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.34          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4660      4.9468
                         0.5050     1.9141   |  15.4770      5.3726
                         2.8390     2.2056   |  18.2610      6.4806
                         5.2410     3.6606   |  18.6610      6.4906
                         7.9920     4.3236   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500     16.230     1.50      36.70
     OUTFLOW: ID= 1 (5204)    201.500      5.948     2.50      36.70

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.65
                  TIME SHIFT OF PEAK FLOW       (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.8617

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-------------------
| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     73.74        49.16
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    905.17        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        85.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.71 (ii)   23.10 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     10.48         6.25        14.937 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03        32.74         47.03
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.42          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  61.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (8140) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2042):	122.90	14.937	1.50	47.03
+ ID2= 2 (5204):	201.50	5.948	2.50	36.70
ID = 3 (8140):	324.40	15.380	1.50	40.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6206) | IN= 2---> OUT= 1 |	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2061.0) ------>

Distance	Elevation	Manning	
0.00	253.07	0.0350	
13.98	252.89	0.0350	
27.95	251.99	0.0350	
34.94	252.18	0.0350	
41.93	252.02	0.0350	
73.38	250.35	0.0350	
94.34	247.09	0.0350	
111.81	244.79	0.0350	
115.31	244.24	0.0350	
117.55	244.20	0.0350 /0.0300	Main Channel
118.80	243.60	0.0300	Main Channel
122.30	243.60	0.0300	Main Channel
122.55	244.60	0.0300 /0.0350	Main Channel
146.76	244.74	0.0350	
164.23	247.26	0.0350	
213.15	248.92	0.0350	
241.10	249.51	0.0350	
272.55	250.87	0.0350	
300.50	252.26	0.0350	
345.93	253.67	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	243.90	.310E+04	1.4	1.23	36.25
0.60	244.20	.676E+04	4.6	1.81	24.64
1.12	244.72	.221E+05	17.1	2.07	21.60
1.64	245.24	.754E+05	64.1	2.28	19.60
2.17	245.77	.139E+06	149.8	2.88	15.50
2.69	246.29	.214E+06	273.3	3.43	13.04
3.21	246.81	.299E+06	436.1	3.91	11.43
3.73	247.33	.395E+06	632.6	4.30	10.40
4.25	247.85	.511E+06	836.4	4.39	10.18
4.77	248.37	.653E+06	1114.9	4.58	9.76
5.30	248.90	.822E+06	1472.1	4.81	9.30
5.82	249.42	.102E+07	1872.2	4.91	9.10
6.34	249.94	.126E+07	2444.6	5.22	8.56
6.86	250.46	.151E+07	3113.1	5.52	8.09
7.38	250.98	.180E+07	3843.5	5.74	7.79
7.90	251.50	.211E+07	4717.8	6.00	7.45
8.43	252.03	.245E+07	5701.4	6.24	7.16
8.95	252.55	.284E+07	6727.5	6.36	7.03
9.47	253.07	.326E+07	7885.3	6.48	6.90

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8140)	324.40	15.38	1.50	40.61	1.05	2.03
OUTFLOW: ID= 1 (6206)	324.40	12.72	2.00	40.61	0.94	1.97

ADD HYD (8142) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6206):	324.40	12.719	2.00	40.61
+ ID2= 2 (8144):	275.50	36.109	1.50	57.83
ID = 3 (8142):	599.90	43.491	1.50	48.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8138) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8114):	14123.25	126.744	4.25	25.62
+ ID2= 2 (8142):	599.90	43.491	1.50	48.52
ID = 3 (8138):	14723.15	134.961	4.00	26.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6208) | IN= 2---> OUT= 1 |	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2081.0) ------>

Distance	Elevation	Manning	
0.00	249.19	0.1000	
73.11	244.13	0.1000	
121.86	243.39	0.1000	
243.71	240.01	0.1000	
353.38	238.75	0.1000	
450.87	235.40	0.1000	
499.61	231.40	0.1000	
511.80	230.96	0.1000	
523.98	230.12	0.1000	
534.50	227.80	0.1000 /0.0500	Main Channel
536.50	226.70	0.0500	Main Channel
546.50	226.70	0.0500	Main Channel
548.50	227.80	0.0500 /0.1000	Main Channel
572.72	230.25	0.1000	
682.40	230.50	0.1000	
804.25	233.95	0.1000	
926.11	235.83	0.1000	
1047.96	240.70	0.1000	
1145.45	243.26	0.1000	
1206.38	247.03	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	227.25	.111E+05	2.0	0.33	92.44
1.10	227.80	.242E+05	6.5	0.50	61.56
2.23	228.93	.700E+05	26.0	0.68	44.91
3.36	230.06	.150E+06	60.8	0.74	41.04
4.49	231.19	.446E+06	130.8	0.54	56.83
5.62	232.32	.925E+06	287.4	0.57	53.66
6.76	233.46	.152E+07	522.9	0.63	48.32
7.89	234.59	.223E+07	827.2	0.68	44.91
9.02	235.72	.312E+07	1219.5	0.72	42.61
10.15	236.85	.418E+07	1780.6	0.78	39.11
11.28	237.98	.537E+07	2479.2	0.85	36.07
12.41	239.11	.669E+07	3282.9	0.90	33.95
13.54	240.24	.824E+07	4228.6	0.94	32.47
14.67	241.37	.997E+07	5384.6	0.99	30.87
15.81	242.51	.119E+08	6698.4	1.03	29.56
16.94	243.64	.140E+08	8235.2	1.08	28.25
18.07	244.77	.162E+08	10104.2	1.14	26.73
19.20	245.90	.185E+08	12251.5	1.21	25.21
20.33	247.03	.209E+08	14597.0	1.28	23.89

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8138)	*******	134.96	4.00	26.55	4.52	0.54
OUTFLOW: ID= 1 (6208)	*******	120.19	4.75	26.55	4.33	0.56

CALIB | STANDHYD (2082) | ID= 1 DT=15.0 min |	Area (ha)= 426.60 Total Imp(%)= 64.00 Dir. Conn.(%)= 37.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	273.02	153.58	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	0.50	0.50	
Length (m)=	1686.42	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	101.74	112.47	
over (min)	15.00	30.00	
Storage Coeff. (min)=	17.01 (ii)	27.22 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.07	0.04	
			TOTALS
PEAK FLOW (cms)=	36.81	24.17	54.287 (iii)
TIME TO PEAK (hrs)=	1.50	1.75	1.50
RUNOFF VOLUME (mm)=	76.03	41.13	54.04
TOTAL RAINFALL (mm)=	78.03	78.03	78.03
RUNOFF COEFFICIENT =	0.97	0.53	0.69

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  70.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      93.00       172.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1330.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        65.14
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.76 (ii)   27.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      12.97        15.32         23.581 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03        33.68          42.15
     TOTAL RAINFALL   (mm)=      78.03        78.03          78.03
     RUNOFF COEFFICIENT   =       0.97         0.43           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      6.3371
                          0.8360     2.7353   |  21.1630      7.3975
                          4.7810     3.1070   |  25.1140      8.4406
                          8.9050     4.2484   |  25.5140      8.4506
                         12.6070     5.1796   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2081)    265.700     23.581     1.50      42.15
     OUTFLOW: ID= 1 (5208)    265.700     11.914     2.25      42.15

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.52
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.0347

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-------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2082):   426.60  54.287     1.50     54.04
       + ID2= 2 (5208):   265.70  11.914     2.25     42.15
         ================================================
         ID = 3 (8148):   692.30  54.997     1.50     49.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.15 120.191     4.75     26.55
       + ID2= 2 (8148):   692.30  54.997     1.50     49.48
         ================================================
         ID = 3 (8146): 15415.45 126.000     4.00     27.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                  0.00         241.81        0.0800
                 28.43         241.78        0.0800
                 85.30         237.04        0.0800
                149.27         231.32        0.0800
                170.60         230.10        0.0800
                255.89         229.37        0.0800
                277.22         228.68        0.0800
                284.33         228.42        0.0800
                291.43         228.16        0.0800
                297.76         227.00    0.0800 /0.0350  Main Channel
                298.76         225.00        0.0350      Main Channel
                312.76         225.00        0.0350      Main Channel
                313.76         227.00    0.0350 /0.0800  Main Channel
                326.97         229.50        0.0800
                348.30         230.29        0.0800
                376.73         229.76        0.0800
                490.46         235.75        0.0800
                568.65         236.24        0.0800
                661.06         241.85        0.0800
                703.71         246.04        0.0800

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.67   225.67    .141E+05        6.6         0.69      35.86
      1.33   226.33    .289E+05       20.4         1.04      23.65
      2.00   227.00    .443E+05       39.3         1.31      18.81
      2.93   227.93    .730E+05       77.8         1.57      15.64
      3.85   228.85    .123E+06      131.1         1.57      15.65
      4.78   229.78    .228E+06      205.6         1.33      18.51
      5.70   230.70    .503E+06      356.7         1.05      23.49
      6.63   231.63    .846E+06      608.7         1.06      23.17
      7.55   232.55    .123E+07      946.4         1.14      21.65
      8.48   233.48    .165E+07     1367.0         1.22      20.13
      9.41   234.41    .211E+07     1871.8         1.31      18.80
     10.33   235.33    .261E+07     2463.2         1.40      17.65
     11.26   236.26    .317E+07     2999.4         1.40      17.63
     12.18   237.18    .384E+07     3848.3         1.48      16.63
     13.11   238.11    .454E+07     4806.0         1.56      15.75
     14.03   239.03    .528E+07     5876.9         1.64      14.97
     14.96   239.96    .605E+07     7062.7         1.72      14.29
     15.88   240.88    .687E+07     8365.0         1.80      13.68
     16.81   241.81    .771E+07     9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   126.00    4.00  27.58      3.76      1.57
     OUTFLOW: ID= 1 (6210) *******   124.77    4.25  27.58      3.73      1.57

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-------------------
| CALIB             |
| NASHYD    (0210) |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   4.500 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  38.705
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.496

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0210):   218.27   4.500     3.00     38.71
       + ID2= 2 (6210): 15415.45 124.773     4.25     27.58
         ================================================
         ID = 3 (8150): 15633.72 128.721     4.25     27.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0218) |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   2.875 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  28.087
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.360

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| NASHYD    (0216)  |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   4.504 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  32.917
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2121)  |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.08         3.92
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74       294.50
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.25 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=     11.30         2.06        13.033 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03        54.08         70.54
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.69          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5212)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7460      1.9720
                         0.1900     1.1850   |   4.7040      2.0838
                         1.0850     1.4413   |   5.4760      2.1940
                         2.0210     1.5949   |   5.8760      2.2040
                         2.8030     1.7848   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2121)     56.000    13.033     1.50      70.54
     OUTFLOW: ID= 1 (5212)     56.000     5.061     1.75      70.51

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.83
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.1958

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2122)  |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min  |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.00       193.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1347.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        51.42
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.87 (ii)   28.83 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     15.25        13.07        24.099 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=     76.03        30.17         40.72
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.39          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8152)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2122):   272.40  24.099     1.50     40.72
        + ID2= 2 (5212):    56.00   5.061     1.75     70.51
          ================================================
          ID = 3 (8152):   328.40  26.211     1.75     45.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6214)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
                      <------ DATA FOR SECTION (2141.0) ------>
                    Distance      Elevation        Manning
                       0.00         259.29         0.0500
                      15.33         258.91         0.0500
                      38.33         258.57         0.0500
                      65.16         257.93         0.0500
                      95.82         253.44         0.0500
                     111.15         251.21         0.0500
                     130.32         249.67         0.0500
                     149.48         248.51         0.0500
                     150.66         248.50    0.0500 /0.0370  Main Channel
                     150.81         247.50         0.0370      Main Channel
                     154.66         247.50         0.0370      Main Channel
                     155.66         248.50    0.0370 /0.0500  Main Channel
                     160.98         248.50         0.0500
                     187.81         249.78         0.0500
                     199.31         252.13         0.0500
                     245.30         254.04         0.0500
                     264.46         253.99         0.0500
                     298.96         255.23         0.0500
                     329.62         257.02         0.0500
                     379.45         258.82         0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.50    248.00    .648E+04       2.1          1.00       52.30
           1.00    248.50    .139E+05       6.4          1.44       36.35
           1.61    249.11    .570E+05      22.6          1.24       42.01
           2.21    249.71    .143E+06      63.6          1.39       37.61
           2.82    250.32    .263E+06     142.9          1.70       30.69
           3.43    250.93    .403E+06     257.2          2.00       26.11
           4.04    251.54    .562E+06     410.4          2.29       22.82
           4.64    252.14    .735E+06     601.3          2.56       20.37
           5.25    252.75    .933E+06     791.0          2.66       19.67
           5.86    253.36    .117E+07    1038.0          2.79       18.74
           6.46    253.96    .144E+07    1344.4          2.93       17.82
           7.07    254.57    .178E+07    1664.1          2.93       17.83
           7.68    255.18    .217E+07    2140.2          3.10       16.87
           8.28    255.78    .259E+07    2722.9          3.30       15.83
           8.89    256.39    .304E+07    3387.1          3.50       14.94
           9.50    257.00    .351E+07    4132.7          3.69       14.16
          10.11    257.61    .402E+07    4913.0          3.83       13.64
          10.71    258.21    .458E+07    5648.3          3.87       13.50
          11.32    258.82    .521E+07    6343.1          3.82       13.68

                                      <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.40    26.21    1.75  45.80      1.66      1.25
     OUTFLOW: ID= 1 (6214)  328.40    16.90    2.25  45.80      1.39      1.31


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-------------------
| CALIB             |
| STANDHYD  (0214)  |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min  |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.24       237.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1453.62        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        51.13
               over (min)       15.00        30.00
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     Storage Coeff.  (min)=      15.56 (ii)   29.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.85         15.75         19.482 (iii)
     TIME TO PEAK    (hrs)=       1.50          1.75          1.75
     RUNOFF VOLUME    (mm)=      76.03         27.01         31.42
     TOTAL RAINFALL   (mm)=      78.03         78.03         78.03
     RUNOFF COEFFICIENT   =       0.97          0.35          0.40

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0214):   316.95  19.482     1.75    31.42
       + ID2= 2 (6214):   328.40  16.903     2.25    45.80
         ==========================================================
         ID = 3 (8154):   645.35  33.688     1.75    38.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0216):   145.77   4.504     2.00    32.92
       + ID2= 2 (8154):   645.35  33.688     1.75    38.74
         ==========================================================
         ID = 3 (8156):   791.12  37.919     1.75    37.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2181.0) ------>
               Distance      Elevation       Manning
                   0.00         256.38        0.0450
                   7.70         254.85        0.0450
                  15.40         253.20        0.0450
                  19.25         252.29        0.0450
                  23.10         251.17        0.0450
                  78.94         236.16        0.0450
                  80.87         235.80        0.0450
                  82.79         235.45        0.0450
                  84.57         234.60    0.0450 /0.0300  Main Channel
                  85.07         233.60        0.0300      Main Channel
                  88.57         233.60        0.0300      Main Channel
                  93.57         233.60        0.0300      Main Channel
                  94.07         234.60    0.0300 /0.0450  Main Channel
                  96.27         235.13        0.0450
                  98.19         235.20        0.0450
                 100.12         235.32        0.0450
                 138.63         239.95        0.0450
                 180.98         244.80        0.0450
                 188.69         245.00        0.0450
                 190.61         256.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       1.00   234.60    .181E+05       6.0         0.66       50.64
       2.13   235.73    .518E+05      23.8         0.93       36.27
       3.25   236.85    .119E+06      60.0         1.02       33.03
       4.38   237.98    .217E+06     120.6         1.12       29.99
       5.51   239.11    .346E+06     210.5         1.23       27.39
       6.63   240.23    .506E+06     334.1         1.33       25.22
       7.76   241.36    .697E+06     495.6         1.43       23.44
       8.88   242.48    .920E+06     699.8         1.53       21.91
      10.01   243.61    .117E+07     950.8         1.63       20.59
      11.14   244.74    .146E+07    1252.5         1.73       19.45
      12.26   245.86    .178E+07    1619.6         1.83       18.37
      13.39   246.99    .212E+07    2078.5         1.97       17.01
      14.52   248.12    .247E+07    2589.0         2.11       15.88
      15.64   249.24    .282E+07    3149.7         2.25       14.94
      16.77   250.37    .319E+07    3759.8         2.37       14.14
      17.89   251.49    .356E+07    4419.5         2.50       13.44
      19.02   252.62    .395E+07    5126.4         2.61       12.84
      20.15   253.75    .435E+07    5871.6         2.72       12.34
      21.27   254.87    .476E+07    6663.2         2.82       11.89
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.12    37.92    1.75  37.67      2.57      0.96
     OUTFLOW: ID= 1 (6218)  791.12    27.75    2.25  37.67      2.26      0.94


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| ADD HYD   (8158) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0218):   152.25   2.875     2.50    28.09
       + ID2= 2 (6218):   791.12  27.748     2.25    37.67
         ==========================================================
         ID = 3 (8158):   943.37  30.564     2.25    36.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.72 128.721     4.25    27.74
       + ID2= 2 (8158):   943.37  30.564     2.25    36.12
         ==========================================================
         ID = 3 (8151): 16577.09 146.688     2.75    28.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  33.0100     0.6700
                          2.6400     0.0500   |  37.4800     0.7800
                          4.8300     0.0900   |  47.5400     1.0100
                          7.4100     0.1300   |  60.2300     1.2800
                         10.3300     0.1900   |  71.9530     1.5258
                         13.5300     0.2500   |  *******     3.0529
                         16.9900     0.3200   |  *******     5.3299
                         20.6800     0.3900   |  *******     8.4148
                         24.6000     0.4800   |  *******    11.7637
                         28.7100     0.5700   |  *******    11.7737

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********    146.688      2.75      28.21
     OUTFLOW: ID= 1 (5504)   ********    146.440      2.75      28.21

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.83
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.1488

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-------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2201.0) ------>
               Distance      Elevation       Manning
                   0.00         245.59        0.0600
                   5.76         245.45        0.0600
                  23.03         242.27        0.0600
                  57.58         232.35        0.0600
                  86.37         226.18        0.0600
                 109.41         224.31        0.0600
                 115.17         223.86        0.0600
                 120.92         222.78        0.0600
                 126.68         221.93        0.0600
                 128.06         221.50    0.0600 /0.0300  Main Channel
                 129.56         220.00        0.0300      Main Channel
                 141.56         220.00        0.0300      Main Channel
                 143.06         221.50    0.0300 /0.0600  Main Channel
                 149.72         223.77        0.0600
                 155.47         225.09        0.0600
                 253.36         229.21        0.0600
                 333.98         227.50        0.0600
                 454.90         229.25        0.0600
                 500.97         233.11        0.0600
                 570.07         237.42        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   220.75    .262E+05       5.5         0.57       79.44
       1.50   221.50    .555E+05      17.5         0.86       52.89
       2.44   222.44    .103E+06      42.7         1.14       40.03
       3.37   223.37    .171E+06      79.4         1.27       35.98
```

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  4.31   224.31    .263E+06     128.1          1.33      34.22
  5.25   225.25    .393E+06     191.7          1.34      34.19
  6.18   226.18    .594E+06     276.7          1.28      35.77
  7.12   227.12    .872E+06     399.9          1.26      36.33
  8.06   228.06    .127E+07     542.7          1.17      38.92
  8.99   228.99    .199E+07     770.0          1.06      43.01
  9.93   229.93    .297E+07    1151.8          1.06      42.95
 10.86   230.86    .400E+07    1652.9          1.13      40.33
 11.80   231.80    .507E+07    2251.8          1.22      37.53
 12.74   232.74    .618E+07    2946.5          1.31      34.97
 13.67   233.67    .733E+07    3726.8          1.39      32.79
 14.61   234.61    .853E+07    4591.0          1.48      30.96
 15.55   235.55    .977E+07    5544.1          1.55      29.37
 16.48   236.48    .111E+08    6586.7          1.63      27.99
 17.42   237.42    .124E+08    7719.2          1.71      26.77

                           <---- hydrograph ---->   <-pipe / channel->
                      AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                      (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (5504) *******   146.44    2.75  28.21      4.58      1.33
OUTFLOW: ID= 1 (6220) *******   140.19    4.25  28.21      4.50      1.33


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| CALIB              |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   2.194 (i)
     TIME TO PEAK    (hrs)=   3.750
     RUNOFF VOLUME    (mm)=  31.761
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0220):   169.10   2.194    3.75    31.76
     + ID2= 2 (6220): 16577.09 140.190     4.25    28.21
       ================================================
       ID = 3 (8160): 16746.19 142.330     4.25    28.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW       (cms)=   4.306 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  33.499
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.429

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27         92.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74         77.60
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      12.31 (ii)   24.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.05         10.56        14.643 (iii)
     TIME TO PEAK    (hrs)=       1.50          1.75         1.50
     RUNOFF VOLUME    (mm)=      76.03         38.92         45.97
     TOTAL RAINFALL   (mm)=      78.03         78.03         78.03
     RUNOFF COEFFICIENT   =       0.97          0.50          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)    |   (cms)     (ha.m.)
                           0.0000     0.0000    |   6.6430      3.7677
                           0.4620     2.0014    |   8.2830      4.2576
                           2.0160     2.2850    |  14.1970      4.6909
                           3.6250     2.7987    |  14.5970      4.7009
                           5.0230     3.2496    |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200     14.643      1.50      45.97
     OUTFLOW: ID= 1 (5222)    145.200      5.789      2.25      45.97

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.54
               TIME SHIFT OF PEAK FLOW       (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.5319

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--------------------
| CALIB              |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95         16.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     703.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74        221.17
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.07 (ii)   17.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.10          6.24         13.237 (iii)
     TIME TO PEAK    (hrs)=       1.50          1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03         53.84         62.94
     TOTAL RAINFALL   (mm)=      78.03         78.03         78.03
     RUNOFF COEFFICIENT   =       0.97          0.69          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (2222):    74.30  13.237     1.50     62.94
     + ID2= 2 (5222):   145.20   5.789     2.25     45.97
       ================================================
       ID = 3 (8164):   219.50  13.565     1.50     51.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75         92.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     967.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74         71.77
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      12.19 (ii)   24.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
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                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.36         9.69         16.322 (iii)
     TIME TO PEAK    (hrs)=       1.50         1.75          1.50
     RUNOFF VOLUME    (mm)=      76.03        40.45         49.70
     TOTAL RAINFALL   (mm)=      78.03        78.03         78.03
     RUNOFF COEFFICIENT   =       0.97         0.52          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0224):   140.45  16.322     1.50    49.70
       + ID2= 2 (8164):   219.50  13.565     1.50    51.71
         ================================================
         ID = 3 (8166):   359.95  29.887     1.50    50.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2261.0) ------>
               Distance      Elevation        Manning
                   0.00         245.35         0.0600
                   8.27         242.72         0.0600
                  16.54         240.01         0.0600
                  31.02         235.31         0.0600
                  41.36         233.14         0.0600
                  90.99         227.73         0.0600
                  93.06         227.50         0.0600
                  95.13         227.27         0.0600
                  95.83         227.00         0.0600
                 100.83         226.50    0.0600 /0.0350  Main Channel
                 101.33         225.50       0.0350       Main Channel
                 101.83         226.50    0.0350 /0.0600  Main Channel
                 105.83         227.00         0.0600
                 107.54         227.39         0.0600
                 109.60         227.62         0.0600
                 111.67         227.86         0.0600
                 146.83         231.76         0.0600
                 173.71         234.77         0.0600
                 186.12         238.23         0.0600
                 202.67         238.35         0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   226.00    .403E+03        0.0         0.16     330.59
        1.00   226.50    .161E+04        0.1         0.26     208.26
        1.70   227.20    .173E+05        1.5         0.27     195.72
        2.39   227.89    .541E+05        5.9         0.35     152.27
        3.09   228.59    .119E+06       16.0         0.43     124.08
        3.79   229.29    .212E+06       33.8         0.51     104.65
        4.49   229.99    .334E+06       61.2         0.59      90.97
        5.18   230.68    .484E+06       99.7         0.66      80.88
        5.88   231.38    .663E+06      151.0         0.73      73.13
        6.58   232.08    .870E+06      216.5         0.80      66.95
        7.27   232.77    .111E+07      297.5         0.87      61.91
        7.97   233.47    .137E+07      398.1         0.94      57.29
        8.67   234.17    .165E+07      518.9         1.01      53.12
        9.36   234.86    .196E+07      658.9         1.08      49.59
       10.06   235.56    .228E+07      827.0         1.17      46.02
       10.76   236.26    .262E+07     1015.4         1.25      42.96
       11.46   236.96    .296E+07     1221.2         1.33      40.41
       12.15   237.65    .332E+07     1444.6         1.40      38.26
       12.85   238.35    .368E+07     1598.2         1.40      38.42

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.95    29.89    1.50  50.93      3.64      0.49
     OUTFLOW: ID= 1 (6226)  359.95     9.86    2.25  50.93      2.67      0.38


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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0226):   237.58   4.306     3.00    33.50
       + ID2= 2 (6226):   359.95   9.864     2.25    50.93
         ================================================
         ID = 3 (8168):   597.53  13.964     2.50    44.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.19 142.330     4.25    28.25
       + ID2= 2 (8168):   597.53  13.964     2.50    44.00
         ================================================
         ID = 3 (8162): 17343.72 152.950     4.00    28.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation        Manning
                   0.00         245.00         0.0600
                  18.60         244.74         0.0600
                  37.20         242.47         0.0600
                  93.01         233.71         0.0600
                 125.57         226.95         0.0600
                 213.93         221.63         0.0600
                 218.58         221.15         0.0600
                 223.23         220.45         0.0600
                 225.03         220.55    0.0600 /0.0300  Main Channel
                 225.53         218.05       0.0300       Main Channel
                 232.53         218.05         0.0300     Main Channel
                 240.03         218.05         0.0300     Main Channel
                 241.03         220.55    0.0300 /0.0600  Main Channel
                 246.48         221.00         0.0600
                 251.13         221.27         0.0600
                 255.78         221.22         0.0600
                 325.54         225.25         0.0600
                 367.40         228.91         0.0600
                 404.60         231.75         0.0600
                 460.41         245.00         0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        1.25   219.30    .338E+05       16.0         0.86      35.15
        2.50   220.55    .696E+05       48.3         1.26      24.02
        3.94   221.99    .168E+06      116.0         1.26      24.14
        5.38   223.43    .392E+06      247.5         1.15      26.37
        6.81   224.86    .743E+06      472.6         1.16      26.20
        8.25   226.30    .122E+07      821.6         1.23      24.67
        9.69   227.74    .179E+07     1320.1         1.34      22.59
       11.13   229.18    .243E+07     1965.7         1.47      20.58
       12.57   230.62    .313E+07     2744.2         1.59      19.02
       14.01   232.06    .390E+07     3683.4         1.72      17.66
       15.44   233.49    .472E+07     4824.1         1.86      16.30
       16.88   234.93    .557E+07     6092.4         1.99      15.23
       18.32   236.37    .646E+07     7503.3         2.11      14.35
       19.76   237.81    .739E+07     9061.2         2.23      13.59
       21.20   239.25    .836E+07    10767.6         2.34      12.94
       22.64   240.69    .937E+07    12624.8         2.45      12.37
       24.07   242.12    .104E+08    14634.9         2.56      11.87
       25.51   243.56    .115E+08    16762.8         2.65      11.45
       26.95   245.00    .127E+08    18699.9         2.69      11.28

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   152.95    4.00  28.79      4.34      1.22
     OUTFLOW: ID= 1 (6228) *******   148.88    4.50  28.79      4.31      1.23


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0228) |   Area     (ha)= 310.54   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=   3.577 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  22.456
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8170) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0228):   310.54   3.577     3.25    22.46
       + ID2= 2 (6228): 17343.72 148.877     4.50    28.79
         ================================================
         ID = 3 (8170): 17654.26 151.964     4.50    28.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2302) |   Area    (ha)= 126.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.14         97.56
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     919.06         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74         59.33
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.82 (ii)   25.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.94          8.23          9.572 (iii)
     TIME TO PEAK    (hrs)=       1.50          1.75           1.75
     RUNOFF VOLUME    (mm)=      76.03         31.97          35.93
     TOTAL RAINFALL   (mm)=      78.03         78.03          78.03
     RUNOFF COEFFICIENT   =       0.97          0.41           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.40         39.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     724.80         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     101.74         97.92
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.25 (ii)   21.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.97          6.03          8.411 (iii)
     TIME TO PEAK    (hrs)=       1.50          1.75           1.50
     RUNOFF VOLUME    (mm)=      76.03         38.63          45.74
     TOTAL RAINFALL   (mm)=      78.03         78.03          78.03
     RUNOFF COEFFICIENT   =       0.97          0.50           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.6350      1.5914
                         0.3160     0.7624   |   6.9200      1.8001
                         1.7040     0.8931   |   7.9010      2.0070
                         3.5140     1.1218   |   8.3010      2.0170
                         4.5020     1.3405   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800      8.411      1.50      45.74

     OUTFLOW: ID= 1 (5230)     78.800      4.998      2.00      45.73

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.43
                    TIME SHIFT OF PEAK FLOW       (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.4515

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):   126.70   9.572     1.75    35.93
       + ID2= 2 (5230):    78.80   4.998     2.00    45.73
         ================================================
         ID = 3 (8172):   205.50  13.880     1.75    39.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=   3.616 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  20.541
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0232):   314.80   3.616     3.00    20.54
       + ID2= 2 (8172):   205.50  13.880     1.75    39.69
         ================================================
         ID = 3 (8173):   520.30  16.471     1.75    28.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17654.26 151.964     4.50    28.68
       + ID2= 2 (8173):   520.30  16.471     1.75    28.10
         ================================================
         ID = 3 (8174): 18174.56 156.195     4.25    28.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2341.0) ------>
             Distance      Elevation       Manning
                0.00         228.00        0.0550
               42.86         223.21        0.0550
               85.72         219.56        0.0550
              107.15         219.42        0.0550
              128.58         219.39        0.0550
              214.30         219.30        0.0550
              225.02         219.26        0.0550
              235.73         219.24        0.0550
              255.16         219.20    0.0550 /0.0350  Main Channel
              257.16         217.20        0.0350      Main Channel
              303.16         217.20        0.0350      Main Channel
              305.16         219.20    0.0350 /0.0550  Main Channel
              310.74         219.28        0.0550
              321.45         219.27        0.0550
              332.17         219.26        0.0550
              396.46         219.29        0.0550
              782.20         222.91        0.0550
              878.64         227.43        0.0550
              964.36         227.80        0.0550
             1060.79         228.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.50  217.70   .887E+05        7.2         0.31     206.54
        1.00  218.20   .179E+06       22.7         0.48     131.74
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      1.50   218.70    .272E+06      44.5          0.62     101.75
      2.00   219.20    .366E+06      71.8          0.75      84.97
      2.59   219.79    .993E+06     136.1          0.52     121.59
      3.17   220.37    .189E+07     258.6          0.52     121.80
      3.76   220.96    .294E+07     434.7          0.56     112.82
      4.35   221.55    .415E+07     665.9          0.61     103.88
      4.93   222.13    .551E+07     955.0          0.66      96.22
      5.52   222.72    .703E+07    1305.1          0.71      89.80
      6.11   223.31    .868E+07    1744.9          0.77      82.91
      6.69   223.89    .104E+08    2261.4          0.83      76.46
      7.28   224.48    .121E+08    2838.0          0.89      71.12
      7.87   225.07    .139E+08    3472.9          0.95      66.63
      8.45   225.65    .157E+08    4165.0          1.01      62.82
      9.04   226.24    .176E+08    4913.5          1.07      59.54
      9.63   226.83    .194E+08    5717.7          1.12      56.68
     10.21   227.41    .214E+08    6577.1          1.17      54.18
     10.80   228.00    .235E+08    6919.5          1.12      56.61

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   156.19    4.25  28.66     2.68      0.52
     OUTFLOW: ID= 1 (6234) *******   126.16    6.75  28.66     2.50      0.55


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-------------------
| CALIB           |
| STANDHYD  (0234) |   Area    (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     58.78       208.38
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1334.57        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    101.74        16.56
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     14.79 (ii)   36.75 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.21         5.28          7.291 (iii)
     TIME TO PEAK    (hrs)=      1.50         2.00          1.50
     RUNOFF VOLUME    (mm)=     76.03        13.26         18.28
     TOTAL RAINFALL   (mm)=     78.03        78.03         78.03
     RUNOFF COEFFICIENT   =      0.97         0.17          0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0234):   267.16   7.291     1.50    18.28
       + ID2= 2 (6234): 18174.56 126.159     6.75    28.66
         ==========================================================
         ID = 3 (8176): 18441.72 126.181     6.75    28.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0238) |   Area    (ha)= 311.70   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   2.195 (i)
     TIME TO PEAK    (hrs)=   4.000
     RUNOFF VOLUME    (mm)=  17.786
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0236) |   Area    (ha)= 494.49   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=   4.282 (i)
     TIME TO PEAK    (hrs)=   3.500
     RUNOFF VOLUME    (mm)=  18.291
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.234

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2381.0) ------>
               Distance      Elevation       Manning
                  0.00         241.54        0.0380
                602.55         227.00        0.0380
               1702.00         224.50        0.0380
               1721.25         223.00        0.0380
               1725.10         222.60        0.0380
               1780.94         222.50        0.0380
               1782.87         222.45        0.0380
               1784.79         222.40     0.0380 /0.0300  Main Channel
               1786.57         221.75        0.0300       Main Channel
               1787.07         220.75        0.0300       Main Channel
               1787.57         220.75        0.0300       Main Channel
               1791.57         220.75        0.0300       Main Channel
               1794.07         221.75        0.0300       Main Channel
               1798.27         222.00        0.0300       Main Channel
               1800.19         222.35     0.0300 /0.0380  Main Channel
               1802.12         222.47        0.0380
               1840.63         223.00        0.0380
               1900.00         225.00        0.0380
               1950.00         226.00        0.0380
               2242.61         240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.80   221.55    .101E+05        5.2         1.14       32.36
      1.60   222.35    .296E+05       18.7         1.40       26.36
      2.64   223.39    .249E+06      151.8         1.35       27.33
      3.68   224.43    .613E+06      512.2         1.85       19.94
      4.71   225.46    .152E+07     1066.8         1.55       23.80
      5.75   226.50    .359E+07     2824.9         1.75       21.16
      6.79   227.54    .663E+07     6528.0         2.18       16.93
      7.83   228.58    .994E+07    12158.6         2.71       13.62
      8.87   229.62    .134E+08    19268.8         3.19       11.58
      9.91   230.66    .170E+08    27785.3         3.63       10.19
     10.94   231.69    .207E+08    37667.1         4.03        9.18
     11.98   232.73    .246E+08    48891.7         4.40        8.40
     13.02   233.77    .287E+08    61448.0         4.75        7.78
     14.06   234.81    .329E+08    75332.7         5.08        7.28
     15.10   235.85    .372E+08    90547.8         5.39        6.85
     16.14   236.89    .417E+08    *******         5.69        6.49
     17.17   237.92    .464E+08    *******         5.98        6.18
     18.21   238.96    .512E+08    *******         6.25        5.91
     19.25   240.00    .561E+08    *******         6.52        5.67

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0236)  494.49     4.28    3.50  18.29      0.66      1.14
     OUTFLOW: ID= 1 (6238)  494.49     4.15    4.00  18.29      0.63      1.14


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-------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0238):   311.70   2.195     4.00    17.79
       + ID2= 2 (6238):   494.49   4.151     4.00    18.29
         ==========================================================
         ID = 3 (8180):   806.19   6.346     4.00    18.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18441.72 126.181     6.75    28.51
       + ID2= 2 (8180):   806.19   6.346     4.00    18.10
         ==========================================================
         ID = 3 (8178): 19247.91 130.151     6.50    28.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2401.0) ------>
              Distance      Elevation       Manning
                 0.00         222.00        0.0450
                11.46         221.00        0.0450
               208.98         221.00        0.0450
               404.04         220.97        0.0450
               808.08         220.83        0.0450
               905.60         220.17        0.0450
               919.53         219.43        0.0450
               933.47         219.22        0.0450
               945.26         219.21    0.0450 /0.0300  Main Channel
               946.26         217.81        0.0300      Main Channel
               975.26         217.81        0.0300      Main Channel
              1003.26         217.81        0.0300      Main Channel
              1005.26         219.21    0.0300 /0.0450  Main Channel
              1017.06         219.28        0.0450
              1030.99         219.26        0.0450
              1044.92         219.23        0.0450
              1058.86         219.23        0.0450
              1253.91         219.22        0.0450
              1323.57         221.05        0.0450
              1379.30         222.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME     FLOW RATE    VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)       (m/s)       (min)
        0.20   218.01    .307E+05         2.2        0.20      227.52
        0.40   218.21    .617E+05         7.1        0.31      143.95
        0.60   218.41    .928E+05        14.0        0.41      110.33
        0.80   218.61    .124E+06        22.6        0.49       91.46
        1.00   218.81    .156E+06        32.8        0.57       79.15
        1.20   219.01    .188E+06        44.5        0.64       70.38
        1.40   219.21    .220E+06        57.5        0.70       63.77
        1.63   219.44    .413E+06        82.5        0.54       83.52
        1.87   219.68    .632E+06       120.9        0.51       87.03
        2.10   219.91    .858E+06       170.0        0.53       84.11
        2.33   220.14    .109E+07       228.7        0.56       79.62
        2.56   220.37    .134E+07       294.4        0.59       76.03
        2.80   220.61    .162E+07       371.1        0.61       72.75
        3.03   220.84    .192E+07       456.8        0.64       70.18
        3.26   221.07    .251E+07       552.1        0.59       75.74
        3.49   221.30    .333E+07       711.8        0.57       78.07
        3.73   221.54    .417E+07       907.0        0.58       76.62
        3.96   221.77    .502E+07      1134.1        0.61       73.70
        4.19   222.00    .587E+07      1390.9        0.64       70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   130.15    6.50  28.08      1.91      0.52
     OUTFLOW: ID= 1 (6240) *******   120.32    8.50  28.08      1.86      0.51


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--------------------
| CALIB            |
| NASHYD    (0240) |   Area    (ha)= 434.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   2.058

     PEAK FLOW       (cms)=   1.150 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  14.345
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0240):   434.37   1.150     5.50     14.35
      + ID2= 2 (6240): 19247.91 120.319     8.50     28.08
        ================================================
        ID = 3 (8182): 19682.28 121.350     8.25     27.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0242) |   Area    (ha)= 657.88   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.090

     PEAK FLOW       (cms)=   1.420 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  17.329
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0242):   657.88   1.420     7.25     17.33
      + ID2= 2 (8182): 19682.28 121.350     8.25     27.77
        ================================================
        ID = 3 (8184): 20340.16 122.756     8.25     27.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2441.0) ------>
              Distance      Elevation       Manning
                 0.00         225.00        0.0450
                 2.50         220.10        0.0450
                 3.00         220.06        0.0450
                 3.64         220.07        0.0450
                 7.28         220.08        0.0450
                10.91         220.09        0.0450
                14.55         219.81        0.0450
                18.19         219.29        0.0450
                24.13         219.21    0.0450 /0.0300  Main Channel
                24.63         217.81        0.0300      Main Channel
                69.13         217.81        0.0300      Main Channel
               114.13         217.81        0.0300      Main Channel
               115.13         219.21    0.0300 /0.0450  Main Channel
               120.06         219.25        0.0450
               123.70         219.32        0.0450
               127.34         219.77        0.0450
               130.98         219.88        0.0450
               134.61         219.99        0.0450
               350.00         220.18        0.0450
               360.18         225.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.35   218.16    .108E+06        9.0         0.29     200.52
        0.70   218.51    .216E+06       28.4         0.45     126.89
        1.05   218.86    .325E+06       55.7         0.59      97.27
        1.40   219.21    .434E+06       89.7         0.71      80.65
        1.79   219.60    .574E+06      135.9         0.81      70.36
        2.17   219.98    .726E+06      190.8         0.90      63.38
        2.56   220.37    .111E+07      264.3         0.82      69.82
        2.94   220.75    .157E+07      371.7         0.81      70.36
        3.33   221.14    .203E+07      503.4         0.85      67.30
        3.72   221.53    .250E+07      656.6         0.90      63.40
        4.10   221.91    .296E+07      829.6         0.96      59.54
        4.49   222.30    .343E+07     1021.1         1.02      56.00
        4.87   222.68    .390E+07     1230.2         1.08      52.83
        5.26   223.07    .437E+07     1456.2         1.14      50.01
        5.65   223.46    .484E+07     1698.4         1.20      47.51
        6.03   223.84    .531E+07     1956.3         1.26      45.28
        6.42   224.23    .579E+07     2229.3         1.32      43.28
        6.80   224.61    .626E+07     2517.0         1.38      41.48
        7.19   225.00    .674E+07     2819.2         1.44      39.85

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******   122.76    8.25  27.44      1.68      0.78
     OUTFLOW: ID= 1 (6244) *******   118.66    9.50  27.44      1.64      0.77


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--------------------
| CALIB            |
| NASHYD    (0244) |   Area    (ha)=1908.71   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  14.812

     PEAK FLOW       (cms)=  12.730 (i)
     TIME TO PEAK    (hrs)=   4.250
     RUNOFF VOLUME    (mm)=  22.581
     TOTAL RAINFALL   (mm)=  78.027
```

RUNOFF COEFFICIENT = 0.289

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8186)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0244):		1908.71	12.730	4.25	22.58
+ ID2= 2 (6244):		20340.16	118.662	9.50	27.44
ID = 3 (8186):		22248.87	125.773	9.25	27.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ HYD (8190)	AREA (ha)=*******
DT=15.0 min	TPEAK (hrs)= 12.50
	VOLUME (mm)= 14.04

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Comments:

HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
ACTUAL PEAK FLOW: PEAK (89.19) + BASE (0.00) = 89.19 (cms).

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	0.000	60.50	1.220	121.00	0.224	181.50	0.038	242.00	0.006
0.25	0.000	60.75	1.211	121.25	0.222	181.75	0.038	242.25	0.006
0.50	0.000	61.00	1.202	121.50	0.221	182.00	0.038	242.50	0.006
0.75	0.000	61.25	1.193	121.75	0.219	182.25	0.037	242.75	0.006
1.00	0.000	61.50	1.184	122.00	0.217	182.50	0.037	243.00	0.006
1.25	0.000	61.75	1.175	122.25	0.216	182.75	0.037	243.25	0.006
1.50	0.009	62.00	1.167	122.50	0.214	183.00	0.036	243.50	0.006
1.75	0.086	62.25	1.158	122.75	0.213	183.25	0.036	243.75	0.006
2.00	0.151	62.50	1.150	123.00	0.211	183.50	0.036	244.00	0.006
2.25	0.233	62.75	1.142	123.25	0.210	183.75	0.036	244.25	0.006
2.50	0.308	63.00	1.134	123.50	0.208	184.00	0.035	244.50	0.006
2.75	0.376	63.25	1.125	123.75	0.207	184.25	0.035	244.75	0.006
3.00	0.434	63.50	1.117	124.00	0.205	184.50	0.035	245.00	0.006
3.25	0.516	63.75	1.109	124.25	0.204	184.75	0.035	245.25	0.006
3.50	0.587	64.00	1.102	124.50	0.202	185.00	0.034	245.50	0.006
3.75	0.659	64.25	1.094	124.75	0.201	185.25	0.034	245.75	0.006
4.00	0.733	64.50	1.086	125.00	0.199	185.50	0.034	246.00	0.005
4.25	0.882	64.75	1.078	125.25	0.198	185.75	0.034	246.25	0.005
4.50	1.035	65.00	1.071	125.50	0.197	186.00	0.033	246.50	0.005
4.75	1.292	65.25	1.063	125.75	0.195	186.25	0.033	246.75	0.005
5.00	1.580	65.50	1.056	126.00	0.194	186.50	0.033	247.00	0.005
5.25	2.088	65.75	1.048	126.25	0.192	186.75	0.033	247.25	0.005
5.50	2.676	66.00	1.041	126.50	0.191	187.00	0.032	247.50	0.005
5.75	5.159	66.25	1.034	126.75	0.190	187.25	0.032	247.75	0.005
6.00	13.985	66.50	1.026	127.00	0.188	187.50	0.032	248.00	0.005
6.25	19.434	66.75	1.019	127.25	0.187	187.75	0.032	248.25	0.005
6.50	26.698	67.00	1.012	127.50	0.186	188.00	0.031	248.50	0.005
6.75	32.148	67.25	1.005	127.75	0.184	188.25	0.031	248.75	0.005
7.00	36.907	67.50	0.998	128.00	0.183	188.50	0.031	249.00	0.005
7.25	40.996	67.75	0.991	128.25	0.182	188.75	0.031	249.25	0.005
7.50	44.902	68.00	0.984	128.50	0.180	189.00	0.031	249.50	0.005
7.75	48.789	68.25	0.977	128.75	0.179	189.25	0.030	249.75	0.005
8.00	52.648	68.50	0.971	129.00	0.178	189.50	0.030	250.00	0.005
8.25	56.278	68.75	0.964	129.25	0.177	189.75	0.030	250.25	0.005
8.50	59.755	69.00	0.957	129.50	0.175	190.00	0.030	250.50	0.005
8.75	63.043	69.25	0.951	129.75	0.174	190.25	0.029	250.75	0.005
9.00	66.178	69.50	0.944	130.00	0.173	190.50	0.029	251.00	0.005
9.25	69.181	69.75	0.938	130.25	0.172	190.75	0.029	251.25	0.005
9.50	72.043	70.00	0.931	130.50	0.170	191.00	0.029	251.50	0.005
9.75	74.753	70.25	0.925	130.75	0.169	191.25	0.029	251.75	0.005
10.00	77.303	70.50	0.918	131.00	0.168	191.50	0.028	252.00	0.005
10.25	79.561	70.75	0.912	131.25	0.167	191.75	0.028	252.25	0.005
10.50	81.583	71.00	0.906	131.50	0.165	192.00	0.028	252.50	0.004
10.75	83.345	71.25	0.899	131.75	0.164	192.25	0.028	252.75	0.004
11.00	84.880	71.50	0.893	132.00	0.163	192.50	0.027	253.00	0.004
11.25	86.196	71.75	0.887	132.25	0.162	192.75	0.027	253.25	0.004
11.50	87.285	72.00	0.881	132.50	0.161	193.00	0.027	253.50	0.004
11.75	88.155	72.25	0.875	132.75	0.160	193.25	0.027	253.75	0.004
12.00	88.824	72.50	0.869	133.00	0.158	193.50	0.027	254.00	0.004
12.25	89.135	72.75	0.863	133.25	0.157	193.75	0.026	254.25	0.004
12.50	89.186	73.00	0.857	133.50	0.156	194.00	0.026	254.50	0.004
12.75	88.956	73.25	0.851	133.75	0.155	194.25	0.026	254.75	0.004
13.00	88.498	73.50	0.845	134.00	0.154	194.50	0.026	255.00	0.004
13.25	87.846	73.75	0.840	134.25	0.153	194.75	0.026	255.25	0.004
13.50	87.025	74.00	0.834	134.50	0.152	195.00	0.026	255.50	0.004
13.75	86.054	74.25	0.828	134.75	0.151	195.25	0.025	255.75	0.004
14.00	84.951	74.50	0.822	135.00	0.150	195.50	0.025	256.00	0.004
14.25	83.731	74.75	0.817	135.25	0.148	195.75	0.025	256.25	0.004
14.50	82.407	75.00	0.811	135.50	0.147	196.00	0.025	256.50	0.004
14.75	80.992	75.25	0.806	135.75	0.146	196.25	0.025	256.75	0.004
15.00	79.495	75.50	0.800	136.00	0.145	196.50	0.024	257.00	0.004
15.25	77.926	75.75	0.794	136.25	0.144	196.75	0.024	257.25	0.004
15.50	76.295	76.00	0.789	136.50	0.143	197.00	0.024	257.50	0.004
15.75	74.614	76.25	0.784	136.75	0.142	197.25	0.024	257.75	0.004
16.00	72.873	76.50	0.778	137.00	0.141	197.50	0.024	258.00	0.004
16.25	71.053	76.75	0.773	137.25	0.140	197.75	0.023	258.25	0.004
16.50	69.168	77.00	0.768	137.50	0.139	198.00	0.023	258.50	0.004
16.75	67.246	77.25	0.762	137.75	0.138	198.25	0.023	258.75	0.004
17.00	65.304	77.50	0.757	138.00	0.137	198.50	0.023	259.00	0.004
17.25	63.353	77.75	0.752	138.25	0.136	198.75	0.023	259.25	0.004
17.50	61.400	78.00	0.747	138.50	0.135	199.00	0.023	259.50	0.004
17.75	59.456	78.25	0.741	138.75	0.134	199.25	0.022	259.75	0.004
18.00	57.532	78.50	0.736	139.00	0.133	199.50	0.022	260.00	0.004
18.25	55.640	78.75	0.731	139.25	0.132	199.75	0.022	260.25	0.004
18.50	53.784	79.00	0.726	139.50	0.131	200.00	0.022	260.50	0.004
18.75	51.966	79.25	0.721	139.75	0.130	200.25	0.022	260.75	0.003
19.00	50.189	79.50	0.716	140.00	0.129	200.50	0.022	261.00	0.003
19.25	48.456	79.75	0.711	140.25	0.128	200.75	0.021	261.25	0.003
19.50	46.768	80.00	0.707	140.50	0.127	201.00	0.021	261.50	0.003
19.75	45.128	80.25	0.702	140.75	0.126	201.25	0.021	261.75	0.003
20.00	43.534	80.50	0.697	141.00	0.125	201.50	0.021	262.00	0.003
20.25	41.988	80.75	0.692	141.25	0.125	201.75	0.021	262.25	0.003
20.50	40.488	81.00	0.687	141.50	0.124	202.00	0.021	262.50	0.003
20.75	39.034	81.25	0.683	141.75	0.123	202.25	0.021	262.75	0.003
21.00	37.622	81.50	0.678	142.00	0.122	202.50	0.020	263.00	0.003
21.25	36.254	81.75	0.673	142.25	0.121	202.75	0.020	263.25	0.003
21.50	34.929	82.00	0.669	142.50	0.120	203.00	0.020	263.50	0.003
21.75	33.648	82.25	0.664	142.75	0.119	203.25	0.020	263.75	0.003
22.00	32.409	82.50	0.660	143.00	0.118	203.50	0.020	264.00	0.003
22.25	31.212	82.75	0.655	143.25	0.117	203.75	0.020	264.25	0.003
22.50	30.057	83.00	0.651	143.50	0.117	204.00	0.019	264.50	0.003
22.75	28.941	83.25	0.646	143.75	0.116	204.25	0.019	264.75	0.003
23.00	27.865	83.50	0.642	144.00	0.115	204.50	0.019	265.00	0.003
23.25	26.828	83.75	0.637	144.25	0.114	204.75	0.019	265.25	0.003
23.50	25.829	84.00	0.633	144.50	0.113	205.00	0.019	265.50	0.003
23.75	24.868	84.25	0.628	144.75	0.112	205.25	0.019	265.75	0.003
24.00	23.948	84.50	0.624	145.00	0.112	205.50	0.019	266.00	0.003
24.25	23.066	84.75	0.620	145.25	0.111	205.75	0.018	266.25	0.003
24.50	22.220	85.00	0.616	145.50	0.110	206.00	0.018	266.50	0.003
24.75	21.407	85.25	0.611	145.75	0.109	206.25	0.018	266.75	0.003
25.00	20.625	85.50	0.607	146.00	0.108	206.50	0.018	267.00	0.003
25.25	19.873	85.75	0.603	146.25	0.108	206.75	0.018	267.25	0.003
25.50	19.150	86.00	0.599	146.50	0.107	207.00	0.018	267.50	0.003
25.75	18.455	86.25	0.595	146.75	0.106	207.25	0.018	267.75	0.003
26.00	17.785	86.50	0.591	147.00	0.105	207.50	0.018	268.00	0.003
26.25	17.142	86.75	0.587	147.25	0.105	207.75	0.017	268.25	0.003
26.50	16.523	87.00	0.583	147.50	0.104	208.00	0.017	268.50	0.003
26.75	15.927	87.25	0.578	147.75	0.103	208.25	0.017	268.75	0.003
27.00	15.355	87.50	0.575	148.00	0.102	208.50	0.017	269.00	0.003
27.25	14.804	87.75	0.571	148.25	0.102	208.75	0.017	269.25	0.003
27.50	14.275	88.00	0.567	148.50	0.101	209.00	0.017	269.50	0.003
27.75	13.766	88.25	0.563	148.75	0.100	209.25	0.017	269.75	0.003
28.00	13.277	88.50	0.559	149.00	0.099	209.50	0.017	270.00	0.003
28.25	12.807	88.75	0.555	149.25	0.099	209.75	0.016	270.25	0.003
28.50	12.355	89.00	0.551	149.50	0.098	210.00	0.016	270.50	0.003
28.75	11.920	89.25	0.547	149.75	0.097	210.25	0.016	270.75	0.003
29.00	11.502	89.50	0.544	150.00	0.096	210.50	0.016	271.00	0.003
29.25	11.101	89.75	0.540	150.25	0.096	210.75	0.016	271.25	0.003
29.50	10.715	90.00	0.536	150.50	0.095	211.00	0.016	271.50	0.003
29.75	10.345	90.25	0.532	150.75	0.094	211.25	0.016	271.75	0.002
30.00	9.989	90.50	0.529	151.00	0.094	211.50	0.016	272.00	0.002
30.25	9.647	90.75	0.525	151.25	0.093	211.75	0.015	272.25	0.002
30.50	9.320	91.00	0.521	151.50	0.092	212.00	0.015	272.50	0.002
30.75	9.005	91.25	0.518	151.75	0.092	212.25	0.015	272.75	0.002
31.00	8.703	91.50	0.514	152.00	0.091	212.50	0.015	273.00	0.002
31.25	8.414	91.75	0.511	152.25	0.090	212.75	0.015	273.25	0.002
31.50	8.136	92.00	0.507	152.50	0.090	213.00	0.015	273.50	0.002
31.75	7.869	92.25	0.504	152.75	0.089	213.25	0.015	273.75	0.002
32.00	7.614	92.50	0.500	153.00	0.088	213.50	0.015	274.00	0.002
32.25	7.369	92.75	0.497	153.25	0.088	213.75	0.015	274.25	0.002
32.50	7.135	93.00	0.493	153.50	0.087	214.00	0.014	274.50	0.002
32.75	6.910	93.25	0.490	153.75	0.086	214.25	0.014	274.75	0.002
33.00	6.695	93.50	0.486	154.00	0.086	214.50	0.014	275.00	0.002
33.25	6.488	93.75	0.483	154.25	0.085	214.75	0.014	275.25	0.002
33.50	6.291	94.00	0.480	154.50	0.085	215.00	0.014	275.50	0.002
33.75	6.101	94.25	0.476	154.75	0.084	215.25	0.014	275.75	0.002
34.00	5.919	94.50	0.473	155.00	0.083	215.50	0.014	276.00	0.002
34.25	5.745	94.75	0.470	155.25	0.083	215.75	0.014	276.25	0.002
34.50	5.578	95.00	0.466	155.50	0.082	216.00	0.014	276.50	0.002
34.75	5.418	95.25	0.463	155.75	0.082	216.25	0.013	276.75	0.002
35.00	5.264	95.50	0.460	156.00	0.081	216.50	0.013	277.00	0.002
35.25	5.117	95.75	0.457	156.25	0.080	216.75	0.013	277.25	0.002
35.50	4.975	96.00	0.454	156.50	0.080	217.00	0.013	277.50	0.002
35.75	4.840	96.25	0.450	156.75	0.079	217.25	0.013	277.75	0.002
36.00	4.710	96.50	0.447	157.00	0.079	217.50	0.013	278.00	0.002
36.25	4.585	96.75	0.444	157.25	0.078	217.75	0.013	278.25	0.002
36.50	4.465	97.00	0.441	157.50	0.077	218.00	0.013	278.50	0.002
36.75	4.349	97.25	0.438	157.75	0.077	218.25	0.013	278.75	0.002
37.00	4.239	97.50	0.435	158.00	0.076	218.50	0.013	279.00	0.002
37.25	4.133	97.75	0.432	158.25	0.076	218.75	0.013	279.25	0.002
37.50	4.031	98.00	0.429	158.50	0.075	219.00	0.012	279.50	0.002
37.75	3.933	98.25	0.426	158.75	0.075	219.25	0.012	279.75	0.002
38.00	3.838	98.50	0.423	159.00	0.074	219.50	0.012	280.00	0.002
38.25	3.748	98.75	0.420	159.25	0.074	219.75	0.012	280.25	0.002
38.50	3.661	99.00	0.417	159.50	0.073	220.00	0.012	280.50	0.002
38.75	3.577	99.25	0.414	159.75	0.073	220.25	0.012	280.75	0.002
39.00	3.497	99.50	0.411	160.00	0.072	220.50	0.012	281.00	0.002
39.25	3.419	99.75	0.408	160.25	0.071	220.75	0.012	281.25	0.002
39.50	3.345	100.00	0.406	160.50	0.071	221.00	0.012	281.50	0.002
39.75	3.273	100.25	0.403	160.75	0.070	221.25	0.012	281.75	0.002
40.00	3.204	100.50	0.400	161.00	0.070	221.50	0.012	282.00	0.002

40.25	3.138	100.75	0.397	161.25	0.069	221.75	0.011	282.25	0.002
40.50	3.074	101.00	0.394	161.50	0.069	222.00	0.011	282.50	0.002
40.75	3.013	101.25	0.392	161.75	0.068	222.25	0.011	282.75	0.002
41.00	2.954	101.50	0.389	162.00	0.068	222.50	0.011	283.00	0.002
41.25	2.897	101.75	0.386	162.25	0.067	222.75	0.011	283.25	0.002
41.50	2.842	102.00	0.383	162.50	0.067	223.00	0.011	283.50	0.002
41.75	2.789	102.25	0.381	162.75	0.066	223.25	0.011	283.75	0.002
42.00	2.738	102.50	0.378	163.00	0.066	223.50	0.011	284.00	0.002
42.25	2.689	102.75	0.375	163.25	0.065	223.75	0.011	284.25	0.002
42.50	2.641	103.00	0.373	163.50	0.065	224.00	0.011	284.50	0.002
42.75	2.595	103.25	0.370	163.75	0.064	224.25	0.011	284.75	0.002
43.00	2.551	103.50	0.368	164.00	0.064	224.50	0.011	285.00	0.002
43.25	2.508	103.75	0.365	164.25	0.064	224.75	0.010	285.25	0.002
43.50	2.467	104.00	0.362	164.50	0.063	225.00	0.010	285.50	0.002
43.75	2.427	104.25	0.360	164.75	0.063	225.25	0.010	285.75	0.002
44.00	2.389	104.50	0.357	165.00	0.062	225.50	0.010	286.00	0.002
44.25	2.352	104.75	0.355	165.25	0.062	225.75	0.010	286.25	0.002
44.50	2.316	105.00	0.352	165.50	0.061	226.00	0.010	286.50	0.002
44.75	2.281	105.25	0.350	165.75	0.061	226.25	0.010	286.75	0.002
45.00	2.247	105.50	0.347	166.00	0.060	226.50	0.010	287.00	0.002
45.25	2.215	105.75	0.345	166.25	0.060	226.75	0.010	287.25	0.002
45.50	2.183	106.00	0.343	166.50	0.059	227.00	0.010	287.50	0.002
45.75	2.153	106.25	0.340	166.75	0.059	227.25	0.010	287.75	0.002
46.00	2.123	106.50	0.338	167.00	0.059	227.50	0.010	288.00	0.002
46.25	2.095	106.75	0.335	167.25	0.058	227.75	0.010	288.25	0.002
46.50	2.067	107.00	0.333	167.50	0.058	228.00	0.009	288.50	0.001
46.75	2.040	107.25	0.331	167.75	0.057	228.25	0.009	288.75	0.001
47.00	2.014	107.50	0.328	168.00	0.057	228.50	0.009	289.00	0.001
47.25	1.988	107.75	0.326	168.25	0.056	228.75	0.009	289.25	0.001
47.50	1.964	108.00	0.324	168.50	0.056	229.00	0.009	289.50	0.001
47.75	1.940	108.25	0.321	168.75	0.056	229.25	0.009	289.75	0.001
48.00	1.916	108.50	0.319	169.00	0.055	229.50	0.009	290.00	0.001
48.25	1.894	108.75	0.317	169.25	0.055	229.75	0.009	290.25	0.001
48.50	1.872	109.00	0.315	169.50	0.054	230.00	0.009	290.50	0.001
48.75	1.850	109.25	0.313	169.75	0.054	230.25	0.009	290.75	0.001
49.00	1.829	109.50	0.310	170.00	0.054	230.50	0.009	291.00	0.001
49.25	1.809	109.75	0.308	170.25	0.053	230.75	0.009	291.25	0.001
49.50	1.789	110.00	0.306	170.50	0.053	231.00	0.009	291.50	0.001
49.75	1.770	110.25	0.304	170.75	0.052	231.25	0.009	291.75	0.001
50.00	1.751	110.50	0.302	171.00	0.052	231.50	0.009	292.00	0.001
50.25	1.733	110.75	0.300	171.25	0.052	231.75	0.008	292.25	0.001
50.50	1.715	111.00	0.297	171.50	0.051	232.00	0.008	292.50	0.001
50.75	1.697	111.25	0.295	171.75	0.051	232.25	0.008	292.75	0.001
51.00	1.680	111.50	0.293	172.00	0.051	232.50	0.008	293.00	0.001
51.25	1.663	111.75	0.291	172.25	0.050	232.75	0.008	293.25	0.001
51.50	1.647	112.00	0.289	172.50	0.050	233.00	0.008	293.50	0.001
51.75	1.631	112.25	0.287	172.75	0.049	233.25	0.008	293.75	0.001
52.00	1.616	112.50	0.285	173.00	0.049	233.50	0.008	294.00	0.001
52.25	1.600	112.75	0.283	173.25	0.049	233.75	0.008	294.25	0.001
52.50	1.585	113.00	0.281	173.50	0.048	234.00	0.008	294.50	0.001
52.75	1.571	113.25	0.279	173.75	0.048	234.25	0.008	294.75	0.001
53.00	1.556	113.50	0.277	174.00	0.048	234.50	0.008	295.00	0.001
53.25	1.542	113.75	0.275	174.25	0.047	234.75	0.008	295.25	0.001
53.50	1.528	114.00	0.273	174.50	0.047	235.00	0.008	295.50	0.001
53.75	1.515	114.25	0.271	174.75	0.047	235.25	0.008	295.75	0.001
54.00	1.501	114.50	0.269	175.00	0.046	235.50	0.008	296.00	0.001
54.25	1.488	114.75	0.267	175.25	0.046	235.75	0.007	296.25	0.001
54.50	1.475	115.00	0.265	175.50	0.046	236.00	0.007	296.50	0.001
54.75	1.463	115.25	0.264	175.75	0.045	236.25	0.007	296.75	0.001
55.00	1.450	115.50	0.262	176.00	0.045	236.50	0.007	297.00	0.001
55.25	1.438	115.75	0.260	176.25	0.045	236.75	0.007	297.25	0.001
55.50	1.426	116.00	0.258	176.50	0.044	237.00	0.007	297.50	0.001
55.75	1.414	116.25	0.256	176.75	0.044	237.25	0.007	297.75	0.001
56.00	1.403	116.50	0.254	177.00	0.044	237.50	0.007	298.00	0.001
56.25	1.391	116.75	0.253	177.25	0.043	237.75	0.007	298.25	0.001
56.50	1.380	117.00	0.251	177.50	0.043	238.00	0.007	298.50	0.001
56.75	1.369	117.25	0.249	177.75	0.043	238.25	0.007	298.75	0.001
57.00	1.358	117.50	0.247	178.00	0.042	238.50	0.007	299.00	0.001
57.25	1.347	117.75	0.245	178.25	0.042	238.75	0.007	299.25	0.001
57.50	1.337	118.00	0.244	178.50	0.042	239.00	0.007	299.50	0.001
57.75	1.326	118.25	0.242	178.75	0.041	239.25	0.007	299.75	0.001
58.00	1.316	118.50	0.240	179.00	0.041	239.50	0.007	300.00	0.001
58.25	1.306	118.75	0.239	179.25	0.041	239.75	0.007	300.25	0.001
58.50	1.296	119.00	0.237	179.50	0.040	240.00	0.007	300.50	0.001
58.75	1.286	119.25	0.235	179.75	0.040	240.25	0.007	300.75	0.001
59.00	1.276	119.50	0.233	180.00	0.040	240.50	0.006	301.00	0.001
59.25	1.266	119.75	0.232	180.25	0.040	240.75	0.006	301.25	0.001
59.50	1.257	120.00	0.230	180.50	0.039	241.00	0.006	301.50	0.001
59.75	1.247	120.25	0.229	180.75	0.039	241.25	0.006		
60.00	1.238	120.50	0.227	181.00	0.039	241.50	0.006		
60.25	1.229	120.75	0.225	181.25	0.038	241.75	0.006		

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-------------------
| ADD HYD   (8188) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8186): 22248.87 125.773     9.25    27.02
      + ID2= 2 (8190):  1908.71  12.730     4.25    22.58
        ==========================================================
        ID = 3 (8188): 24157.57 133.288     8.75    26.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB             |
| NASHYD    (4462) |   Area     (ha)=1366.10   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   4.22

     Unit Hyd Qpeak  (cms)=   5.524

     PEAK FLOW       (cms)=   4.885 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  22.626
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (4461) |   Area     (ha)= 108.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      54.45        54.45
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     852.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     101.74        63.53
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.30 (ii)   24.12 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      8.51         5.00        11.985 (iii)
     TIME TO PEAK    (hrs)=      1.50         1.75         1.50
     RUNOFF VOLUME    (mm)=     76.03        29.11        43.18
     TOTAL RAINFALL   (mm)=     78.03        78.03        78.03
     RUNOFF COEFFICIENT   =      0.97         0.37         0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.6700      2.9494
                         0.3690     1.4413   |   1.8200      3.3343
                         0.5700     1.6830   |   1.9700      3.7111
                         1.0600     2.1139   |   2.3700      3.7211
                         1.3800     2.4971   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    108.900     11.985      1.50      43.18
     OUTFLOW: ID= 1 (5446)    108.900      1.788      3.00      43.17

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.92
               TIME SHIFT OF PEAK FLOW         (min)= 90.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.2543
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-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4462):  1366.10   4.885     6.00    22.63
      + ID2= 2 (5446):   108.90   1.788     3.00    43.17
        ==========================================================
        ID = 3 (8192):  1475.00   6.294     4.50    24.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8188): 24157.57 133.288     8.75    26.67
      + ID2= 2 (8192):  1475.00   6.294     4.50    24.14
        ==========================================================
        ID = 3 (8194): 25632.58 138.238     8.75    26.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.744 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  12.911
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   2.542 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  21.812
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.769 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  16.452
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  18.679
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.720 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  13.979
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.720     2.25    13.98
       + ID2= 2 (0436):   187.51   2.485     2.50    18.68
         ================================================
         ID = 3 (8206):   244.15   3.181     2.50    17.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                  0.00         256.00        0.0600
                  9.23         255.50        0.0600
                 27.69         255.00        0.0600
                 50.77         254.90        0.0600
                 64.62         254.85        0.0600
                 78.47         252.26        0.0600
                 96.93         249.44        0.0600
                129.24         245.94        0.0600
                145.40         245.76        0.0600
                146.20         245.80    0.0600 /0.0350  Main Channel
                146.70         245.30        0.0350      Main Channel
                147.70         245.30        0.0350      Main Channel
                148.20         245.80    0.0350 /0.0600  Main Channel
                150.01         245.78        0.0600
                152.32         245.79        0.0600
                163.86         246.72        0.0600
                175.40         249.07        0.0600
                186.94         253.15        0.0600
                196.17         255.38        0.0600
                228.48         255.55        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
      0.50    245.80    .221E+04       0.9         1.02       40.44
      1.01    246.31    .352E+05      14.0         0.99       41.77
      1.53    246.83    .841E+05      47.3         1.39       29.61
      2.04    247.34    .144E+06     102.0         1.76       23.49
      2.55    247.85    .213E+06     177.3         2.07       19.99
      3.07    248.37    .291E+06     274.4         2.34       17.66
      3.58    248.88    .378E+06     394.6         2.58       15.97
      4.09    249.39    .474E+06     541.4         2.83       14.60
      4.61    249.91    .578E+06     719.9         3.08       13.38
      5.12    250.42    .688E+06     923.8         3.33       12.40
      5.63    250.93    .803E+06    1153.3         3.56       11.61
      6.14    251.44    .925E+06    1408.6         3.77       10.95
      6.66    251.96    .105E+07    1690.6         3.98       10.38
      7.17    252.47    .119E+07    2002.3         4.18        9.88
      7.68    252.98    .133E+07    2345.4         4.38        9.43
      8.20    253.50    .147E+07    2710.1         4.56        9.05
      8.71    254.01    .162E+07    3101.0         4.73        8.72
      9.22    254.52    .178E+07    3521.8         4.90        8.43
      9.74    255.04    .195E+07    3467.6         4.39        9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     3.18    2.50  17.59      0.59      1.02
    OUTFLOW: ID= 1 (6438)  244.15     2.82    3.25  17.59      0.57      1.02

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   1.769     2.25    16.45
       + ID2= 2 (6438):   244.15   2.822     3.25    17.59
         ================================================
         ID = 3 (8208):   374.85   4.370     3.00    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   2.542     3.25    21.81
       + ID2= 2 (8208):   374.85   4.370     3.00    17.19
         ================================================
         ID = 3 (8210):   601.20   6.909     3.00    18.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21
```

```
     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.977 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  17.741
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0430)  |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   1.890 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  18.476
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.237

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0428)  |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.774 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  16.342
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0426)  |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   3.146 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  22.414
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0424)  |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   1.198 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  20.426
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0424):    49.57   1.198     2.00     20.43
        + ID2= 2 (0426):   247.17   3.146     3.00     22.41
          ================================================
          ID = 3 (8198):   296.74   4.079     2.50     22.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4281.0) ------>
              Distance      Elevation       Manning
                 0.00         246.54        0.0900
                 8.80         246.29        0.0900
                30.78         246.03        0.0900
                41.78         243.97        0.0900
                63.77         237.16        0.0900
                85.76         232.53        0.0900
                96.75         230.16        0.0900
               109.94         228.40        0.0900
               112.14         228.28    0.0900 /0.0450  Main Channel
               112.84         228.00        0.0450      Main Channel
               113.34         227.50        0.0450      Main Channel
               114.34         227.50        0.0450      Main Channel
               114.84         228.00        0.0450      Main Channel
               116.54         228.29    0.0450 /0.0900  Main Channel
               118.74         228.40        0.0900
               120.94         228.52        0.0900
               149.52         229.51        0.0900
               169.31         230.69        0.0900
               186.00         234.27        0.0900
               217.69         243.56        0.0900

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.78   228.28    .205E+04       1.6          0.97      21.60
      1.58   229.08    .202E+05      16.6          1.02      20.37
      2.39   229.89    .665E+05      64.8          1.22      17.11
      3.19   230.69    .133E+06     158.1          1.49      14.05
      4.00   231.50    .213E+06     308.6          1.82      11.48
      4.80   232.30    .299E+06     504.9          2.11       9.89
      5.61   233.11    .394E+06     746.6          2.37       8.79
      6.41   233.91    .496E+06    1034.5          2.61       7.99
      7.21   234.71    .605E+06    1373.3          2.84       7.35
      8.02   235.52    .722E+06    1763.3          3.06       6.82
      8.82   236.32    .844E+06    2202.0          3.27       6.39
      9.63   237.13    .974E+06    2690.5          3.46       6.03
     10.43   237.93    .111E+07    3239.5          3.66       5.71
     11.23   238.73    .125E+07    3839.0          3.84       5.43
     12.04   239.54    .140E+07    4489.1          4.03       5.18
     12.84   240.34    .155E+07    5190.5          4.20       4.97
     13.65   241.15    .170E+07    5943.8          4.36       4.78
     14.45   241.95    .187E+07    6749.8          4.53       4.61
     15.26   242.76    .204E+07    7609.4          4.68       4.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     4.08    2.50  22.08      0.91      0.98
     OUTFLOW: ID= 1 (6428)  296.74     3.95    3.00  22.08      0.91      0.97

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0428):    50.53   0.774     2.00     16.34
        + ID2= 2 (6428):   296.74   3.946     3.00     22.08
          ================================================
          ID = 3 (8200):   347.27   4.611     2.75     21.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0430):   111.64   1.890     2.25     18.48
        + ID2= 2 (8200):   347.27   4.611     2.75     21.25
          ================================================
          ID = 3 (8202):   458.91   6.336     2.50     20.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation       Manning
                 0.00         221.00        0.0600
                15.29         219.85        0.0600
                45.86         219.86        0.0600
                76.44         219.96        0.0600
               110.84         220.23        0.0600
               112.00         220.15        0.0600
               114.66         220.09        0.0600
               118.48         219.73        0.0600
```

```
                120.80        219.70    0.0600 /0.0350  Main Channel
                121.30        219.20        0.0350      Main Channel
                122.30        219.20        0.0350      Main Channel
                122.80        219.70    0.0350 /0.0600  Main Channel
                129.95        220.11        0.0600
                175.81        220.24        0.0600
                214.03        220.55        0.0600
                252.25        220.61        0.0600
                290.47        220.70        0.0600
                328.69        221.04        0.0600
                347.80        221.08        0.0600
                378.37        221.04        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.08    219.28    .185E+03        0.0         0.23     149.38
       0.17    219.37    .399E+03        0.1         0.34     100.62
       0.25    219.45    .641E+03        0.1         0.42      80.98
       0.33    219.53    .911E+03        0.2         0.49      69.79
       0.42    219.62    .121E+04        0.3         0.55      62.35
       0.50    219.70    .154E+04        0.5         0.60      56.91
       0.61    219.81    .267E+04        0.7         0.56      61.28
       0.71    219.91    .901E+04        1.3         0.30     112.96
       0.82    220.02    .249E+05        3.4         0.28     122.71
       0.92    220.12    .452E+05        6.8         0.31     109.98
       1.03    220.23    .747E+05       12.2         0.33     102.05
       1.14    220.34    .112E+06       21.3         0.39      87.59
       1.24    220.44    .153E+06       33.0         0.44      77.01
       1.35    220.55    .196E+06       47.2         0.49      69.22
       1.46    220.66    .248E+06       62.3         0.51      66.48
       1.56    220.76    .310E+06       83.4         0.55      62.06
       1.67    220.87    .376E+06      108.8         0.59      57.56
       1.77    220.97    .444E+06      137.7         0.64      53.77
       1.88    221.08    .517E+06      163.6         0.65      52.70

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     6.34    2.50  20.57      0.91      0.31
     OUTFLOW: ID= 1 (6432)  458.91     4.18    4.50  20.57      0.84      0.29


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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.977     3.25    17.74
       + ID2= 2 (6432):   458.91   4.184     4.50    20.57
         ==========================================
         ID = 3 (8204):   573.12   5.099     4.25    20.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   5.099     4.25    20.01
       + ID2= 2 (8210):   601.20   6.909     3.00    18.93
         ==========================================
         ID = 3 (8212):  1174.32  11.471     3.50    19.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4421.0) ------>
             Distance      Elevation       Manning
                0.00         221.00        0.0350
               26.73         220.80        0.0350
               53.47         220.60        0.0350
               66.83         220.40        0.0350
               80.20         220.20        0.0350
              347.52         220.00        0.0350
              354.21         219.59        0.0350
              360.89         219.50        0.0350
              367.57         219.08        0.0350
              368.76         219.00    0.0350 /0.0300  Main Channel
              369.26         218.50        0.0300      Main Channel
              374.26         218.50        0.0300      Main Channel
              374.76         219.00    0.0300 /0.0350  Main Channel
              380.94         220.33        0.0350
              387.62         219.62        0.0350
              394.31         219.23        0.0350
              454.45         219.07        0.0350
              514.60         219.09        0.0350
              660.00         219.19        0.0350
                661.63        221.00        0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.12    218.62    .100E+04        0.2         0.28      92.89
       0.25    218.75    .205E+04        0.6         0.43      60.09
       0.37    218.87    .315E+04        1.1         0.55      46.99
       0.50    219.00    .430E+04        1.8         0.66      39.67
       0.63    219.13    .141E+05        3.4         0.37      69.99
       0.77    219.27    .652E+05       13.7         0.33      79.14
       0.90    219.40    .124E+06       35.5         0.45      58.02
       1.03    219.53    .183E+06       65.7         0.56      46.45
       1.17    219.67    .245E+06      103.8         0.66      39.30
       1.30    219.80    .307E+06      149.3         0.76      34.30
       1.43    219.93    .371E+06      201.6         0.85      30.65
       1.57    220.07    .440E+06      256.5         0.91      28.56
       1.70    220.20    .541E+06      325.7         0.94      27.70
       1.83    220.33    .663E+06      415.2         0.98      26.62
       1.97    220.47    .787E+06      520.3         1.03      25.21
       2.10    220.60    .913E+06      638.5         1.09      23.82
       2.23    220.73    .104E+07      767.2         1.15      22.62
       2.37    220.87    .117E+07      908.0         1.21      21.54
       2.50    221.00    .131E+07     1060.7         1.27      20.57

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32    11.47    3.50  19.46      0.74      0.34
     OUTFLOW: ID= 1 (6442) 1174.32     9.73    5.00  19.46      0.72      0.34


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-------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.744     3.25    12.91
       + ID2= 2 (6442):  1174.32   9.734     5.00    19.46
         ==========================================
         ID = 3 (8214):  1291.58  10.359     4.75    18.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 25632.58 138.238     8.75    26.52
       + ID2= 2 (8214):  1291.58  10.359     4.75    18.86
         ==========================================
         ID = 3 (8196): 26924.15 143.507     8.50    26.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0444) |   Area     (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   2.331 (i)
     TIME TO PEAK    (hrs)=   3.000
     RUNOFF VOLUME    (mm)=  19.374
     TOTAL RAINFALL   (mm)=  78.027
     RUNOFF COEFFICIENT    =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   2.331     3.00    19.37
       + ID2= 2 (8196): 26924.15 143.507     8.50    26.16
         ==========================================
         ID = 3 (8216): 27145.80 143.968     8.50    26.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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EXISTING
EAST HOLLAND RIVER 10-YEAR STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO               Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\3371e7f9-0f83-418a-a026-a8db992e563c\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\3371e7f9-0f83-418a-a026-a8db992e563c\Scenario.sum


DATE: 08/22/2012                          TIME: 01:25:56

USER:


COMMENTS: _____________________________________________________
```

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  ****************************
  ** SIMULATION NUMBER:  10 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              3371e7f9-0f83-418a-a026-a8db992e563c\f4f31470
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
--------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
               0.25     1.57 |  3.25     2.51 |  6.25   11.29 |  9.25     2.19
               0.50     1.57 |  3.50     2.51 |  6.50   11.29 |  9.50     2.19
               0.75     1.57 |  3.75     2.51 |  6.75    5.02 |  9.75     2.19
               1.00     1.57 |  4.00     2.51 |  7.00    5.02 | 10.00     2.19
               1.25     1.57 |  4.25     3.76 |  7.25    3.76 | 10.25     1.25
               1.50     1.57 |  4.50     3.76 |  7.50    3.76 | 10.50     1.25
               1.75     1.57 |  4.75     5.02 |  7.75    3.76 | 10.75     1.25
               2.00     1.57 |  5.00     5.02 |  8.00    3.76 | 11.00     1.25
               2.25     1.88 |  5.25     7.52 |  8.25    2.19 | 11.25     1.25
               2.50     1.88 |  5.50     7.52 |  8.50    2.19 | 11.50     1.25
               2.75     1.88 |  5.75    30.10 |  8.75    2.19 | 11.75     1.25
               3.00     1.88 |  6.00    82.76 |  9.00    2.19 | 12.00     1.25
```

```
--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      91.70         66.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1026.65         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         79.08
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     13.72 (ii)    25.47 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      8.24          6.63      12.499 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=     60.70         30.71      39.70
     TOTAL RAINFALL   (mm)=     62.70         62.70      62.70
     RUNOFF COEFFICIENT   =      0.97          0.49       0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.64        165.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1357.94         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         54.12
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     16.23 (ii)    29.90 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      9.40         10.34       15.889 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=     60.70         26.64       33.79
     TOTAL RAINFALL   (mm)=     62.70         62.70       62.70
     RUNOFF COEFFICIENT   =      0.97          0.42        0.54

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000    |  6.0870     6.1196
                         0.3730     3.2753    |  7.7230     7.0042
                         1.3370     3.4678    |  9.3080     7.8876
                         2.9800     4.4433    |  9.7080     7.8976
                         4.4520     5.2716    |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    276.600     15.889      6.00      33.79
     OUTFLOW: ID= 1 (5166)    276.600      4.354      7.25      33.78

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.41
               TIME SHIFT OF PEAK FLOW          (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  5.2233

--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10  12.499     6.00     39.70
        + ID2= 2 (5166):   276.60   4.354     7.25     33.78
          ================================================
          ID = 3 (8134):   434.70  12.732     6.00     35.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.50        106.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     939.86         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         22.23
               over (min)        15.00         45.00
     Storage Coeff.  (min)=     13.01 (ii)    32.53 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.53          3.88        5.137 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50        6.00
     RUNOFF VOLUME    (mm)=     60.70         22.28       28.04
     TOTAL RAINFALL   (mm)=     62.70         62.70       62.70
     RUNOFF COEFFICIENT   =      0.97          0.36        0.45
```

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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19        30.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     823.41        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        72.24
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.02 (ii)   24.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.66         2.85        11.484 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        29.26         45.61
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.47          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.6100      4.1638
                          0.3440     1.7056   |   8.2090      4.5053
                          3.1340     1.9730   |   8.8070      4.8468
                          4.1310     3.0607   |   9.2070      4.8568
                          5.1070     3.7142   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700     11.484      6.00       45.61
     OUTFLOW: ID= 1 (5164)    101.700      3.502      6.50       45.60

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.49
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.4106

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--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1642):   132.50   5.137     6.00     28.04
      + ID2= 2 (5164):   101.70   3.502     6.50     45.60
        ================================================
        ID = 3 (8132):   234.20   8.292     6.50     35.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   1.735 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.359
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.261

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   1.665 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.038
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   0.875 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.044
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   0.705 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   4.231
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.067

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.181 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   2.506
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.040

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0148):   417.89   0.705     8.00     4.23
      + ID2= 2 (0150):   105.88   0.181     6.75     2.51
        ================================================
        ID = 3 (8116):   523.77   0.854     7.50     3.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1521.0) ------>
              Distance      Elevation        Manning
                 0.00         290.00         0.0500
                15.34         286.87         0.0500
                46.03         284.84         0.0500
                88.22         283.07         0.0500
               126.57         282.11         0.0500
               153.42         280.34         0.0500
               157.26         280.07         0.0500
               161.09         279.72         0.0500
```

167.76	278.94	0.0500 /0.0300	Main Channel
168.01	278.60	0.0300	Main Channel
168.76	278.60	0.0300	Main Channel
169.51	278.60	0.0300	Main Channel
169.76	278.90	0.0300 /0.0500	Main Channel
173.76	279.40	0.0500	
180.27	279.69	0.0500	
184.11	279.93	0.0500	
218.62	281.86	0.0500	
260.82	283.20	0.0500	
360.54	289.25	0.0500	
379.72	289.80	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	278.90	.114E+04	0.4	0.80	45.70
0.87	279.47	.932E+04	4.2	0.98	37.22
1.45	280.05	.353E+05	17.5	1.09	33.68
2.02	280.62	.831E+05	47.8	1.26	29.01
2.59	281.19	.155E+06	102.9	1.46	25.06
3.17	281.77	.250E+06	189.3	1.66	22.03
3.74	282.34	.375E+06	298.5	1.75	20.91
4.32	282.92	.547E+06	456.5	1.83	19.98
4.89	283.49	.767E+06	705.7	2.02	18.12
5.46	284.06	.102E+07	1038.0	2.24	16.34
6.04	284.64	.130E+07	1444.1	2.45	14.98
6.61	285.21	.161E+07	1940.1	2.66	13.79
7.18	285.78	.194E+07	2522.6	2.86	12.80
7.76	286.36	.229E+07	3187.4	3.06	11.98
8.33	286.93	.267E+07	3942.3	3.25	11.28
8.91	287.51	.306E+07	4824.9	3.46	10.58
9.48	288.08	.347E+07	5795.7	3.67	9.99
10.05	288.65	.390E+07	6855.4	3.86	9.48
10.63	289.23	.434E+07	8005.0	4.05	9.04

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8116)	523.77	0.85	7.50	3.88	0.37	0.82
OUTFLOW: ID= 1 (6152)	523.77	0.80	8.50	3.88	0.36	0.82

ADD HYD (8122)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0152):	124.37	0.875	7.25	14.04
+	ID2= 2 (6152):	523.77	0.800	8.50	3.88
	ID = 3 (8122):	648.14	1.610	8.00	5.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0158)	Area	(ha)=	178.59	Curve Number	(CN)= 61.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		0.94		

Unit Hyd Qpeak (cms)= 3.230

PEAK FLOW (cms)= 1.287 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 14.959
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.239

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0156)	Area	(ha)=	83.49	Curve Number	(CN)= 45.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		0.62		

Unit Hyd Qpeak (cms)= 2.306

PEAK FLOW (cms)= 0.488 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 8.855
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.141

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0154)	Area	(ha)=	200.32	Curve Number	(CN)= 37.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.	(N)= 1.50

U.H. Tp(hrs)= 0.97

Unit Hyd Qpeak (cms)= 3.537

PEAK FLOW (cms)= 0.622 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 6.719
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8118)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0154):	200.32	0.622	7.25	6.72
+	ID2= 2 (0156):	83.49	0.488	6.75	8.86
	ID = 3 (8118):	283.81	1.094	7.00	7.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6158)		
IN= 2---> OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (1581.0) ------>

Distance	Elevation	Manning		
0.00	290.00	0.0400		
19.20	288.88	0.0400		
48.00	288.26	0.0400		
119.99	283.68	0.0400		
167.99	282.07	0.0400		
196.79	281.32	0.0400		
210.79	280.90	0.0400		
219.79	280.38	0.0400 /0.0300	Main Channel	
220.04	279.65	0.0300	Main Channel	
220.79	279.65	0.0300	Main Channel	
221.54	279.65	0.0300	Main Channel	
221.79	280.39	0.0300 /0.0400	Main Channel	
225.79	280.59	0.0400		
235.19	280.88	0.0400		
254.39	281.50	0.0400		
273.58	282.56	0.0400		
302.38	283.42	0.0400		
359.98	284.03	0.0400		
436.77	289.37	0.0400		
475.17	290.37	0.0400		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8118)	283.81	1.09	7.00	7.35	0.58	1.02
OUTFLOW: ID= 1 (6158)	283.81	1.05	7.50	7.35	0.56	1.01

ADD HYD (8120)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0158):	178.59	1.287	7.25	14.96
+	ID2= 2 (6158):	283.81	1.048	7.50	7.35
	ID = 3 (8120):	462.40	2.327	7.50	10.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8124) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8120):   462.40   2.327     7.50    10.29
      + ID2= 2 (8122):   648.14   1.610     8.00     5.83
        ================================================
        ID = 3 (8124):  1110.54   3.906     7.75     7.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1601.0) ------>
             Distance      Elevation       Manning
                0.00         261.02        0.0400
               29.89         254.30        0.0400
               40.75         252.58        0.0400
               62.49         251.30        0.0400
              114.11         250.94        0.0400
              130.41         248.58        0.0400
              141.28         247.50        0.0400
              154.86         246.87        0.0400
              155.20         246.70        0.0400
              160.20         246.30    0.0400 /0.0300  Main Channel
              160.30         245.30        0.0300      Main Channel
              165.20         245.30        0.0300      Main Channel
              165.30         246.30    0.0300 /0.0400  Main Channel
              168.45         246.96        0.0400
              195.62         249.20        0.0400
              203.77         250.82        0.0400
              225.50         256.78        0.0400
              244.52         261.14        0.0400
              255.39         261.95        0.0400
              268.97         261.92        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.50   245.80   .120E+05        2.9         1.18      68.31
       1.00   246.30   .242E+05        8.5         1.70      47.47
       1.92   247.22   .825E+05       31.7         1.86      43.34
       2.84   248.14   .248E+06      102.5         2.00      40.39
       3.76   249.06   .506E+06      247.7         2.37      34.03
       4.68   249.98   .832E+06      486.8         2.83      28.49
       5.60   250.90   .121E+07      814.9         3.27      24.71
       6.52   251.82   .180E+07     1157.1         3.11      25.97
       7.44   252.74   .253E+07     1840.2         3.52      22.92
       8.36   253.66   .331E+07     2727.1         3.98      20.25
       9.29   254.59   .414E+07     3782.6         4.43      18.22
      10.21   255.51   .499E+07     5010.7         4.86      16.61
      11.13   256.43   .589E+07     6397.4         5.26      15.33
      12.05   257.35   .681E+07     7932.8         5.64      14.31
      12.97   258.27   .777E+07     9621.2         5.99      13.46
      13.89   259.19   .877E+07    11469.4         6.33      12.74
      14.81   260.11   .980E+07    13478.4         6.66      12.12
      15.73   261.03   .109E+08    15651.7         6.97      11.58
      16.65   261.95   .120E+08    17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8124) 1110.54     3.91    7.75   7.69      0.59      1.25
    OUTFLOW: ID= 1 (6160) 1110.54     3.39    9.00   7.69      0.54      1.21


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| ADD HYD   (8126) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0160):   318.82   1.665     8.00    15.04
      + ID2= 2 (6160):  1110.54   3.389     9.00     7.69
        ================================================
        ID = 3 (8126):  1429.36   5.020     8.75     9.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0162):   190.14   1.735     7.00    16.36
      + ID2= 2 (8126):  1429.36   5.020     8.75     9.33
        ================================================
        ID = 3 (8128):  1619.50   6.381     8.50    10.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8128):  1619.50   6.381     8.50    10.15
      + ID2= 2 (8132):   234.20   8.292     6.50    35.66
        ================================================
        ID = 3 (8130):  1853.70  12.213     6.50    13.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1661.0) ------>
             Distance      Elevation       Manning
                0.00         248.36        0.0500
               41.67         246.98        0.0500
               95.82         244.93        0.0500
              149.98         242.42        0.0500
              191.64         241.88        0.0500
              224.97         239.90        0.0500
              229.13         239.35        0.0500
              233.30         237.77        0.0500
              237.47         236.57        0.0500
              240.63         235.60    0.0500 /0.0300  Main Channel
              241.63         234.10        0.0300      Main Channel
              247.13         234.10        0.0300      Main Channel
              247.53         235.60    0.0300 /0.0500  Main Channel
              254.13         236.25        0.0500
              266.63         236.77        0.0500
              283.29         237.84        0.0500
              291.63         238.89        0.0500
              329.12         244.66        0.0500
              370.78         249.55        0.0500
              412.44         253.17        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.75   234.85   .130E+05        6.0         1.36      36.45
       1.50   235.60   .276E+05       18.1         1.95      25.41
       2.25   236.35   .544E+05       40.0         2.18      22.69
       3.00   237.10   .117E+06       80.1         2.04      24.32
       3.75   237.85   .213E+06      148.9         2.07      23.89
       4.50   238.60   .334E+06      255.1         2.27      21.85
       5.25   239.35   .473E+06      395.8         2.49      19.90
       6.00   240.10   .631E+06      563.8         2.65      18.66
       6.75   240.85   .824E+06      773.2         2.79      17.77
       7.50   241.60   .106E+07     1037.9         2.92      16.97
       8.26   242.36   .135E+07     1326.7         2.92      16.94
       9.01   243.11   .173E+07     1758.5         3.01      16.44
       9.76   243.86   .217E+07     2285.9         3.13      15.81
      10.51   244.61   .265E+07     2909.5         3.26      15.17
      11.26   245.36   .318E+07     3610.1         3.37      14.67
      12.01   246.11   .377E+07     4417.4         3.48      14.21
      12.76   246.86   .441E+07     5348.0         3.60      13.75
      13.51   247.61   .512E+07     6394.0         3.71      13.34
      14.26   248.36   .589E+07     7580.3         3.82      12.95

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8130) 1853.70    12.21    6.50  13.38      1.14      1.61
    OUTFLOW: ID= 1 (6166) 1853.70    10.51    7.50  13.38      1.03      1.53


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| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6166):  1853.70  10.511     7.50    13.38
      + ID2= 2 (8134):   434.70  12.732     6.00    35.94
        ================================================
        ID = 3 (8136):  2288.40  17.785     6.75    17.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.48        54.72
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     779.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        50.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.63 (ii)   25.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.05         3.46          6.224 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        25.97         34.30
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.41          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0850     2.2999
                          0.3100     0.9668   |   5.0850     2.6924
                          1.2590     1.1373   |   5.9090     3.1012
                          2.2140     1.5358   |   6.3090     3.1112
                          3.0620     1.8918   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)     91.200     6.224      6.00       34.30
     OUTFLOW: ID= 1 (5202)     91.200     2.110      6.75       34.30

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.90
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.5022

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--------------------
| CALIB            |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     215.06       162.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1585.98        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        65.77
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     17.81 (ii)   30.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      19.88        11.18         24.738 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        27.81         39.00
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.44          0.62


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2022):   377.30  24.738     6.00     39.00
        + ID2= 2 (5202):    91.20   2.110     6.75     34.30
          ================================================
          ID = 3 (8110):   468.50  24.976     6.00     38.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        12.80
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     18.98 (ii)   43.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.30         6.55          8.922 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        12.12         16.49
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.19          0.26

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   1.434 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.560
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0100):   693.84   1.434     9.25      7.56
        + ID2= 2 (0102):   466.00   8.922     6.00     16.49
          ================================================
          ID = 3 (8000):  1159.84   9.798     6.50     11.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1041.0) ------>
               Distance      Elevation       Manning
                  0.00         330.16        0.0450
                 50.03         328.36        0.0450
                 89.34         326.33        0.0450
                117.94         324.30        0.0450
                160.82         322.75        0.0450
                178.34         319.96        0.0450
                183.34         319.81        0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78        0.0300      Main Channel
                185.84         318.72        0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70        0.0450
                198.84         320.38        0.0450
                200.13         320.81        0.0450
                218.00         322.49        0.0450
                239.44         323.49        0.0450
                250.17         323.96        0.0450
                275.18         325.20        0.0450
                310.92         326.47        0.0450
                353.81         330.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.30   319.02    .624E+03         0.1          0.45       73.00
       0.60   319.32    .181E+04         0.6          0.67       49.46
       1.23   319.95    .128E+05         4.9          0.77       43.38
       1.86   320.58    .396E+05        19.1          0.96       34.50
```

```
  2.48   321.20    .757E+05      43.5          1.15      28.98
  3.11   321.83    .125E+06      81.2          1.30      25.58
  3.74   322.46    .187E+06     135.9          1.45      22.92
  4.37   323.09    .269E+06     195.6          1.45      22.90
  5.00   323.72    .387E+06     287.8          1.48      22.44
  5.63   324.35    .545E+06     428.4          1.56      21.22
  6.25   324.97    .735E+06     630.5          1.71      19.42
  6.88   325.60    .952E+06     876.1          1.83      18.12
  7.51   326.23    .120E+07    1177.0          1.95      17.03
  8.14   326.86    .149E+07    1554.4          2.08      15.93
  8.77   327.49    .179E+07    2009.7          2.23      14.88
  9.40   328.12    .213E+07    2533.9          2.37      13.99
 10.02   328.74    .249E+07    3112.6          2.49      13.31
 10.65   329.37    .288E+07    3760.9          2.60      12.75
 11.28   330.00    .330E+07    4494.8          2.71      12.23

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8000) 1159.84     9.80    6.50  11.15      1.44      0.82
 OUTFLOW: ID= 1 (6104) 1159.84     7.09    6.75  11.15      1.32      0.79


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--------------------
| CALIB              |
| NASHYD    (0104) |   Area    (ha)= 527.81   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.735

     PEAK FLOW       (cms)=   1.618 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.386
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.134

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):   527.81   1.618     8.00     8.39
       + ID2= 2 (6104):  1159.84   7.088     6.75    11.15
         ================================================
         ID = 3 (8002):  1687.65   8.549     7.00    10.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0106) |   Area    (ha)= 259.52   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   3.614

     PEAK FLOW       (cms)=   1.270 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.444
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):   259.52   1.270     8.00    12.44
       + ID2= 2 (8002):  1687.65   8.549     7.00    10.28
         ================================================
         ID = 3 (8004):  1947.17   9.740     7.00    10.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1081.0) ------>
              Distance       Elevation       Manning
                 0.00          326.06        0.0400
                12.06          325.74        0.0400
                30.15          324.28        0.0400
                59.27          320.35        0.0400
                72.37          317.60        0.0400
                87.45          314.52        0.0400
                93.48          313.91        0.0400
               105.54          313.55        0.0400
               106.17          313.40    0.0400 /0.0300  Main Channel
               110.62          313.04        0.0300      Main Channel
               110.82          312.97        0.0300      Main Channel
               111.57          313.08        0.0300      Main Channel
               111.67          313.48    0.0300 /0.0400  Main Channel
               129.66          316.62        0.0400
               150.77          318.95        0.0400
               180.92          319.61        0.0400
               205.04          321.23        0.0400
               232.18          322.09        0.0400
               268.37          322.31        0.0400
               298.52          326.00        0.0400

 <-------------------- TRAVEL TIME TABLE ---------------------->
  DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
   (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
  0.43   313.40    .244E+04        0.7         0.59      58.83
  1.09   314.06    .214E+05       10.4         1.01      34.24
  1.76   314.73    .600E+05       40.2         1.39      24.89
  2.42   315.39    .109E+06       92.1         1.75      19.80
  3.08   316.05    .169E+06      166.5         2.05      16.88
  3.75   316.72    .237E+06      264.4         2.31      14.97
  4.41   317.38    .318E+06      386.3         2.52      13.72
  5.07   318.04    .411E+06      539.3         2.72      12.71
  5.74   318.71    .517E+06      725.5         2.91      11.88
  6.40   319.37    .642E+06      909.2         2.94      11.77
  7.06   320.03    .806E+06     1179.3         3.04      11.38
  7.72   320.69    .989E+06     1515.9         3.18      10.87
  8.39   321.36    .119E+07     1895.5         3.30      10.49
  9.05   322.02    .143E+07     2310.2         3.36      10.30
  9.71   322.68    .172E+07     2763.2         3.33      10.39
 10.38   323.35    .205E+07     3477.6         3.53       9.81
 11.04   324.01    .238E+07     4284.3         3.73       9.27
 11.70   324.67    .274E+07     5154.0         3.91       8.85
 12.37   325.34    .311E+07     6104.0         4.08       8.48

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8004) 1947.17     9.74    7.00  10.57      1.05      0.96
 OUTFLOW: ID= 1 (6108) 1947.17     8.70    7.50  10.57      0.97      0.90


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--------------------
| CALIB              |
| NASHYD    (0108) |   Area    (ha)= 207.05   Curve Number   (CN)= 27.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.432

     PEAK FLOW       (cms)=   0.402 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.428
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.071

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0108):   207.05   0.402     7.50     4.43
       + ID2= 2 (6108):  1947.17   8.702     7.50    10.57
         ================================================
         ID = 3 (8006):  2154.22   9.104     7.50     9.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0110) |   Area    (ha)= 323.92   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   4.087

     PEAK FLOW       (cms)=   1.336 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.321
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0110):   323.92   1.336     8.00    11.32
        + ID2= 2 (8006):  2154.22   9.104     7.50     9.98
          ====================================================
          ID = 3 (8008):  2478.14  10.403     7.50    10.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                   0.00         320.59        0.0400
                  13.48         317.93        0.0400
                  40.45         311.52        0.0400
                  64.04         307.68        0.0400
                  74.15         307.01        0.0400
                  91.00         307.22        0.0400
                 107.86         305.21        0.0400
                 111.23         304.86        0.0400
                 113.32         304.60    0.0400 /0.0300  Main Channel
                 117.77         304.24       0.0300       Main Channel
                 117.97         304.17       0.0300       Main Channel
                 118.72         304.28       0.0300       Main Channel
                 118.82         304.68    0.0300 /0.0400  Main Channel
                 124.71         304.76        0.0400
                 171.90         306.30        0.0400
                 205.60         307.24        0.0400
                 239.31         308.24        0.0400
                 262.90         310.64        0.0400
                 289.86         314.34        0.0400
                 333.68         317.66        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43   304.60    .372E+04        0.6         0.54      97.65
        1.12   305.29    .463E+05       12.5         0.85      61.89
        1.80   305.97    .149E+06       53.0         1.13      46.85
        2.49   306.66    .311E+06      134.2         1.37      38.62
        3.18   307.35    .554E+06      261.6         1.50      35.27
        3.87   308.04    .894E+06      490.7         1.74      30.37
        4.55   308.72    .129E+07      833.0         2.05      25.75
        5.24   309.41    .171E+07     1269.8         2.36      22.39
        5.93   310.10    .215E+07     1789.0         2.64      20.01
        6.62   310.79    .261E+07     2392.7         2.90      18.21
        7.30   311.47    .310E+07     3087.8         3.16      16.74
        7.99   312.16    .361E+07     3873.6         3.40      15.52
        8.68   312.85    .413E+07     4741.0         3.64      14.52
        9.37   313.54    .467E+07     5689.3         3.86      13.69
       10.05   314.22    .523E+07     6718.4         4.07      12.97
       10.74   314.91    .581E+07     7770.7         4.24      12.46
       11.43   315.60    .641E+07     8897.5         4.40      12.01
       12.12   316.29    .704E+07    10113.2         4.55      11.61
       12.80   316.97    .770E+07    11420.1         4.70      11.24

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.14    10.40    7.50  10.16      1.00      0.78
     OUTFLOW: ID= 1 (6112) 2478.14     8.45    9.00  10.16      0.88      0.71

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--------------------
| CALIB            |
| NASHYD    (0112) |   Area    (ha)= 414.89   Curve Number   (CN)= 30.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   3.699

     PEAK FLOW       (cms)=   0.584 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   5.099
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.081

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0112):   414.89   0.584     9.25     5.10
        + ID2= 2 (6112):  2478.14   8.447     9.00    10.16
          ====================================================
          ID = 3 (8010):  2893.03   9.029     9.00     9.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1141.0) ------>
               Distance      Elevation       Manning
                   0.00         312.27        0.0500
                  14.07         309.70        0.0500
                  28.14         306.51        0.0500
                  35.17         305.81        0.0500
                  42.20         304.95        0.0500
                  52.75         304.24        0.0500
                  77.37         303.61        0.0500
                  98.47         301.33        0.0500
                 131.76         300.40    0.0500 /0.0300  Main Channel
                 136.21         300.04       0.0300       Main Channel
                 136.41         299.97       0.0300       Main Channel
                 137.16         300.08       0.0300       Main Channel
                 137.26         300.48    0.0300 /0.0500  Main Channel
                 140.68         300.53        0.0500
                 179.36         302.20        0.0500
                 214.53         303.82        0.0500
                 242.66         305.27        0.0500
                 288.38         307.66        0.0500
                 316.52         311.76        0.0500
                 348.17         313.48        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43   300.40    .366E+04        0.7         0.59      88.31
        1.05   301.02    .505E+05       12.1         0.75      69.49
        1.68   301.65    .165E+06       52.7         0.99      52.28
        2.30   302.27    .324E+06      130.3         1.26      41.40
        2.93   302.90    .520E+06      247.1         1.48      35.08
        3.55   303.52    .754E+06      406.8         1.68      30.91
        4.18   304.15    .104E+07      586.1         1.76      29.55
        4.80   304.77    .138E+07      856.0         1.93      26.96
        5.43   305.40    .177E+07     1201.1         2.12      24.56
        6.05   306.02    .219E+07     1612.2         2.30      22.63
        6.68   306.65    .264E+07     2090.6         2.47      21.07
        7.30   307.27    .313E+07     2653.0         2.64      19.65
        7.93   307.90    .364E+07     3303.9         2.83      18.36
        8.55   308.52    .417E+07     4053.9         3.03      17.14
        9.18   309.15    .471E+07     4871.9         3.22      16.12
        9.80   309.77    .527E+07     5756.2         3.41      15.25
       10.43   310.40    .584E+07     6699.8         3.58      14.52
       11.05   311.02    .642E+07     7710.5         3.74      13.89
       11.68   311.65    .702E+07     8788.5         3.90      13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.03     9.03    9.00    9.43      0.89      0.70
     OUTFLOW: ID= 1 (6114) 2893.03     8.02   10.50    9.43      0.83      0.68

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--------------------
| CALIB            |
| NASHYD    (0114) |   Area    (ha)= 287.65   Curve Number   (CN)= 49.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.389

     PEAK FLOW       (cms)=   1.232 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  10.248
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0114):   287.65   1.232     7.75    10.25
        + ID2= 2 (6114):  2893.03   8.016    10.50     9.43
          ====================================================
          ID = 3 (8012):  3180.68   8.914    10.25     9.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
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```
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   1.864 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.364
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.261

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0116):   206.43   1.864    7.00    16.36
      + ID2= 2 (8012):  3180.68   8.914   10.25     9.50
        ==========================================
        ID = 3 (8014):  3387.11   9.923    10.00     9.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1181.0) ------>
             Distance       Elevation       Manning
                0.00          307.18        0.0450
               24.89          299.75        0.0450
               37.34          296.39        0.0450
               71.57          292.75        0.0450
               96.46          291.12        0.0450
              108.90          289.43        0.0450
              112.02          288.86        0.0450
              115.13          288.46        0.0450
              117.24          288.32    0.0450 /0.0350  Main Channel
              117.49          288.15        0.0350      Main Channel
              118.24          288.00        0.0350      Main Channel
              118.99          288.20        0.0350      Main Channel
              119.24          288.36    0.0350 /0.0450  Main Channel
              121.35          288.40        0.0450
              149.35          289.36        0.0450
              171.14          290.47        0.0450
              208.47          293.14        0.0450
              236.48          295.17        0.0450
              280.04          299.48        0.0450
              308.04          307.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.32  288.32    .116E+04        0.2         0.62      81.92
        1.30  289.30    .631E+05       22.2         1.07      47.43
        2.29  290.29    .218E+06      117.5         1.64      30.95
        3.27  291.27    .448E+06      314.6         2.15      23.72
        4.25  292.25    .756E+06      625.6         2.53      20.13
        5.24  293.24    .115E+07     1093.2         2.91      17.50
        6.22  294.22    .161E+07     1731.6         3.28      15.50
        7.20  295.20    .214E+07     2547.4         3.63      14.01
        8.19  296.19    .274E+07     3584.9         4.00      12.72
        9.17  297.17    .338E+07     4859.1         4.39      11.60
       10.15  298.15    .407E+07     6341.5         4.76      10.70
       11.13  299.13    .480E+07     8024.6         5.11       9.97
       12.12  300.12    .556E+07    10006.6         5.49       9.27
       13.10  301.10    .635E+07    12244.6         5.89       8.64
       14.08  302.08    .716E+07    14681.7         6.26       8.13
       15.07  303.07    .799E+07    17316.5         6.62       7.69
       16.05  304.05    .884E+07    20148.1         6.96       7.31
       17.03  305.03    .971E+07    23176.2         7.29       6.98
       18.02  306.02    .106E+08    26400.8         7.61       6.69

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11     9.92   10.00   9.92      0.75      0.76
     OUTFLOW: ID= 1 (6118) 3387.11     9.33   11.25   9.92      0.72      0.75


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-------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=   1.273 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.143

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0118):   340.53   1.273     7.75     8.97
      + ID2= 2 (6118):  3387.11   9.332    11.25     9.92
        ==========================================
        ID = 3 (8016):  3727.64  10.159    11.00     9.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1221.0) ------>
             Distance       Elevation       Manning
                0.00          277.00        0.0500
               52.18          272.82        0.0500
               86.97          269.38        0.0500
              134.80          267.35        0.0500
              160.89          263.85        0.0500
              169.58          262.88        0.0500
              178.28          262.45        0.0500
              195.67          262.07        0.0500
              213.07          260.99        0.0500
              226.01          259.80    0.0500 /0.0300  Main Channel
              226.11          259.30        0.0300      Main Channel
              230.11          259.30        0.0300      Main Channel
              230.21          259.80    0.0300 /0.0500  Main Channel
              235.01          260.20        0.0500
              239.15          260.57        0.0500
              243.50          260.93        0.0500
              300.03          264.43        0.0500
              339.16          268.34        0.0500
              373.95          272.36        0.0500
              430.48          277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50  259.80    .626E+04        2.5         1.23      41.35
        1.41  260.71    .462E+05       21.8         1.44      35.27
        2.31  261.61    .149E+06       79.6         1.63      31.19
        3.22  262.52    .340E+06      200.1         1.80      28.34
        4.12  263.42    .636E+06      446.8         2.15      23.71
        5.03  264.33    .995E+06      819.9         2.52      20.23
        5.93  265.23    .141E+07     1337.0         2.90      17.56
        6.84  266.14    .187E+07     1984.8         3.25      15.67
        7.74  267.04    .237E+07     2766.0         3.57      14.26
        8.65  267.95    .292E+07     3596.9         3.76      13.53
        9.55  268.85    .355E+07     4575.4         3.93      12.95
       10.46  269.76    .427E+07     5814.9         4.16      12.23
       11.36  270.66    .503E+07     7319.0         4.44      11.46
       12.27  271.57    .584E+07     9009.7         4.71      10.81
       13.17  272.47    .670E+07    10886.3         4.96      10.26
       14.08  273.38    .761E+07    12893.2         5.17       9.84
       14.98  274.28    .858E+07    15098.1         5.37       9.48
       15.89  275.19    .961E+07    17527.6         5.57       9.14
       16.79  276.09    .107E+08    20190.3         5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    10.16   11.00   9.84      0.86      1.31
     OUTFLOW: ID= 1 (6122) 3727.64     9.97   11.75   9.84      0.84      1.30


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| CALIB            |
| STANDHYD  (1221) |   Area    (ha)=  17.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.37        11.33
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    343.51        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76         8.88
           over (min)       15.00        45.00
     Storage Coeff.  (min)=     7.11 (ii)   35.29 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
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     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.71         0.16          0.775 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         8.00         18.01
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.13          0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  35.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1840      0.4294
                          0.0600     0.1855   |   1.4870      0.5014
                          0.3430     0.2103   |   1.7310      0.5718
                          0.6390     0.2878   |   2.1310      0.5818
                          0.8860     0.3509   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)     17.700     0.775      6.00       18.01
     OUTFLOW: ID= 1 (5122)     17.700     0.121      7.25       17.97

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.61
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1908

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1222) |   Area    (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   0.895 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   7.824
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   347.20   0.895     8.25     7.82
       + ID2= 2 (5122):    17.70   0.121     7.25    17.97
         ==========================================================
         ID = 3 (8018):   364.90   0.983     8.00     8.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64   9.970    11.75     9.84
       + ID2= 2 (8018):   364.90   0.983     8.00     8.32
         ==========================================================
         ID = 3 (8020):  4092.54  10.712    11.50     9.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.00         32.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     577.35         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         11.85
           over (min)            15.00         45.00
     Storage Coeff.  (min)=       9.71 (ii)    34.82 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.55          0.61          2.790 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         11.50         24.29
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.18          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  48.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3450      1.2129
                          0.1690     0.5421   |   4.2000      1.4164
                          0.9690     0.5941   |   4.8890      1.6153
                          1.8040     0.8130   |   5.2890      1.6253
                          2.5020     0.9912   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.000     2.790      6.00       24.29
     OUTFLOW: ID= 1 (5126)     50.000     0.925      6.75       24.27

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.16
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5993

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   0.809 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.451
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.50   0.809     6.50    13.45
       + ID2= 2 (5126):    50.00   0.925     6.75    24.27
         ==========================================================
         ID = 3 (8024):   133.50   1.730     6.75    17.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   0.766 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.210
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   0.766     6.50     8.21
```

```
       + ID2= 2 (8024):   133.50   1.730     6.75    17.51
         ================================================
         ID = 3 (8026):   254.93   2.482     6.75    13.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1281.0) ------>
             Distance      Elevation       Manning
                 0.00         270.58        0.0400
                 7.71         270.36        0.0400
                15.43         269.48        0.0400
                23.14         265.88        0.0400
                42.43         261.83        0.0400
                61.71         258.31        0.0400
                75.21         256.62        0.0400
                90.64         255.35        0.0400
                92.49         255.00   0.0400 /0.0300  Main Channel
                93.49         254.00      0.0300       Main Channel
                94.49         253.90      0.0300       Main Channel
                94.99         253.80      0.0300       Main Channel
                95.49         253.70      0.0300       Main Channel
                95.99         253.80      0.0300       Main Channel
                98.49         255.00   0.0300 /0.0400  Main Channel
               100.28         255.44      0.0400
               134.99         257.45      0.0400
               148.49         259.67      0.0400
               167.77         263.42      0.0400
               190.92         270.00      0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.65   254.35    .439E+04         2.0          1.24      36.10
       1.30   255.00    .131E+05         9.4          1.92      23.39
       2.18   255.88    .433E+05        37.0          2.30      19.54
       3.06   256.76    .131E+06       113.3          2.34      19.20
       3.95   257.65    .273E+06       273.8          2.70      16.64
       4.83   258.53    .453E+06       538.5          3.21      14.01
       5.71   259.41    .658E+06       902.9          3.70      12.14
       6.59   260.29    .886E+06      1368.4          4.16      10.79
       7.48   261.18    .114E+07      1936.3          4.59       9.79
       8.36   262.06    .141E+07      2610.9          4.99       9.01
       9.24   262.94    .171E+07      3398.7          5.37       8.36
      10.12   263.82    .202E+07      4309.6          5.75       7.81
      11.01   264.71    .235E+07      5347.5          6.13       7.33
      11.89   265.59    .270E+07      6501.0          6.48       6.93
      12.77   266.47    .307E+07      7808.6          6.86       6.55
      13.65   267.35    .345E+07      9250.5          7.23       6.21
      14.54   268.24    .384E+07     10808.3          7.59       5.92
      15.42   269.12    .424E+07     12482.5          7.94       5.66
      16.30   270.00    .466E+07     14127.4          8.18       5.49

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.93     2.48    6.75  13.08      0.69      1.27
     OUTFLOW: ID= 1 (6128)  254.93     1.94    7.25  13.08      0.62      1.24


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0128) |   Area    (ha)= 240.24   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   1.714 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.443
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   240.24   1.714     7.25    15.44
       + ID2= 2 (6128):   254.93   1.941     7.25    13.08
         ================================================
         ID = 3 (8028):   495.17   3.655     7.25    14.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.54  10.712    11.50     9.70
       + ID2= 2 (8028):   495.17   3.655     7.25    14.22
         ================================================
         ID = 3 (8022):  4587.71  12.209    11.25    10.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         15.93
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.43 (ii)    33.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.24          1.43         2.820 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70         13.19        19.84
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.21         0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7530      2.0863
                         0.2910     0.9015   |   7.2230      2.4361
                         1.6660     1.0219   |   8.4090      2.7784
                         3.1030     1.3984   |   8.8090      2.7884
                         4.3040     1.7049   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)     86.000      2.820      6.00      19.84
     OUTFLOW: ID= 1 (5120)     86.000      0.825      7.25      19.83

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.26
               TIME SHIFT OF PEAK FLOW       (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.9495

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-------------------
| CALIB             |
| NASHYD    (1202) |   Area    (ha)= 161.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=   1.324 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.539
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):   161.00   1.324     6.75    13.54
       + ID2= 2 (5120):    86.00   0.825     7.25    19.83
         ================================================
         ID = 3 (8030):   247.00   2.110     7.25    15.73
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.71  12.209    11.25    10.19
       + ID2= 2 (8030):   247.00   2.110     7.25    15.73
         ================================================
         ID = 3 (8032):  4834.71  12.955    11.00    10.47
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1301.0) ------>
             Distance     Elevation      Manning
                0.00        257.18        0.0350
               62.45        254.70        0.0350
              109.29        252.74        0.0350
              150.92        251.55        0.0350
              192.56        248.96        0.0350
              239.39        247.16        0.0350
              291.84        246.00        0.0350
              296.84        245.00        0.0350
              298.84        245.00    0.0350 /0.0300  Main Channel
              299.24        244.60        0.0300      Main Channel
              301.84        244.60        0.0300      Main Channel
              303.44        244.60        0.0300      Main Channel
              303.84        245.00    0.0300 /0.0350  Main Channel
              306.84        245.00        0.0350
              309.84        246.00        0.0350
              317.46        247.22        0.0350
              348.68        254.83        0.0350
              359.09        256.70        0.0350
              452.76        258.23        0.0350
              515.22        258.33        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
        0.40   245.00    .870E+04         1.2         0.64     124.12
        1.04   245.64    .468E+05         9.5         0.96      81.81
        1.68   246.28    .109E+06        25.6         1.11      70.86
        2.32   246.92    .257E+06        63.5         1.17      67.51
        2.96   247.56    .498E+06       142.7         1.36      58.18
        3.61   248.21    .800E+06       266.7         1.58      50.01
        4.25   248.85    .116E+07       437.4         1.78      44.24
        4.89   249.49    .157E+07       669.1         2.01      39.20
        5.53   250.13    .203E+07       954.9         2.23      35.36
        6.17   250.77    .252E+07      1294.4         2.43      32.42
        6.81   251.41    .305E+07      1689.6         2.62      30.07
        7.45   252.05    .363E+07      2090.7         2.73      28.93
        8.09   252.69    .429E+07      2553.1         2.82      27.98
        8.73   253.33    .501E+07      3138.4         2.96      26.60
        9.37   253.97    .579E+07      3803.8         3.11      25.36
       10.02   254.62    .662E+07      4549.3         3.25      24.25
       10.66   255.26    .751E+07      5364.9         3.38      23.32
       11.30   255.90    .845E+07      6265.7         3.51      22.49
       11.94   256.54    .946E+07      7260.1         3.63      21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.71    12.95   11.00  10.47      1.18      0.99
     OUTFLOW: ID= 1 (6130) 4834.71    12.36   12.25  10.47      1.15      0.99
```

```
-------------------
| CALIB             |
| STANDHYD  (1301) |   Area    (ha)= 228.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.39        79.91
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1233.69        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        69.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.32 (ii)   27.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      17.81         6.74        22.103 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        29.82         44.33
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.48          0.71

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4560      7.0142
                         0.8210     3.9074   |  14.9550      7.8554
                         4.8550     4.4209   |  22.4790      8.9550
                         7.0620     5.2214   |  22.8790      8.9650
                         9.5970     6.0904   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    228.300     22.103      6.00       44.33
     OUTFLOW: ID= 1 (5130)    228.300      7.065      6.75       44.33

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.96
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  5.2395
```

```
-------------------
| CALIB             |
| NASHYD    (1302) |   Area    (ha)= 157.80   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.82

     Unit Hyd Qpeak  (cms)=   1.479

     PEAK FLOW       (cms)=   1.116 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  24.040
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.383

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):   157.80   1.116     8.75    24.04
       + ID2= 2 (5130):   228.30   7.065     6.75    44.33
         ================================================
         ID = 3 (8036):   386.10   7.936     6.75    36.03
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.71  12.360    12.25    10.47
       + ID2= 2 (8036):   386.10   7.936     6.75    36.03
         ================================================
         ID = 3 (8034):  5220.81  14.056    12.00    12.36
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB             |
| STANDHYD  (8188) |   Area    (ha)= 308.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.50        182.03
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1434.18        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      56.43        15.52
               over (min)        30.00        75.00
     Storage Coeff.  (min)=      31.67 (ii)   68.20 (ii)
     Unit Hyd. Tpeak (min)=      30.00        75.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.73         3.68          9.324 (iii)
```

```
     TIME TO PEAK    (hrs)=       6.25         7.00          6.25
     RUNOFF VOLUME    (mm)=      59.70        17.48         28.03
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.95         0.28          0.45


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      56.43        14.32
               over (min)        30.00        75.00
     Storage Coeff.  (min)=      32.95 (ii)   70.67 (ii)
     Unit Hyd. Tpeak (min)=      30.00        75.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.60         3.73          9.213 (iii)
     TIME TO PEAK    (hrs)=       6.25         7.00          6.25
     RUNOFF VOLUME    (mm)=      59.70        15.36         25.12
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.95         0.24          0.40


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8068) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0186):   351.79   9.213     6.25    25.12
       + ID2= 2 (0188):   308.53   9.324     6.25    28.03
         ================================================
         ID = 3 (8068):   660.32  18.537     6.25    26.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        19.18
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.37 (ii)   33.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.44         2.11          4.304 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        15.27         23.00
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.24          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  5.7800     2.5656
                         0.3790     1.0207   |  7.3720     3.0829
                         1.6240     1.1939   |  8.7710     3.5956
                         3.0930     1.6631   |  9.1710     3.6056
                         4.3530     2.1032   |  0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800      4.304      6.00      23.00
     OUTFLOW: ID= 1 (5182)    111.800      1.685      7.00      22.99

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.16
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.2149

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.325 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  13.159
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.325     7.00    13.16
       + ID2= 2 (5182):   111.80   1.685     7.00    22.99
         ================================================
         ID = 3 (8062):   156.20   2.010     7.00    20.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     981.16        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        44.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.35 (ii)   28.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.82         3.93          7.247 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        18.86         26.81
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.30          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  5.8820     2.3298
                         0.2960     1.0006   |  7.4070     2.7386
                         1.6530     1.1680   |  8.6830     3.1418
                         3.0860     1.4687   |  9.0830     3.1518
                         4.3760     1.8752   |  0.0000     0.0000
```

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                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    144.400     7.247     6.00      26.81
     OUTFLOW: ID= 1 (5184)    144.400     3.423     6.75      26.81

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.24
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED      (ha.m.)=  1.5963

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.60         68.50
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     887.32         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         23.17
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.57 (ii)    31.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.61          2.65          4.708 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         17.64          24.96
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.28           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   118.10   4.708     6.00    24.96
       + ID2= 2 (5184):   144.40   3.423     6.75    26.81
         ==========================================
         ID = 3 (8060):   262.50   6.921     6.50    25.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.50   6.921     6.50    25.98
       + ID2= 2 (8062):   156.20   2.010     7.00    20.20
         ==========================================
         ID = 3 (8064):   418.70   7.950     6.50    23.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.00          7.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     305.51         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         65.21
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.63 (ii)    19.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.90          0.65          1.321 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         30.03          39.23
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.48           0.63
```

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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.9360      0.3780
                          0.0470     0.1841   |  1.1760      0.4277
                          0.2710     0.2148   |  1.3690      0.4763
                          0.5050     0.2704   |  1.7690      0.4863
                          0.7010     0.3197   |  0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)    14.000     1.321     6.00      39.23
     OUTFLOW: ID= 1 (5178)    14.000     0.475     6.50      39.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.95
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED      (ha.m.)=  0.2667

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=   2.821 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  25.528
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1782):   261.40   2.821     7.50    25.53
       + ID2= 2 (5178):    14.00   0.475     6.50    39.16
         ==========================================
         ID = 3 (8046):   275.40   3.149     7.00    26.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   1.576 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.982
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   226.65   1.576     7.75    16.98
       + ID2= 2 (8046):   275.40   3.149     7.00    26.22
         ==========================================
         ID = 3 (8050):   502.05   4.694     7.25    22.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------
```

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       19.70          36.60
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      612.64          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       82.76          23.49
               over (min)         15.00          30.00
     Storage Coeff.  (min)=      10.07 (ii)     29.16 (ii)
     Unit Hyd. Tpeak (min)=       15.00          30.00
     Unit Hyd. peak  (cms)=        0.09           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.96           1.63          2.967 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.25           6.00
     RUNOFF VOLUME    (mm)=       60.70          20.06          27.37
     TOTAL RAINFALL   (mm)=       62.70          62.70          62.70
     RUNOFF COEFFICIENT   =        0.97           0.32           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |       OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                            0.0000     0.0000   |   1.1370      1.3070
                            0.0580     0.5427   |   1.4280      1.5354
                            0.3290     0.6196   |   1.6620      1.7593
                            0.6130     0.8627   |   2.0620      1.7693
                            0.8510     1.0621   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300     2.967      6.00      27.37
     OUTFLOW: ID= 1 (5174)     56.300     0.624      7.25      27.33

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.03
                   TIME SHIFT OF PEAK FLOW          (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.8732

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.057 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.256
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   1.057     6.75    20.26
       + ID2= 2 (5174):    56.30   0.624     7.25    27.33
         ================================================
         ID = 3 (8044):   139.10   1.658     7.00    23.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   2.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.429
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.406

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   1.583 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.218
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   1.557 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.878
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   1.583     7.00    11.22
       + ID2= 2 (0170):   166.91   1.557     7.00    16.88
         ================================================
         ID = 3 (8040):   414.04   3.140     7.00    13.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   2.677     7.00    25.43
       + ID2= 2 (8040):   414.04   3.140     7.00    13.50
         ================================================
         ID = 3 (8042):   616.27   5.816     7.00    17.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (1741.0) ------>
             Distance      Elevation       Manning
                0.00         296.00        0.0450
               13.36         288.94        0.0450
               26.71         288.64        0.0450
               51.19         287.96        0.0450
               73.45         287.32        0.0450
               86.81         286.48        0.0450
              102.39         285.08        0.0450
              110.73         282.76        0.0450
              115.73         281.06    0.0450 /0.0350  Main Channel
              115.74         280.35        0.0350      Main Channel
              120.73         280.35        0.0350      Main Channel
              120.74         281.10    0.0350 /0.0450  Main Channel
              125.74         282.64        0.0450
              135.78         286.87        0.0450
              149.13         289.58        0.0450
              162.49         292.29        0.0450
              175.84         293.95        0.0450
              195.88         295.13        0.0450
              213.68         296.02        0.0450
              220.36         296.09        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.71   281.06    .136E+05       6.0          1.69       37.89
      1.50   281.85    .358E+05      22.5          2.42       26.43
```

```
      2.28   282.63    .726E+05      53.8          2.85      22.47
      3.07   283.42    .124E+06     104.1          3.24      19.79
      3.86   284.21    .189E+06     176.7          3.60      17.81
      4.64   284.99    .268E+06     274.9          3.94      16.26
      5.43   285.78    .369E+06     390.8          4.07      15.73
      6.21   286.56    .501E+06     551.6          4.23      15.15
      7.00   287.35    .674E+06     750.5          4.28      14.97
      7.79   288.14    .920E+06     993.3          4.15      15.44
      8.57   288.92    .126E+07    1361.5          4.14      15.47
      9.36   289.71    .167E+07    1986.0          4.56      14.04
     10.15   290.50    .210E+07    2739.7          5.02      12.76
     10.93   291.28    .254E+07    3615.0          5.47      11.70
     11.72   292.07    .300E+07    4608.8          5.91      10.83
     12.50   292.85    .347E+07    5693.3          6.30      10.16
     13.29   293.64    .397E+07    6892.9          6.67       9.60
     14.08   294.43    .450E+07    8150.4          6.97       9.19
     14.86   295.21    .506E+07    9525.0          7.23       8.86

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27     5.82    7.00  17.41     0.69      1.69
     OUTFLOW: ID= 1 (6174)  616.27     5.32    8.00  17.41     0.63      1.69


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-------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   5.322     8.00    17.41
       + ID2= 2 (8044):   139.10   1.658     7.00    23.12
         ==============================================
         ID = 3 (8048):   755.37   6.828     7.75    18.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37   6.828     7.75    18.46
       + ID2= 2 (8050):   502.05   4.694     7.25    22.05
         ==============================================
         ID = 3 (8052):  1257.42  11.449     7.50    19.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.42  11.449     7.50    19.90
       + ID2= 2 (8064):   418.70   7.950     6.50    23.82
         ==============================================
         ID = 3 (8058):  1676.12  18.020     7.00    20.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12         119.88
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=    1039.23          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          18.35
               over (min)        15.00          45.00
     Storage Coeff.  (min)=     13.82 (ii)     34.90 (ii)
     Unit Hyd. Tpeak (min)=     15.00          45.00
     Unit Hyd. peak  (cms)=      0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      3.09           3.51          4.523 (iii)
     TIME TO PEAK    (hrs)=      6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=     60.70          16.69          21.53
     TOTAL RAINFALL   (mm)=     62.70          62.70          62.70
     RUNOFF COEFFICIENT   =      0.97           0.27           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40          24.40
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     570.38          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          49.51
               over (min)        15.00          30.00
     Storage Coeff.  (min)=      9.64 (ii)     23.81 (ii)
     Unit Hyd. Tpeak (min)=     15.00          30.00
     Unit Hyd. peak  (cms)=      0.09           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      2.01           1.56          2.986 (iii)
     TIME TO PEAK    (hrs)=      6.00           6.25           6.00
     RUNOFF VOLUME    (mm)=     60.70          20.70          29.10
     TOTAL RAINFALL   (mm)=     62.70          62.70          62.70
     RUNOFF COEFFICIENT   =      0.97           0.33           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  3.2640     1.3175
                         0.1650     0.6418   |  4.0090     1.4908
                         0.9450     0.7489   |  4.7720     1.6604
                         1.7610     0.9426   |  5.1720     1.6704
                         2.4420     1.1144   |  0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      2.986      6.00      29.10
     OUTFLOW: ID= 1 (5176)     48.800      0.959      6.75      29.08

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.11
               TIME SHIFT OF PEAK FLOW          (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7540

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| ADD HYD   (8056) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00   4.523     6.00    21.53
       + ID2= 2 (5176):    48.80   0.959     6.75    29.08
         ==============================================
         ID = 3 (8056):   210.80   5.052     6.50    23.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80   5.052     6.50    23.28
       + ID2= 2 (8058):  1676.12  18.020     7.00    20.88
         ==============================================
         ID = 3 (8066):  1886.92  22.176     6.75    21.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8070) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.92  22.176     6.75    21.15
       + ID2= 2 (8068):   660.32  18.537     6.25    26.48
         ==============================================
         ID = 3 (8070):  2547.24  37.913     6.50    22.53
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6190)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1901.0) ------>

Distance	Elevation	Manning	
0.00	261.34	0.0600	
19.76	261.64	0.0600	
59.28	261.29	0.0600	
79.04	261.09	0.0600	
103.74	255.99	0.0600	
153.13	253.42	0.0600	
192.65	252.78	0.0600	
212.29	249.80	0.0600	
217.29	249.50	0.0600 /0.0350	Main Channel
217.30	249.05	0.0350	Main Channel
222.29	249.05	0.0350	Main Channel
222.30	249.50	0.0350 /0.0600	Main Channel
227.30	249.80	0.0600	
232.17	252.31	0.0600	
276.63	253.53	0.0600	
326.03	256.97	0.0600	
355.67	257.30	0.0600	
400.12	260.08	0.0600	
469.28	261.25	0.0600	
489.04	262.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	249.50	.436E+04	1.0	0.43	75.97
1.07	250.12	.205E+05	5.4	0.51	62.96
1.70	250.75	.451E+05	14.8	0.64	50.78
2.32	251.37	.762E+05	29.2	0.74	43.46
2.94	251.99	.114E+06	49.1	0.84	38.61
3.57	252.62	.161E+06	70.2	0.85	38.18
4.19	253.24	.248E+06	93.4	0.73	44.29
4.81	253.86	.398E+06	154.9	0.76	42.79
5.44	254.49	.576E+06	246.1	0.83	38.99
6.06	255.11	.779E+06	362.7	0.90	35.79
6.68	255.73	.101E+07	506.5	0.98	33.15
7.30	256.35	.126E+07	687.6	1.06	30.52
7.93	256.98	.153E+07	902.8	1.15	28.18
8.55	257.60	.183E+07	1114.3	1.18	27.39
9.17	258.22	.216E+07	1407.8	1.26	25.55
9.80	258.85	.250E+07	1735.4	1.35	24.03
10.42	259.47	.286E+07	2097.5	1.42	22.73
11.04	260.09	.324E+07	2492.3	1.49	21.63
11.67	260.72	.364E+07	2837.8	1.51	21.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8070)	2547.24	37.91	6.50	22.53	2.59	0.78
OUTFLOW: ID= 1 (6190)	2547.24	30.08	7.25	22.53	2.35	0.75

CALIB
STANDHYD (0190)
ID= 1 DT=15.0 min

Area (ha)= 287.99
Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	146.87	141.12
Dep. Storage	(mm)=	3.00	5.00
Average Slope	(%)=	0.10	0.10
Length	(m)=	1385.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		56.43	38.92
over (min)		30.00	60.00
Storage Coeff. (min)=		31.03 (ii)	56.31 (ii)
Unit Hyd. Tpeak (min)=		30.00	60.00
Unit Hyd. peak (cms)=		0.04	0.02

		TOTALS
PEAK FLOW	(cms)=	7.87	6.28	11.410 (iii)
TIME TO PEAK	(hrs)=	6.25	6.75	6.25
RUNOFF VOLUME	(mm)=	59.70	27.30	36.05
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.95	0.44	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8072)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0190):	287.99	11.410	6.25	36.05
+ ID2= 2 (6190):	2547.24	30.076	7.25	22.53
ID = 3 (8072):	2835.23	38.774	6.75	23.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6192)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1921.0) ------>

Distance	Elevation	Manning	
0.00	264.40	0.0500	
3.64	263.94	0.0500	
14.54	261.05	0.0500	
29.08	256.78	0.0500	
36.36	254.96	0.0500	
50.90	252.20	0.0500	
65.44	249.78	0.0500	
76.35	246.86	0.0500	
77.24	245.90	0.0500	
82.24	245.45	0.0500 /0.0350	Main Channel
82.25	244.90	0.0350	Main Channel
87.25	244.90	0.0350	Main Channel
87.26	245.45	0.0350 /0.0500	Main Channel
94.53	246.89	0.0500	
170.87	247.16	0.0500	
218.13	248.69	0.0500	
265.40	249.22	0.0500	
301.75	250.78	0.0500	
338.11	253.47	0.0500	
359.92	264.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8072)	2835.23	38.77	6.75	23.90	2.14	0.92
OUTFLOW: ID= 1 (6192)	2835.23	35.49	7.25	23.90	2.06	0.94

CALIB
STANDHYD (1921)
ID= 1 DT=15.0 min

Area (ha)= 30.70
Total Imp(%)= 48.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.74	15.96
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	452.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	22.66
over (min)		15.00	30.00
Storage Coeff. (min)=		8.39 (ii)	27.76 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.04

		TOTALS
PEAK FLOW	(cms)=	1.50	0.71	1.934 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	16.95	27.45
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.27	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0      Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.0560     0.7051
                         0.1040     0.3429   |   2.5820     0.7960
                         0.5960     0.4035   |   3.2900     0.8880
                         1.1090     0.5056   |   3.6900     0.8980
                         1.5380     0.5974   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     30.700     1.934      6.00      27.45
     OUTFLOW: ID= 1 (5192)     30.700     0.638      6.75      27.42

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.00
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4164

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-------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.29         157.61
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=    1199.72          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          15.01
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      15.06 (ii)     37.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.05           3.63          6.517 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70          14.11          20.64
     TOTAL RAINFALL   (mm)=      62.70          62.70          62.70
     RUNOFF COEFFICIENT   =       0.97           0.23           0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1922):   215.90   6.517     6.00    20.64
       + ID2= 2 (5192):    30.70   0.638     6.75    27.42
         ================================================
         ID = 3 (8074):   246.60   6.588     6.00    21.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.23  35.485     7.25    23.90
       + ID2= 2 (8074):   246.60   6.588     6.00    21.48
         ================================================
         ID = 3 (8076):  3081.83  38.304     7.25    23.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.088 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  18.348
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0194) |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   3.099 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  19.025
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.303

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0194):   256.09   3.099     6.75    19.02
       + ID2= 2 (0196):    41.47   1.088     6.00    18.35
         ================================================
         ID = 3 (8078):   297.56   3.962     6.50    18.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation        Manning
                  0.00         267.15         0.0500
                 22.99         265.94         0.0500
                 51.73         261.39         0.0500
                 74.72         258.75         0.0500
                 94.83         257.79         0.0500
                114.95         254.36         0.0500
                126.44         254.06         0.0500
                132.19         253.68         0.0500
                135.06         253.35         0.0500
                137.94         252.93    0.0500 /0.0300  Main Channel
                140.81         252.41         0.0300      Main Channel
                143.69         251.89         0.0300      Main Channel
                146.56         252.51         0.0300      Main Channel
                149.43         253.36    0.0300 /0.0500  Main Channel
                158.05         255.89         0.0500
                172.42         256.25         0.0500
                204.03         259.15         0.0500
                229.90         260.36         0.0500
                252.89         260.46         0.0500
                284.50         260.45         0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.35   252.24    .111E+04       0.6          0.97      31.07
      0.69   252.58    .442E+04       3.8          1.55      19.42
      1.04   252.93    .974E+04      11.1          2.06      14.65
      1.51   253.40    .203E+05      31.2          2.77      10.87
      1.98   253.87    .357E+05      65.0          3.30       9.14
      2.45   254.34    .596E+05     112.9          3.43       8.80
      2.92   254.81    .935E+05     186.8          3.62       8.34
      3.39   255.28    .131E+06     282.1          3.89       7.75
      3.86   255.75    .172E+06     398.2          4.18       7.22
      4.33   256.22    .221E+06     527.0          4.31       6.99
      4.80   256.69    .282E+06     697.3          4.47       6.75
      5.27   257.16    .350E+06     898.5          4.64       6.50
      5.74   257.63    .425E+06    1131.4          4.82       6.26
      6.21   258.10    .508E+06    1367.4          4.88       6.19
      6.68   258.57    .603E+06    1635.6          4.91       6.14
      7.15   259.04    .709E+06    1977.2          5.04       5.98
      7.62   259.51    .826E+06    2360.5          5.17       5.83
      8.09   259.98    .954E+06    2790.7          5.29       5.70
      8.56   260.45    .110E+07    3179.6          5.25       5.74

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     3.96    6.50  18.93      0.70      1.56
     OUTFLOW: ID= 1 (6198)  297.56     3.82    6.75  18.93      0.69      1.55
```

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-------------------
| CALIB           |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      46.07         58.63
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     835.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         24.55
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.12 (ii)    30.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.81          2.44          4.829 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         18.65          27.06
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.30           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  58.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.9640      2.3173
                         0.2850     1.2270   |   9.5520      2.6039
                         1.7410     1.4052   |  10.9290      2.8853
                         3.5350     1.7675   |  11.3290      2.8953
                         5.6580     2.0183   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    104.700      4.829      6.00      27.06
     OUTFLOW: ID= 1 (5198)    104.700      1.882      7.00      27.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.98
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.4366

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   2.653 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.880
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   285.90   2.653     7.00    16.88
        + ID2= 2 (5198):   104.70   1.882     7.00    27.05
          ==========================================
          ID = 3 (8080):   390.60   4.536     7.00    19.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   3.820     6.75    18.93
        + ID2= 2 (8080):   390.60   4.536     7.00    19.61
          ==========================================
          ID = 3 (8082):   688.16   8.346     7.00    19.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.83  38.304     7.25    23.71
        + ID2= 2 (8082):   688.16   8.346     7.00    19.31
          ==========================================
          ID = 3 (8084):  3769.99  46.292     7.25    22.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (2001.0) ------>
               Distance      Elevation       Manning
                  0.00         252.47        0.0500
                 10.38         252.29        0.0500
                 20.76         252.28        0.0500
                 41.52         247.66        0.0500
                 62.28         247.47        0.0500
                 80.45         247.34        0.0500
                 90.83         246.85        0.0500
                103.81         245.51        0.0500
                106.00         244.50        0.0500
                108.99         244.05    0.0500 /0.0300  Main Channel
                109.00         243.50        0.0300      Main Channel
                114.00         243.50        0.0300      Main Channel
                114.01         244.05    0.0300 /0.0500  Main Channel
                118.99         244.50        0.0500
                132.36         245.09        0.0500
                150.52         245.83        0.0500
                199.83         249.24        0.0500
                207.62         250.16        0.0500
                236.16         253.11        0.0500
                256.92         253.83        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.28   243.77    .365E+04       0.7          0.54      81.42
       0.55   244.05    .730E+04       2.2          0.81      54.59
       1.05   244.55    .197E+05       7.2          0.97      45.51
       1.54   245.04    .463E+05      17.2          0.99      44.76
       2.04   245.54    .895E+05      34.8          1.03      42.81
       2.53   246.03    .152E+06      62.8          1.09      40.43
       3.03   246.53    .232E+06     104.7          1.20      36.91
       3.52   247.02    .328E+06     159.7          1.29      34.19
       4.02   247.52    .450E+06     223.4          1.32      33.56
       4.51   248.01    .627E+06     326.9          1.38      31.99
       5.01   248.51    .820E+06     463.0          1.50      29.52
       5.50   249.00    .103E+07     626.0          1.62      27.30
       6.00   249.50    .124E+07     820.1          1.75      25.24
       6.49   249.99    .147E+07    1044.4          1.89      23.42
       6.99   250.49    .170E+07    1292.6          2.01      21.95
       7.48   250.98    .195E+07    1565.6          2.13      20.71
       7.98   251.48    .220E+07    1864.5          2.25      19.65
       8.47   251.97    .246E+07    2189.4          2.36      18.73
       8.97   252.47    .274E+07    2427.5          2.35      18.80

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    46.29    7.25  22.91      2.24      1.06
     OUTFLOW: ID= 1 (6200) 3769.99    40.51    8.00  22.91      2.13      1.04

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.00          3.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     200.00         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         59.25
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.14 (ii)    18.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
```

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                                                    *TOTALS*
     PEAK FLOW      (cms)=       0.31         0.26          0.472 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME   (mm)=      60.70        25.12         33.30
     TOTAL RAINFALL  (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT  =       0.97         0.40          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.4010      0.1620
                         0.0200     0.0789   |  0.5040      0.1833
                         0.1160     0.0921   |  0.5870      0.2041
                         0.2170     0.1159   |  0.9870      0.2141
                         0.3000     0.1370   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.472     6.00      33.30
     OUTFLOW: ID= 1 (5200)     6.000     0.155     6.75      33.14

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.75
                   TIME SHIFT OF PEAK FLOW          (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1023

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        85.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     853.62        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        21.92
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.28 (ii)   31.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW      (cms)=       1.98         3.11          3.596 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME   (mm)=      60.70        20.42         24.45
     TOTAL RAINFALL  (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT  =       0.97         0.33          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):   109.30   3.596     6.50    24.45
        + ID2= 2 (5200):     6.00   0.155     6.75    33.14
          ================================================
          ID = 3 (8086):   115.30   3.745     6.50    24.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  40.511     8.00    22.91
        + ID2= 2 (8086):   115.30   3.745     6.50    24.90
          ================================================
          ID = 3 (8088):  3885.29  41.457     8.00    22.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.81  14.056    12.00     12.36
        + ID2= 2 (8088):  3885.29  41.457     8.00     22.96
          ================================================
          ID = 3 (8038):  9106.10  52.859     7.75     16.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1362.0) ------>
              Distance      Elevation        Manning
                  0.00         252.00         0.0400
                  2.35         244.60         0.0400
                 39.94         243.14         0.0400
                 58.74         242.65         0.0400
                 91.63         242.03         0.0400
                101.03         241.69         0.0400
                103.38         241.66         0.0400
                105.73         240.76         0.0400
                105.93         240.59         0.0400
                109.18         240.28    0.0400 /0.0300  Main Channel
                110.43         239.81         0.0300      Main Channel
                111.68         239.81         0.0300      Main Channel
                113.43         240.09    0.0300 /0.0400  Main Channel
                118.43         240.50         0.0400
                138.62         241.68         0.0400
                152.72         241.60         0.0400
                166.82         242.68         0.0400
                185.62         249.09         0.0400
                197.36         251.00         0.0400
                232.61         252.28         0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.28   240.09    .118E+04       0.1         0.20      142.09
        0.91   240.72    .114E+05       2.4         0.35       79.92
        1.53   241.34    .352E+05       9.4         0.45       62.17
        2.16   241.97    .831E+05      22.8         0.46       60.69
        2.79   242.60    .172E+06      54.2         0.53       52.74
        3.41   243.22    .297E+06     111.4         0.63       44.49
        4.04   243.85    .445E+06     194.1         0.74       38.22
        4.67   244.48    .612E+06     301.1         0.83       33.88
        5.29   245.10    .793E+06     443.0         0.94       29.82
        5.92   245.73    .976E+06     611.3         1.06       26.60
        6.55   246.36    .116E+07     802.0         1.17       24.12
        7.18   246.99    .135E+07    1014.0         1.27       22.16
        7.80   247.61    .154E+07    1246.2         1.37       20.56
        8.43   248.24    .173E+07    1498.0         1.46       19.24
        9.06   248.87    .192E+07    1768.8         1.55       18.12
        9.68   249.49    .212E+07    2049.6         1.63       17.24
       10.31   250.12    .232E+07    2344.7         1.71       16.49
       10.94   250.75    .252E+07    2658.5         1.78       15.83
       11.56   251.37    .274E+07    2931.2         1.81       15.56

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.10    52.86    7.75  16.89      2.76      0.53
     OUTFLOW: ID= 1 (1365) 9106.10    45.64    8.75  16.89      2.61      0.51

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1322) |   Area    (ha)= 249.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130

     PEAK FLOW       (cms)=   2.946 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.659
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
```

```
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.94         18.77
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     527.26         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         57.89
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.20 (ii)   22.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.90          1.45          3.820 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         26.07         38.19
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.42          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9630     1.4050
                          0.1780     1.0280   |   1.4870     1.5525
                          0.4300     1.0400   |   1.9900     1.7000
                          0.8150     1.0500   |   2.3900     1.7100
                          0.8990     1.2275   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700     3.820      6.00      38.19
     OUTFLOW: ID= 1 (5132)     41.700     0.743      7.00      38.16

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.45
                TIME SHIFT OF PEAK FLOW       (min)= 60.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  1.0504

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):   249.10   2.946     7.00     21.66
       + ID2= 2 (5132):    41.70   0.743     7.00     38.16
         ================================================
         ID = 3 (8090):   290.80   3.689     7.00     24.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW       (cms)=   1.675 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  16.270
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.259

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0134):   155.95   1.675     6.75     16.27
       + ID2= 2 (8090):   290.80   3.689     7.00     24.02
         ================================================
         ID = 3 (8092):   446.75   5.337     7.00     21.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation        Manning
                  0.00         262.81         0.0400
                 37.23         260.54         0.0400
                 79.12         256.98         0.0400
                111.70         254.74         0.0400
                172.20         252.76         0.0400
                251.32         248.82         0.0400
                255.97         248.75         0.0400
                260.43         248.76         0.0400
                265.43         248.49         0.0400
                268.68         248.18    0.0400 /0.0300  Main Channel
                269.93         247.71         0.0300      Main Channel
                271.18         247.71         0.0300      Main Channel
                272.93         247.99         0.0300      Main Channel
                277.93         248.40    0.0300 /0.0400  Main Channel
                283.90         248.88         0.0400
                307.17         249.60         0.0400
                321.13         251.59         0.0400
                363.01         257.08         0.0400
                400.25         257.58         0.0400
                460.75         261.91         0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.47   248.18    .881E+04        1.3          0.76      114.66
      1.19   248.90    .742E+05       17.3          1.22       71.44
      1.92   249.63    .278E+06       78.3          1.48       59.26
      2.64   250.35    .589E+06      210.3          1.87       46.69
      3.36   251.07    .974E+06      414.3          2.23       39.19
      4.08   251.79    .143E+07      696.2          2.55       34.32
      4.81   252.52    .197E+07     1063.0          2.83       30.86
      5.53   253.24    .259E+07     1505.7          3.06       28.62
      6.25   253.96    .331E+07     2051.3          3.26       26.85
      6.97   254.68    .413E+07     2720.9          3.46       25.30
      7.70   255.41    .504E+07     3584.5          3.73       23.43
      8.42   256.13    .601E+07     4580.9          4.00       21.87
      9.14   256.85    .704E+07     5707.9          4.25       20.57
      9.86   257.57    .818E+07     6636.1          4.26       20.53
     10.59   258.30    .945E+07     8115.0          4.50       19.42
     11.31   259.02    .108E+08     9759.2          4.74       18.45
     12.03   259.74    .122E+08    11569.5          4.96       17.61
     12.75   260.46    .137E+08    13550.6          5.18       16.87
     13.48   261.19    .153E+08    15636.4          5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.75     5.34    7.00  21.32      0.65      0.84
     OUTFLOW: ID= 1 (1366)  446.75     3.47    8.75  21.32      0.57      0.80

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--------------------
| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      86.12        323.98
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1653.48         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         19.66
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      18.26 (ii)   38.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.91          9.60         12.076 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      60.70         18.89         23.49
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.30          0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.27         46.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     825.83         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         61.22
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     12.04 (ii)   25.06 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.04          3.56        7.290 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=     60.70         24.69        34.42
     TOTAL RAINFALL   (mm)=     62.70         62.70        62.70
     RUNOFF COEFFICIENT   =      0.97          0.39         0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  2.4000      3.2690
                          0.1600     1.6363   |  2.6450      3.8640
                          0.9600     1.7470   |  2.8900      4.4590
                          1.8400     1.9320   |  3.2900      4.4690
                          2.1200     2.6005   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300     7.290     6.00      34.42
     OUTFLOW: ID= 1 (5136)    102.300     1.876     7.00      34.39

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.73
                    TIME SHIFT OF PEAK FLOW        (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.0230

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--------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   410.10  12.076     6.50    23.49
       + ID2= 2 (5136):   102.30   1.876     7.00    34.39
         ================================================
         ID = 3 (8096):   512.40  13.599     6.50    25.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.75   3.469     8.75    21.32
       + ID2= 2 (8096):   512.40  13.599     6.50    25.67
         ================================================
         ID = 3 (8094):   959.15  14.848     6.50    23.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.10  45.638     8.75    16.89
       + ID2= 2 (8094):   959.15  14.848     6.50    23.64
         ================================================
         ID = 3 (8098): 10065.25  52.234     8.50    17.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   2.377 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.984
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   0.559 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   3.838
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.061

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06        120.52
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1028.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76          5.73
               over (min)        15.00         60.00
     Storage Coeff.  (min)=     13.73 (ii)   47.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00         60.00
     Unit Hyd. peak  (cms)=      0.08          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.78          1.16        6.125 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.75         6.00
     RUNOFF VOLUME    (mm)=     60.70          8.18        19.21
     TOTAL RAINFALL   (mm)=     62.70         62.70        62.70
     RUNOFF COEFFICIENT   =      0.97          0.13         0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  41.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   414.79   0.559     8.25     3.84
       + ID2= 2 (0140):   158.58   6.125     6.00    19.21
         ================================================
         ID = 3 (8102):   573.37   6.374     6.00     8.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1421.0) ------>
             Distance      Elevation        Manning
                 0.00         295.50         0.0400
                 7.25         295.36         0.0400
                14.50         295.22         0.0400
                21.75         295.22         0.0400
                29.00         294.23         0.0400
                52.56         286.45         0.0400
                67.06         281.44         0.0400
                77.94         278.28         0.0400
                82.81         277.20    0.0400 /0.0300  Main Channel
                83.21         276.80         0.0300      Main Channel
                88.81         276.80         0.0300      Main Channel
                96.41         276.80         0.0300      Main Channel
                96.81         277.20    0.0300 /0.0400  Main Channel
               103.31         278.96         0.0400
               108.75         280.16         0.0400
               117.81         282.73         0.0400
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              135.94        290.30        0.0400
              159.50        292.14        0.0400
              174.00        293.07        0.0400
              179.44        293.37        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.40   277.20    .239E+05         6.9        1.27      57.28
        1.25   278.05    .889E+05        50.9        2.50      29.13
        2.10   278.90    .179E+06       133.4        3.26      22.36
        2.95   279.75    .293E+06       256.7        3.83      19.03
        3.80   280.60    .432E+06       426.0        4.31      16.90
        4.66   281.46    .593E+06       644.3        4.75      15.35
        5.51   282.31    .776E+06       915.3        5.16      14.12
        6.36   283.16    .978E+06      1242.2        5.55      13.12
        7.21   284.01    .120E+07      1626.2        5.94      12.27
        8.06   284.86    .143E+07      2065.6        6.30      11.57
        8.91   285.71    .169E+07      2562.4        6.64      10.97
        9.76   286.56    .196E+07      3118.0        6.97      10.46
       10.61   287.41    .224E+07      3733.3        7.28      10.02
       11.46   288.26    .255E+07      4411.9        7.57       9.62
       12.31   289.11    .287E+07      5155.6        7.86       9.27
       13.17   289.97    .321E+07      5966.6        8.14       8.96
       14.02   290.82    .357E+07      6705.0        8.22       8.87
       14.87   291.67    .398E+07      7494.3        8.24       8.85
       15.72   292.52    .444E+07      8405.3        8.28       8.80

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.37     6.37    6.00   8.09      0.37       1.27
     OUTFLOW: ID= 1 (6142)  573.37     2.57    6.75   8.09      0.15       1.27


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-------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0142):   396.54   2.377     8.00    15.98
       + ID2= 2 (6142):   573.37   2.571     6.75     8.09
         ================================================
         ID = 3 (8104):   969.91   4.695     7.00    11.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0144) |   Area    (ha)= 135.69   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.240

     PEAK FLOW       (cms)=   1.858 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  22.277
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0144):   135.69   1.858     6.75    22.28
       + ID2= 2 (8104):   969.91   4.695     7.00    11.32
         ================================================
         ID = 3 (8106):  1105.60   6.546     7.00    12.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1461.0) ------>
               Distance     Elevation       Manning
                  0.00        262.00        0.0350
                 39.58        257.13        0.0350
                123.69        257.51        0.0350
                183.07        256.83        0.0350
                202.86        255.73        0.0350
                212.75        254.73        0.0350
                222.65        252.86        0.0350
                232.44        250.70    0.0350 /0.0300  Main Channel
                236.44        250.20        0.0300      Main Channel
                236.84        249.80        0.0300      Main Channel
                242.44        249.80        0.0300      Main Channel
                250.04        249.80        0.0300      Main Channel
                250.44        250.20        0.0300      Main Channel
                252.33        250.57    0.0300 /0.0350  Main Channel
                286.97        253.52        0.0350
                331.50        255.80        0.0350
                380.98        255.55        0.0350
                445.30        258.40        0.0350
                455.19        259.82        0.0350
                489.83        262.22        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.39   250.19    .169E+05         5.4        1.04      52.00
        0.77   250.57    .373E+05        16.6        1.44      37.46
        1.44   251.24    .911E+05        60.3        2.14      25.19
        2.11   251.91    .169E+06       136.3        2.61      20.64
        2.79   252.59    .270E+06       249.7        2.99      18.05
        3.46   253.26    .396E+06       405.4        3.31      16.28
        4.13   253.93    .549E+06       603.3        3.56      15.15
        4.80   254.60    .737E+06       857.8        3.77      14.31
        5.48   255.28    .963E+06      1174.6        3.95      13.67
        6.15   255.95    .128E+07      1449.5        3.66      14.74
        6.82   256.62    .173E+07      2046.4        3.83      14.07
        7.49   257.29    .227E+07      2665.2        3.81      14.17
        8.17   257.97    .310E+07      3705.2        3.87      13.93
        8.84   258.64    .400E+07      5127.4        4.15      12.99
        9.51   259.31    .492E+07      6858.6        4.51      11.95
       10.18   259.98    .587E+07      8815.5        4.86      11.09
       10.86   260.66    .684E+07     10954.6        5.18      10.41
       11.53   261.33    .785E+07     13324.3        5.49       9.82
       12.20   262.00    .890E+07     15923.2        5.79       9.31

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.60     6.55    7.00  12.66      0.42       1.07
     OUTFLOW: ID= 1 (6146) 1105.60     5.67    8.25  12.66      0.39       1.04


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| CALIB             |
| STANDHYD  (1462) |   Area    (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.25        88.75
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     912.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        48.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.79 (ii)   27.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.68         5.27          6.421 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70        25.60          29.81
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.41           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (1461) |   Area    (ha)=  70.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  15.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.38        45.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     685.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        54.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.77 (ii)   24.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
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     PEAK FLOW      (cms)=       2.01         3.17          4.015 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME   (mm)=      60.70        26.79          31.87
     TOTAL RAINFALL  (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT  =       0.97         0.43           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.0640      2.2344
                          0.2390     0.7085   |   9.9830      2.6409
                          2.2880     0.8391   |  11.7350      3.0631
                          4.3270     1.4661   |  12.1350      3.0731
                          6.1170     1.8197   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     70.500     4.015      6.00      31.87
     OUTFLOW: ID= 1 (5146)     70.500     2.478      6.50      31.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.72
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9066

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| ADD HYD   (8099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00   6.421     6.25    29.81
       + ID2= 2 (5146):    70.50   2.478     6.50    31.86
         ==============================================
         ID = 3 (8099):   195.50   7.431     6.25    30.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8108) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60   5.671     8.25    12.66
       + ID2= 2 (8099):   195.50   7.431     6.25    30.55
         ==============================================
         ID = 3 (8108):  1301.10  10.051     6.50    15.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  52.234     8.50    17.53
       + ID2= 2 (8108):  1301.10  10.051     6.50    15.35
         ==============================================
         ID = 3 (8100): 11366.35  59.112     8.25    17.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                  0.00         245.48         0.0400
                 29.68         242.80         0.0400
                 74.20         240.39         0.0400
                155.81         237.12         0.0400
                200.33         234.48         0.0400
                244.85         234.67         0.0400
                259.69         233.96         0.0400
                274.53         233.84         0.0400
                281.68         233.40         0.0400
                285.78         232.40    0.0400 /0.0300  Main Channel
                286.78         231.40         0.0300      Main Channel
                296.78         231.40         0.0300      Main Channel
                299.78         232.40    0.0300 /0.0400  Main Channel
                311.62         233.74         0.0400
                333.88         234.34         0.0400
                497.11         235.32         0.0400
                571.31         237.32         0.0400
                675.18         239.10         0.0400
                704.86         242.71         0.0400
                734.54         242.62         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50    231.90    .221E+05       4.7         0.85       78.67
      1.00    232.40    .482E+05      15.3         1.28       52.40
      1.60    233.00    .913E+05      38.3         1.68       39.77
      2.20    233.60    .154E+06      72.9         1.90       35.24
      2.80    234.20    .278E+06     124.2         1.79       37.30
      3.40    234.80    .599E+06     214.3         1.44       46.59
      4.01    235.41    .125E+07     445.0         1.43       46.90
      4.61    236.01    .205E+07     838.4         1.64       40.81
      5.21    236.61    .293E+07    1361.6         1.86       35.89
      5.81    237.21    .389E+07    2011.2         2.08       32.23
      6.41    237.81    .494E+07    2753.5         2.24       29.91
      7.01    238.41    .612E+07    3635.0         2.39       28.04
      7.61    239.01    .741E+07    4672.5         2.53       26.43
      8.21    239.61    .880E+07    5999.3         2.74       24.44
      8.82    240.22    .102E+08    7510.0         2.94       22.72
      9.42    240.82    .117E+08    9201.9         3.15       21.23
     10.02    241.42    .132E+08   11059.7         3.35       19.95
     10.62    242.02    .148E+08   13073.4         3.54       18.87
     11.22    242.62    .164E+08   15242.1         3.73       17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    59.11    8.25  17.28      1.96      1.81
     OUTFLOW: ID= 1 (6202) *******    57.31    9.00  17.28      1.93      1.79

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| ADD HYD   (8112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35  57.307     9.00    17.28
       + ID2= 2 (8110):   468.50  24.976     6.00    38.08
         ==============================================
         ID = 3 (8112): 11834.85  60.228     8.75    18.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********    60.228      8.75      18.10
     OUTFLOW: ID= 1 (5555)  ********    59.458      9.50      18.10

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.72
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  9.0587

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| ADD HYD   (8114) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.85  59.458     9.50    18.10
       + ID2= 2 (8136):  2288.40  17.785     6.75    17.66
         ==============================================
         ID = 3 (8114): 14123.25  70.836     9.00    18.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  25.00
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|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.25          1.75
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     408.25         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76        424.60
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       7.89 (ii)   13.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.10          1.53      4.629 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00       6.00
     RUNOFF VOLUME    (mm)=      60.70         49.87         56.37
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.80          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8990      1.7295
                         0.0850     0.5280   |   2.1560      1.9661
                         0.8990     0.8577   |   2.3740      2.2023
                         1.3460     1.1601   |   2.7740      2.2123
                         1.6060     1.4451   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000      4.629      6.00      56.37
     OUTFLOW: ID= 1 (5206)     25.000      0.896      6.50      56.31

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.35
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.8595

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-------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     155.31         95.19
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1292.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         78.59
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.75 (ii)   27.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      16.02          9.08       21.850 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=      60.70         31.61         42.95
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.50          0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8144) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2062):   250.50  21.850     6.00    42.95
      + ID2= 2 (5206):    25.00   0.896     6.50    56.31
        ================================================
        ID = 3 (8144):   275.50  22.076     6.00    44.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      72.54        128.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1159.02         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         21.02
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.76 (ii)   34.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.80          4.33       8.582 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50        6.00
     RUNOFF VOLUME    (mm)=      60.70         18.27         26.75
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.29          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4660      4.9468
                         0.5050     1.9141   |  15.4770      5.3726
                         2.8390     2.2056   |  18.2610      6.4806
                         5.2410     3.6606   |  18.6610      6.4906
                         7.9920     4.3236   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500      8.582      6.00      26.75
     OUTFLOW: ID= 1 (5204)    201.500      3.314      7.00      26.75

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.61
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.5036

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-------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.74         49.16
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     905.17         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         57.95
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.72 (ii)   26.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.26          3.53       9.467 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=      60.70         22.76         35.28
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.36          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8140) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```

```
         ID1= 1 (2042):   122.90   9.467     6.00    35.28
       + ID2= 2 (5204):   201.50   3.314     7.00    26.75
         ==============================================
         ID = 3 (8140):   324.40   9.766     6.00    29.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2061.0) ------>
             Distance      Elevation       Manning
                0.00         253.07        0.0350
               13.98         252.89        0.0350
               27.95         251.99        0.0350
               34.94         252.18        0.0350
               41.93         252.02        0.0350
               73.38         250.35        0.0350
               94.34         247.09        0.0350
              111.81         244.79        0.0350
              115.31         244.24        0.0350
              117.55         244.20    0.0350 /0.0300  Main Channel
              118.80         243.60        0.0300      Main Channel
              122.30         243.60        0.0300      Main Channel
              122.55         244.60    0.0300 /0.0350  Main Channel
              146.76         244.74        0.0350
              164.23         247.26        0.0350
              213.15         248.92        0.0350
              241.10         249.51        0.0350
              272.55         250.87        0.0350
              300.50         252.26        0.0350
              345.93         253.67        0.0350

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.30   243.90    .310E+04        1.4          1.23       36.25
      0.60   244.20    .676E+04        4.6          1.81       24.64
      1.12   244.72    .221E+05       17.1          2.07       21.60
      1.64   245.24    .754E+05       64.1          2.28       19.60
      2.17   245.77    .139E+06      149.8          2.88       15.50
      2.69   246.29    .214E+06      273.3          3.43       13.04
      3.21   246.81    .299E+06      436.1          3.91       11.43
      3.73   247.33    .395E+06      632.6          4.30       10.40
      4.25   247.85    .511E+06      836.4          4.39       10.18
      4.77   248.37    .653E+06     1114.9          4.58        9.76
      5.30   248.90    .822E+06     1472.1          4.81        9.30
      5.82   249.42    .102E+07     1872.2          4.91        9.10
      6.34   249.94    .126E+07     2444.6          5.22        8.56
      6.86   250.46    .151E+07     3113.1          5.52        8.09
      7.38   250.98    .180E+07     3843.5          5.74        7.79
      7.90   251.50    .211E+07     4717.8          6.00        7.45
      8.43   252.03    .245E+07     5701.4          6.24        7.16
      8.95   252.55    .284E+07     6727.5          6.36        7.03
      9.47   253.07    .326E+07     7885.3          6.48        6.90

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.40    9.77   6.00  29.98      0.82      1.91
     OUTFLOW: ID= 1 (6206)  324.40    6.90   6.50  29.98      0.70      1.86


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-------------------
| ADD HYD   (8142) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.40   6.902     6.50    29.98
       + ID2= 2 (8144):   275.50  22.076     6.00    44.17
         ==============================================
         ID = 3 (8142):   599.90  25.768     6.00    36.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.25  70.836     9.00    18.03
       + ID2= 2 (8142):   599.90  25.768     6.00    36.50
         ==============================================
         ID = 3 (8138): 14723.15  74.961     8.75    18.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2081.0) ------>
             Distance      Elevation       Manning
                0.00         249.19        0.1000
               73.11         244.13        0.1000
              121.86         243.39        0.1000
              243.71         240.01        0.1000
              353.38         238.75        0.1000
              450.87         235.40        0.1000
              499.61         231.40        0.1000
              511.80         230.96        0.1000
              523.98         230.12        0.1000
              534.50         227.80    0.1000 /0.0500  Main Channel
              536.50         226.70        0.0500      Main Channel
              546.50         226.70        0.0500      Main Channel
              548.50         227.80    0.0500 /0.1000  Main Channel
              572.72         230.25        0.1000
              682.40         230.50        0.1000
              804.25         233.95        0.1000
              926.11         235.83        0.1000
             1047.96         240.70        0.1000
             1145.45         243.26        0.1000
             1206.38         247.03        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.55   227.25    .111E+05        2.0          0.33       92.44
      1.10   227.80    .242E+05        6.5          0.50       61.56
      2.23   228.93    .700E+05       26.0          0.68       44.91
      3.36   230.06    .150E+06       60.8          0.74       41.04
      4.49   231.19    .446E+06      130.8          0.54       56.83
      5.62   232.32    .925E+06      287.4          0.57       53.66
      6.76   233.46    .152E+07      522.9          0.63       48.32
      7.89   234.59    .223E+07      827.2          0.68       44.91
      9.02   235.72    .312E+07     1219.5          0.72       42.61
     10.15   236.85    .418E+07     1780.6          0.78       39.11
     11.28   237.98    .537E+07     2479.2          0.85       36.07
     12.41   239.11    .669E+07     3282.9          0.90       33.95
     13.54   240.24    .824E+07     4228.6          0.94       32.47
     14.67   241.37    .997E+07     5384.6          0.99       30.87
     15.81   242.51    .119E+08     6698.4          1.03       29.56
     16.94   243.64    .140E+08     8235.2          1.08       28.25
     18.07   244.77    .162E+08    10104.2          1.14       26.73
     19.20   245.90    .185E+08    12251.5          1.21       25.21
     20.33   247.03    .209E+08    14597.0          1.28       23.89

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******    74.96   8.75  18.78      3.59      0.69
     OUTFLOW: ID= 1 (6208) *******    72.09   9.50  18.78      3.55      0.70


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-------------------
| CALIB             |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      273.02       153.58
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=     1686.42        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       82.76        79.07
               over (min)         15.00        45.00
     Storage Coeff.  (min)=       18.48 (ii)   30.23 (ii)
     Unit Hyd. Tpeak (min)=       15.00        45.00
     Unit Hyd. peak  (cms)=        0.06         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       24.03        12.80         29.657 (iii)
     TIME TO PEAK    (hrs)=        6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=       60.70        29.34         40.94
     TOTAL RAINFALL   (mm)=       62.70        62.70         62.70
     RUNOFF COEFFICIENT   =        0.97         0.47          0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       93.00       172.71
     Dep. Storage     (mm)=        2.00         5.00
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     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1330.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        44.12
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.03 (ii)   30.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.64         7.89        11.972 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        23.38         30.84
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.37          0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000  |  16.8530      6.3371
                          0.8360     2.7353  |  21.1630      7.3975
                          4.7810     3.1070  |  25.1140      8.4406
                          8.9050     4.2484  |  25.5140      8.4506
                         12.6070     5.1796  |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2081)    265.700     11.972      6.00      30.84
     OUTFLOW: ID= 1 (5208)    265.700      6.322      7.00      30.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.80
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.5586

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| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (2082):   426.60  29.657     6.00    40.94
      + ID2= 2 (5208):   265.70   6.322     7.00    30.84
        ================================================
        ID = 3 (8148):   692.30  30.132     6.00    37.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (6208): 14723.15  72.090     9.50    18.78
      + ID2= 2 (8148):   692.30  30.132     6.00    37.07
        ================================================
        ID = 3 (8146): 15415.45  75.635     9.50    19.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2101.0) ------>
             Distance      Elevation       Manning
                 0.00         241.81        0.0800
                28.43         241.78        0.0800
                85.30         237.04        0.0800
               149.27         231.32        0.0800
               170.60         230.10        0.0800
               255.89         229.37        0.0800
               277.22         228.68        0.0800
               284.33         228.42        0.0800
               291.43         228.16        0.0800
               297.76         227.00    0.0800 /0.0350  Main Channel
               298.76         225.00        0.0350      Main Channel
               312.76         225.00        0.0350      Main Channel
               313.76         227.00    0.0350 /0.0800  Main Channel
               326.97         229.50        0.0800
               348.30         230.29        0.0800
               376.73         229.76        0.0800
               490.46         235.75        0.0800
               568.65         236.24        0.0800
               661.06         241.85        0.0800
               703.71         246.04        0.0800

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
             (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
            0.67   225.67   .141E+05        6.6         0.69      35.86
            1.33   226.33   .289E+05       20.4         1.04      23.65
            2.00   227.00   .443E+05       39.3         1.31      18.81
            2.93   227.93   .730E+05       77.8         1.57      15.64
            3.85   228.85   .123E+06      131.1         1.57      15.65
            4.78   229.78   .228E+06      205.6         1.33      18.51
            5.70   230.70   .503E+06      356.7         1.05      23.49
            6.63   231.63   .846E+06      608.7         1.06      23.17
            7.55   232.55   .123E+07      946.4         1.14      21.65
            8.48   233.48   .165E+07     1367.0         1.22      20.13
            9.41   234.41   .211E+07     1871.8         1.31      18.80
           10.33   235.33   .261E+07     2463.2         1.40      17.65
           11.26   236.26   .317E+07     2999.4         1.40      17.63
           12.18   237.18   .384E+07     3848.3         1.48      16.63
           13.11   238.11   .454E+07     4806.0         1.56      15.75
           14.03   239.03   .528E+07     5876.9         1.64      14.97
           14.96   239.96   .605E+07     7062.7         1.72      14.29
           15.88   240.88   .687E+07     8365.0         1.80      13.68
           16.81   241.81   .771E+07     9506.9         1.82      13.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    75.64    9.50  19.61      2.87      1.56
     OUTFLOW: ID= 1 (6210) *******    75.54    9.50  19.61      2.87      1.56

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-------------------
| CALIB            |
| NASHYD    (0210) |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   2.659 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.219
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0210):   218.27   2.659     7.50    27.22
      + ID2= 2 (6210): 15415.45  75.537     9.50    19.61
        ================================================
        ID = 3 (8150): 15633.72  77.624     9.50    19.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0218) |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   1.632 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.098
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0216) |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   2.652 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  22.762
     TOTAL RAINFALL   (mm)=  62.700
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     RUNOFF COEFFICIENT   =   0.363

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (2121) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.08         3.92
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76       220.17
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.05 (ii)   17.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.14         1.29          9.020 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        40.30         55.60
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.64          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7460      1.9720
                          0.1900     1.1850   |   4.7040      2.0838
                          1.0850     1.4413   |   5.4760      2.1940
                          2.0210     1.5949   |   5.8760      2.2040
                          2.8030     1.7848   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2121)     56.000     9.020      6.00      55.60
     OUTFLOW: ID= 1 (5212)     56.000     2.682      6.50      55.57

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.73
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.7669

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--------------------
| CALIB              |
| STANDHYD  (2122) |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.00       193.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1347.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        20.88
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      16.15 (ii)   36.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      10.16         6.30         12.757 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        20.66         29.87
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.33          0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2122):   272.40  12.757     6.00    29.87
       + ID2= 2 (5212):    56.00   2.682     6.50    55.57
         ==========================================
         ID = 3 (8152):   328.40  13.064     6.00    34.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2141.0) ------>
              Distance      Elevation        Manning
                 0.00         259.29         0.0500
                15.33         258.91         0.0500
                38.33         258.57         0.0500
                65.16         257.93         0.0500
                95.82         253.44         0.0500
               111.15         251.21         0.0500
               130.32         249.67         0.0500
               149.48         248.51         0.0500
               150.66         248.50    0.0500 /0.0370  Main Channel
               150.81         247.50         0.0370      Main Channel
               154.66         247.50         0.0370      Main Channel
               155.66         248.50    0.0370 /0.0500  Main Channel
               160.98         248.50         0.0500
               187.81         249.78         0.0500
               199.31         252.13         0.0500
               245.30         254.04         0.0500
               264.46         253.99         0.0500
               298.96         255.23         0.0500
               329.62         257.02         0.0500
               379.45         258.82         0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   248.00    .648E+04       2.1         1.00      52.30
       1.00   248.50    .139E+05       6.4         1.44      36.35
       1.61   249.11    .570E+05      22.6         1.24      42.01
       2.21   249.71    .143E+06      63.6         1.39      37.61
       2.82   250.32    .263E+06     142.9         1.70      30.69
       3.43   250.93    .403E+06     257.2         2.00      26.11
       4.04   251.54    .562E+06     410.4         2.29      22.82
       4.64   252.14    .735E+06     601.3         2.56      20.37
       5.25   252.75    .933E+06     791.0         2.66      19.67
       5.86   253.36    .117E+07    1038.0         2.79      18.74
       6.46   253.96    .144E+07    1344.4         2.93      17.82
       7.07   254.57    .178E+07    1664.1         2.93      17.83
       7.68   255.18    .217E+07    2140.2         3.10      16.87
       8.28   255.78    .259E+07    2722.9         3.30      15.83
       8.89   256.39    .304E+07    3387.1         3.50      14.94
       9.50   257.00    .351E+07    4132.7         3.69      14.16
      10.11   257.61    .402E+07    4913.0         3.83      13.64
      10.71   258.21    .458E+07    5648.3         3.87      13.50
      11.32   258.82    .521E+07    6343.1         3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.40    13.06    6.00  34.25      1.25      1.35
     OUTFLOW: ID= 1 (6214)  328.40     9.63    6.75  34.25      1.12      1.39


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| CALIB              |
| STANDHYD  (6214) |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.24       237.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1453.62        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        20.52
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      16.90 (ii)   37.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.53         7.54          9.047 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      60.70        18.36         22.17
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.29          0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
          CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8154) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0214):   316.95   9.047     6.50    22.17
      + ID2= 2 (6214):   328.40   9.630     6.75    34.25
        ================================================
        ID = 3 (8154):   645.35  18.130     6.50    28.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0216):   145.77   2.652     6.50    22.76
      + ID2= 2 (8154):   645.35  18.130     6.50    28.32
        ================================================
        ID = 3 (8156):   791.12  20.782     6.50    27.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (2181.0) ------>
            Distance      Elevation       Manning
                0.00         256.38        0.0450
                7.70         254.85        0.0450
               15.40         253.20        0.0450
               19.25         252.29        0.0450
               23.10         251.17        0.0450
               78.94         236.16        0.0450
               80.87         235.80        0.0450
               82.79         235.45        0.0450
               84.57         234.60    0.0450 /0.0300  Main Channel
               85.07         233.60        0.0300      Main Channel
               88.57         233.60        0.0300      Main Channel
               93.57         233.60        0.0300      Main Channel
               94.07         234.60    0.0300 /0.0450  Main Channel
               96.27         235.13        0.0450
               98.19         235.20        0.0450
              100.12         235.32        0.0450
              138.63         239.95        0.0450
              180.98         244.80        0.0450
              188.69         245.00        0.0450
              190.61         256.00        0.0450

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       1.00   234.60   .181E+05        6.0         0.66      50.64
       2.13   235.73   .518E+05       23.8         0.93      36.27
       3.25   236.85   .119E+06       60.0         1.02      33.03
       4.38   237.98   .217E+06      120.6         1.12      29.99
       5.51   239.11   .346E+06      210.5         1.23      27.39
       6.63   240.23   .506E+06      334.1         1.33      25.22
       7.76   241.36   .697E+06      495.6         1.43      23.44
       8.88   242.48   .920E+06      699.8         1.53      21.91
      10.01   243.61   .117E+07      950.8         1.63      20.59
      11.14   244.74   .146E+07     1252.5         1.73      19.45
      12.26   245.86   .178E+07     1619.6         1.83      18.37
      13.39   246.99   .212E+07     2078.5         1.97      17.01
      14.52   248.12   .247E+07     2589.0         2.11      15.88
      15.64   249.24   .282E+07     3149.7         2.25      14.94
      16.77   250.37   .319E+07     3759.8         2.37      14.14
      17.89   251.49   .356E+07     4419.5         2.50      13.44
      19.02   252.62   .395E+07     5126.4         2.61      12.84
      20.15   253.75   .435E+07     5871.6         2.72      12.34
      21.27   254.87   .476E+07     6663.2         2.82      11.89

                                <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.12   20.78    6.50  27.30      1.94      0.87
     OUTFLOW: ID= 1 (6218)  791.12   15.15    7.00  27.30      1.58      0.78


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| ADD HYD   (8158) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0218):   152.25   1.632     7.00    19.10
      + ID2= 2 (6218):   791.12  15.148     7.00    27.30
        ================================================
        ID = 3 (8158):   943.37  16.780     7.00    25.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8151) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8150): 15633.72  77.624     9.50    19.71
      + ID2= 2 (8158):   943.37  16.780     7.00    25.97
        ================================================
        ID = 3 (8151): 16577.09  90.396     7.25    20.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  33.0100     0.6700
                          2.6400    0.0500   |  37.4800     0.7800
                          4.8300    0.0900   |  47.5400     1.0100
                          7.4100    0.1300   |  60.2300     1.2800
                         10.3300    0.1900   |  71.9530     1.5258
                         13.5300    0.2500   |  *******     3.0529
                         16.9900    0.3200   |  *******     5.3299
                         20.6800    0.3900   |  *******     8.4148
                         24.6000    0.4800   |  *******    11.7637
                         28.7100    0.5700   |  *******    11.7737

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8151)   ********     90.396      7.25      20.07
    OUTFLOW: ID= 1 (5504)   ********     90.174      7.00      20.07

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.76
                TIME SHIFT OF PEAK FLOW         (min)=-15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.9004

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| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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             <------ DATA FOR SECTION (2201.0) ------>
            Distance      Elevation       Manning
                0.00         245.59        0.0600
                5.76         245.45        0.0600
               23.03         242.27        0.0600
               57.58         232.35        0.0600
               86.37         226.18        0.0600
              109.41         224.31        0.0600
              115.17         223.86        0.0600
              120.92         222.78        0.0600
              126.68         221.93        0.0600
              128.06         221.50    0.0600 /0.0300  Main Channel
              129.56         220.00        0.0300      Main Channel
              141.56         220.00        0.0300      Main Channel
              143.06         221.50    0.0300 /0.0600  Main Channel
              149.72         223.77        0.0600
              155.47         225.09        0.0600
              253.36         229.21        0.0600
              333.98         227.50        0.0600
              454.90         229.25        0.0600
              500.97         233.11        0.0600
              570.07         237.42        0.0600

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.75   220.75   .262E+05        5.5         0.57      79.44
       1.50   221.50   .555E+05       17.5         0.86      52.89
       2.44   222.44   .103E+06       42.7         1.14      40.03
       3.37   223.37   .171E+06       79.4         1.27      35.98
       4.31   224.31   .263E+06      128.1         1.33      34.22
       5.25   225.25   .393E+06      191.7         1.34      34.19
       6.18   226.18   .594E+06      276.7         1.28      35.77
       7.12   227.12   .872E+06      399.9         1.26      36.33
       8.06   228.06   .127E+07      542.7         1.17      38.92
       8.99   228.99   .199E+07      770.0         1.06      43.01
       9.93   229.93   .297E+07     1151.8         1.06      42.95
      10.86   230.86   .400E+07     1652.9         1.13      40.33
      11.80   231.80   .507E+07     2251.8         1.22      37.53
      12.74   232.74   .618E+07     2946.5         1.31      34.97
      13.67   233.67   .733E+07     3726.8         1.39      32.79
      14.61   234.61   .853E+07     4591.0         1.48      30.96
      15.55   235.55   .977E+07     5544.1         1.55      29.37
      16.48   236.48   .111E+08     6586.7         1.63      27.99
```

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      17.42   237.42    .124E+08    7719.2          1.71      26.77

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******    90.17    7.00  20.07      3.58      1.28
     OUTFLOW: ID= 1 (6220) *******    85.29    9.00  20.07      3.47      1.28


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-------------------
| CALIB             |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   1.264 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  21.832
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.348

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0220):   169.10   1.264     8.00    21.83
      + ID2= 2 (6220): 16577.09  85.286     9.00    20.07
        ==========================================
        ID = 3 (8160): 16746.19  86.510     9.00    20.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW       (cms)=   2.484 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.164
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27         92.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         53.81
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     13.37 (ii)    27.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      4.84          6.07          8.675 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     60.70         27.47         33.78
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.44          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
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```
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.6430     3.7677
                         0.4620     2.0014   |   8.2830     4.2576
                         2.0160     2.2850   |  14.1970     4.6909
                         3.6250     2.7987   |  14.5970     4.7009
                         5.0230     3.2496   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200      8.675      6.00       33.78
     OUTFLOW: ID= 1 (5222)    145.200      2.918      7.00       33.78

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.63
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.5756

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-------------------
| CALIB             |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95         16.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     703.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76        165.14
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.94 (ii)    19.69 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      5.75          3.88          8.373 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     60.70         40.05         48.52
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.64          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2222):    74.30   8.373     6.00    48.52
      + ID2= 2 (5222):   145.20   2.918     7.00    33.78
        ==========================================
        ID = 3 (8164):   219.50   8.614     6.00    38.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75         92.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     967.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         50.03
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     13.24 (ii)    27.35 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      6.43          5.60          9.970 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     60.70         28.63         36.97
     TOTAL RAINFALL   (mm)=     62.70         62.70         62.70
     RUNOFF COEFFICIENT   =      0.97          0.46          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0224):   140.45   9.970     6.00    36.97
      + ID2= 2 (8164):   219.50   8.614     6.00    38.77
        ==========================================================
        ID = 3 (8166):   359.95  18.584     6.00    38.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (2261.0) ------>
            Distance      Elevation       Manning
                0.00         245.35        0.0600
                8.27         242.72        0.0600
               16.54         240.01        0.0600
               31.02         235.31        0.0600
               41.36         233.14        0.0600
               90.99         227.73        0.0600
               93.06         227.50        0.0600
               95.13         227.27        0.0600
               95.83         227.00        0.0600
              100.83         226.50    0.0600 /0.0350  Main Channel
              101.33         225.50        0.0350      Main Channel
              101.83         226.50    0.0350 /0.0600  Main Channel
              105.83         227.00        0.0600
              107.54         227.39        0.0600
              109.60         227.62        0.0600
              111.67         227.86        0.0600
              146.83         231.76        0.0600
              173.71         234.77        0.0600
              186.12         238.23        0.0600
              202.67         238.35        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.50   226.00    .403E+03        0.0         0.16     330.59
       1.00   226.50    .161E+04        0.1         0.26     208.26
       1.70   227.20    .173E+05        1.5         0.27     195.72
       2.39   227.89    .541E+05        5.9         0.35     152.27
       3.09   228.59    .119E+06       16.0         0.43     124.08
       3.79   229.29    .212E+06       33.8         0.51     104.65
       4.49   229.99    .334E+06       61.2         0.59      90.97
       5.18   230.68    .484E+06       99.7         0.66      80.88
       5.88   231.38    .663E+06      151.0         0.73      73.13
       6.58   232.08    .870E+06      216.5         0.80      66.95
       7.27   232.77    .111E+07      297.5         0.87      61.91
       7.97   233.47    .137E+07      398.1         0.94      57.29
       8.67   234.17    .165E+07      518.9         1.01      53.12
       9.36   234.86    .196E+07      658.9         1.08      49.59
      10.06   235.56    .228E+07      827.0         1.17      46.02
      10.76   236.26    .262E+07     1015.4         1.25      42.96
      11.46   236.96    .296E+07     1221.2         1.33      40.41
      12.15   237.65    .332E+07     1444.6         1.40      38.26
      12.85   238.35    .368E+07     1598.2         1.40      38.42

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8166)  359.95   18.58    6.00  38.07      3.19      0.44
    OUTFLOW: ID= 1 (6226)  359.95    5.38    7.00  38.06      2.31      0.34


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--------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0226):   237.58   2.484     7.50    23.16
      + ID2= 2 (6226):   359.95   5.384     7.00    38.06
        ==========================================================
        ID = 3 (8168):   597.53   7.832     7.00    32.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8160): 16746.19  86.510     9.00    20.09
      + ID2= 2 (8168):   597.53   7.832     7.00    32.14
        ==========================================================
        ID = 3 (8162): 17343.72  92.582     8.75    20.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (2281.0) ------>
            Distance      Elevation       Manning
                0.00         245.00        0.0600
               18.60         244.74        0.0600
               37.20         242.47        0.0600
               93.01         233.71        0.0600
              125.57         226.95        0.0600
              213.93         221.63        0.0600
              218.58         221.15        0.0600
              223.23         220.45        0.0600
              225.03         220.55    0.0600 /0.0300  Main Channel
              225.53         218.05        0.0300      Main Channel
              232.53         218.05        0.0300      Main Channel
              240.03         218.05        0.0300      Main Channel
              241.03         220.55    0.0300 /0.0600  Main Channel
              246.48         221.00        0.0600
              251.13         221.27        0.0600
              255.78         221.22        0.0600
              325.54         225.25        0.0600
              367.40         228.91        0.0600
              404.60         231.75        0.0600
              460.41         245.00        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       1.25   219.30    .338E+05        16.0         0.86      35.15
       2.50   220.55    .696E+05        48.3         1.26      24.02
       3.94   221.99    .168E+06       116.0         1.26      24.14
       5.38   223.43    .392E+06       247.5         1.15      26.37
       6.81   224.86    .743E+06       472.6         1.16      26.20
       8.25   226.30    .122E+07       821.6         1.23      24.67
       9.69   227.74    .179E+07      1320.1         1.34      22.59
      11.13   229.18    .243E+07      1965.7         1.47      20.58
      12.57   230.62    .313E+07      2744.2         1.59      19.02
      14.01   232.06    .390E+07      3683.4         1.72      17.66
      15.44   233.49    .472E+07      4824.1         1.86      16.30
      16.88   234.93    .557E+07      6092.4         1.99      15.23
      18.32   236.37    .646E+07      7503.3         2.11      14.35
      19.76   237.81    .739E+07      9061.2         2.23      13.59
      21.20   239.25    .836E+07     10767.6         2.34      12.94
      22.64   240.69    .937E+07     12624.8         2.45      12.37
      24.07   242.12    .104E+08     14634.9         2.56      11.87
      25.51   243.56    .115E+08     16762.8         2.65      11.45
      26.95   245.00    .127E+08     18699.9         2.69      11.28

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8162) *******    92.58    8.75  20.50      3.44      1.26
    OUTFLOW: ID= 1 (6228) *******    90.85    9.50  20.50      3.41      1.26


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--------------------
| CALIB            |
| NASHYD    (0228) |   Area    (ha)= 310.54   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=   1.970 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  14.996
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT    =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8170) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0228):   310.54   1.970     7.75    15.00
      + ID2= 2 (6228): 17343.72  90.854     9.50    20.50
        ==========================================================
        ID = 3 (8170): 17654.26  92.491     9.50    20.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (2302) |   Area    (ha)= 126.70
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|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.14         97.56
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     919.06         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         24.43
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.84 (ii)    31.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.03          3.97      4.494 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.50
     RUNOFF VOLUME    (mm)=      60.70         22.05         25.53
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.35          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.40         39.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     724.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         68.03
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.13 (ii)    23.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.81          3.50      5.038 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70         27.33         33.67
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.44          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.6350      1.5914
                         0.3160     0.7624   |   6.9200      1.8001
                         1.7040     0.8931   |   7.9010      2.0070
                         3.5140     1.1218   |   8.3010      2.0170
                         4.5020     1.3405   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800      5.038      6.00      33.67
     OUTFLOW: ID= 1 (5230)     78.800      2.893      6.50      33.66

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.42
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.0508

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):   126.70   4.494     6.50    25.53
       + ID2= 2 (5230):    78.80   2.893     6.50    33.66
         ==========================================
         ID = 3 (8172):   205.50   7.387     6.50    28.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=   1.972 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.637
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   314.80   1.972     7.25    13.64
       + ID2= 2 (8172):   205.50   7.387     6.50    28.65
         ==========================================
         ID = 3 (8173):   520.30   9.124     6.50    19.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17654.26  92.491     9.50    20.40
       + ID2= 2 (8173):   520.30   9.124     6.50    19.57
         ==========================================
         ID = 3 (8174): 18174.56  95.170     9.00    20.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2341.0) ------>
           Distance      Elevation       Manning
              0.00         228.00        0.0550
             42.86         223.21        0.0550
             85.72         219.56        0.0550
            107.15         219.42        0.0550
            128.58         219.39        0.0550
            214.30         219.30        0.0550
            225.02         219.26        0.0550
            235.73         219.24        0.0550
            255.16         219.20   0.0550 /0.0350  Main Channel
            257.16         217.20        0.0350     Main Channel
            303.16         217.20        0.0350     Main Channel
            305.16         219.20   0.0350 /0.0550  Main Channel
            310.74         219.28        0.0550
            321.45         219.27        0.0550
            332.17         219.26        0.0550
            396.46         219.29        0.0550
            782.20         222.91        0.0550
            878.64         227.43        0.0550
            964.36         227.80        0.0550
           1060.79         228.00        0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.50   217.70    .887E+05        7.2          0.31      206.54
       1.00   218.20    .179E+06       22.7          0.48      131.74
       1.50   218.70    .272E+06       44.5          0.62      101.75
       2.00   219.20    .366E+06       71.8          0.75       84.97
       2.59   219.79    .993E+06      136.1          0.52      121.59
       3.17   220.37    .189E+07      258.6          0.52      121.80
       3.76   220.96    .294E+07      434.7          0.56      112.82
       4.35   221.55    .415E+07      665.9          0.61      103.88
       4.93   222.13    .551E+07      955.0          0.66       96.22
       5.52   222.72    .703E+07     1305.1          0.71       89.80
       6.11   223.31    .868E+07     1744.9          0.77       82.91
       6.69   223.89    .104E+08     2261.4          0.83       76.46
       7.28   224.48    .121E+08     2838.0          0.89       71.12
       7.87   225.07    .139E+08     3472.9          0.95       66.63
       8.45   225.65    .157E+08     4165.0          1.01       62.82
       9.04   226.24    .176E+08     4913.5          1.07       59.54
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  9.63   226.83    .194E+08    5717.7          1.12      56.68
 10.21   227.41    .214E+08    6577.1          1.17      54.18
 10.80   228.00    .235E+08    6919.5          1.12      56.61

                            <---- hydrograph ---->   <-pipe / channel->
                       AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8174) *******    95.17    9.00  20.38      2.21      0.65
 OUTFLOW: ID= 1 (6234) *******    85.53   11.75  20.38      2.12      0.69


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--------------------
| CALIB              |
| STANDHYD  (0234) |   Area    (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                       IMPERVIOUS    PERVIOUS (i)
 Surface Area     (ha)=      58.78       208.38
 Dep. Storage     (mm)=       2.00         5.00
 Average Slope     (%)=       0.50         0.50
 Length            (m)=    1334.57        40.00
 Mannings n          =      0.013        0.250

 Max.Eff.Inten.(mm/hr)=      82.76         8.97
           over (min)        15.00        45.00
 Storage Coeff.  (min)=      16.06 (ii)   44.13 (ii)
 Unit Hyd. Tpeak (min)=      15.00        45.00
 Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
 PEAK FLOW       (cms)=       3.47         2.64          4.519 (iii)
 TIME TO PEAK    (hrs)=       6.00         6.50           6.00
 RUNOFF VOLUME    (mm)=      60.70         8.65          12.81
 TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
 RUNOFF COEFFICIENT   =       0.97         0.14           0.20

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  39.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0234):   267.16   4.519    6.00     12.81
      + ID2= 2 (6234): 18174.56  85.531   11.75     20.38
        ================================================
        ID = 3 (8176): 18441.72  85.866    11.50     20.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0238) |   Area    (ha)= 311.70   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   1.188 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  11.705
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.187

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0236) |   Area    (ha)= 494.49   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=   2.329 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.057
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (2381.0) ------>
                Distance      Elevation       Manning
                   0.00         241.54        0.0380
                 602.55         227.00        0.0380
                1702.00         224.50        0.0380
                1721.25         223.00        0.0380
                1725.10         222.60        0.0380
                1780.94         222.50        0.0380
                1782.87         222.45        0.0380
                1784.79         222.40    0.0380 /0.0300  Main Channel
                1786.57         221.75        0.0300      Main Channel
                1787.07         220.75        0.0300      Main Channel
                1787.57         220.75        0.0300      Main Channel
                1791.57         220.75        0.0300      Main Channel
                1794.07         221.75        0.0300      Main Channel
                1798.27         222.00        0.0300      Main Channel
                1800.19         222.35    0.0300 /0.0380  Main Channel
                1802.12         222.47        0.0380
                1840.63         223.00        0.0380
                1900.00         225.00        0.0380
                1950.00         226.00        0.0380
                2242.61         240.00        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.80    221.55    .101E+05        5.2         1.14      32.36
        1.60    222.35    .296E+05       18.7         1.40      26.36
        2.64    223.39    .249E+06      151.8         1.35      27.33
        3.68    224.43    .613E+06      512.2         1.85      19.94
        4.71    225.46    .152E+07     1066.8         1.55      23.80
        5.75    226.50    .359E+07     2824.9         1.75      21.16
        6.79    227.54    .663E+07     6528.0         2.18      16.93
        7.83    228.58    .994E+07    12158.6         2.71      13.62
        8.87    229.62    .134E+08    19268.8         3.19      11.58
        9.91    230.66    .170E+08    27785.3         3.63      10.19
       10.94    231.69    .207E+08    37667.1         4.03       9.18
       11.98    232.73    .246E+08    48891.7         4.40       8.40
       13.02    233.77    .287E+08    61448.0         4.75       7.78
       14.06    234.81    .329E+08    75332.7         5.08       7.28
       15.10    235.85    .372E+08    90547.8         5.39       6.85
       16.14    236.89    .417E+08    *******         5.69       6.49
       17.17    237.92    .464E+08    *******         5.98       6.18
       18.21    238.96    .512E+08    *******         6.25       5.91
       19.25    240.00    .561E+08    *******         6.52       5.67

                            <---- hydrograph ---->   <-pipe / channel->
                       AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (0236)  494.49     2.33    8.00  12.06      0.36      1.14
 OUTFLOW: ID= 1 (6238)  494.49     2.26    8.50  12.06      0.34      1.14

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--------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0238):   311.70   1.188     8.25    11.70
      + ID2= 2 (6238):   494.49   2.257     8.50    12.06
        ================================================
        ID = 3 (8180):   806.19   3.443     8.50    11.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8176): 18441.72  85.866    11.50    20.27
      + ID2= 2 (8180):   806.19   3.443     8.50    11.92
        ================================================
        ID = 3 (8178): 19247.91  88.470    11.50    19.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (2401.0) ------>
                Distance      Elevation       Manning
                   0.00         222.00        0.0450
                  11.46         221.00        0.0450
                 208.98         221.00        0.0450
                 404.04         220.97        0.0450
                 808.08         220.83        0.0450
                 905.60         220.17        0.0450
                 919.53         219.43        0.0450
```

933.47	219.22	0.0450	
945.26	219.21	0.0450 /0.0300	Main Channel
946.26	217.81	0.0300	Main Channel
975.26	217.81	0.0300	Main Channel
1003.26	217.81	0.0300	Main Channel
1005.26	219.21	0.0300 /0.0450	Main Channel
1017.06	219.28	0.0450	
1030.99	219.26	0.0450	
1044.92	219.23	0.0450	
1058.86	219.23	0.0450	
1253.91	219.22	0.0450	
1323.57	221.05	0.0450	
1379.30	222.00	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	218.01	.307E+05	2.2	0.20	227.52
0.40	218.21	.617E+05	7.1	0.31	143.95
0.60	218.41	.928E+05	14.0	0.41	110.33
0.80	218.61	.124E+06	22.6	0.49	91.46
1.00	218.81	.156E+06	32.8	0.57	79.15
1.20	219.01	.188E+06	44.5	0.64	70.38
1.40	219.21	.220E+06	57.5	0.70	63.77
1.63	219.44	.413E+06	82.5	0.54	83.52
1.87	219.68	.632E+06	120.9	0.51	87.03
2.10	219.91	.858E+06	170.0	0.53	84.11
2.33	220.14	.109E+07	228.7	0.56	79.62
2.56	220.37	.134E+07	294.4	0.59	76.03
2.80	220.61	.162E+07	371.1	0.61	72.75
3.03	220.84	.192E+07	456.8	0.64	70.18
3.26	221.07	.251E+07	552.1	0.59	75.74
3.49	221.30	.333E+07	711.8	0.57	78.07
3.73	221.54	.417E+07	907.0	0.58	76.62
3.96	221.77	.502E+07	1134.1	0.61	73.70
4.19	222.00	.587E+07	1390.9	0.64	70.34

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8178) *******	88.47	11.50	19.92	1.67	0.53	
OUTFLOW: ID= 1 (6240) *******	81.73	13.25	19.92	1.62	0.54	

CALIB			
NASHYD (0240)	Area (ha)= 434.37	Curve Number (CN)= 46.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 3.60		

Unit Hyd Qpeak (cms)= 2.058

PEAK FLOW (cms)= 0.696 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 9.341
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.149

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8182)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0240):	434.37	0.696	12.00	9.34
+ ID2= 2 (6240):	19247.91	81.726	13.25	19.92
ID = 3 (8182):	19682.28	82.394	13.25	19.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0242)	Area (ha)= 657.88	Curve Number (CN)= 52.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 5.37		

Unit Hyd Qpeak (cms)= 2.090

PEAK FLOW (cms)= 0.908 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 11.386
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.182

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8184)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	657.88	0.908	13.00	11.39
+ ID2= 2 (8182):	19682.28	82.394	13.25	19.69
ID = 3 (8184):	20340.16	83.301	13.25	19.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6244)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2441.0) ------>

Distance	Elevation	Manning		
0.00	225.00	0.0450		
2.50	220.10	0.0450		
3.00	220.06	0.0450		
3.64	220.07	0.0450		
7.28	220.08	0.0450		
10.91	220.09	0.0450		
14.55	219.81	0.0450		
18.19	219.29	0.0450		
24.13	219.21	0.0450 /0.0300	Main Channel	
24.63	217.81	0.0300	Main Channel	
69.13	217.81	0.0300	Main Channel	
114.13	217.81	0.0300	Main Channel	
115.13	219.21	0.0300 /0.0450	Main Channel	
120.06	219.25	0.0450		
123.70	219.32	0.0450		
127.34	219.77	0.0450		
130.98	219.88	0.0450		
134.61	219.99	0.0450		
350.00	220.18	0.0450		
360.18	225.00	0.0450		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	218.16	.108E+06	9.0	0.29	200.52
0.70	218.51	.216E+06	28.4	0.45	126.89
1.05	218.86	.325E+06	55.7	0.59	97.27
1.40	219.21	.434E+06	89.7	0.71	80.65
1.79	219.60	.574E+06	135.9	0.81	70.36
2.17	219.98	.726E+06	190.8	0.90	63.38
2.56	220.37	.111E+07	264.3	0.82	69.82
2.94	220.75	.157E+07	371.7	0.81	70.36
3.33	221.14	.203E+07	503.4	0.85	67.30
3.72	221.53	.250E+07	656.6	0.90	63.40
4.10	221.91	.296E+07	829.6	0.96	59.54
4.49	222.30	.343E+07	1021.1	1.02	56.00
4.87	222.68	.390E+07	1230.2	1.08	52.83
5.26	223.07	.437E+07	1456.2	1.14	50.01
5.65	223.46	.484E+07	1698.4	1.20	47.51
6.03	223.84	.531E+07	1956.3	1.26	45.28
6.42	224.23	.579E+07	2229.3	1.32	43.28
6.80	224.61	.626E+07	2517.0	1.38	41.48
7.19	225.00	.674E+07	2819.2	1.44	39.85

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8184) *******	83.30	13.25	19.42	1.33	0.68	
OUTFLOW: ID= 1 (6244) *******	79.84	14.00	19.42	1.30	0.67	

CALIB			
NASHYD (0244)	Area (ha)=1908.71	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.20		

Unit Hyd Qpeak (cms)= 14.812

PEAK FLOW (cms)= 7.239 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 15.079
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.240

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8186)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0244):	1908.71	7.239	9.75	15.08
+ ID2= 2 (6244):	20340.16	79.842	14.00	19.42
ID = 3 (8186):	22248.87	85.102	13.75	19.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.25
-------------------   VOLUME     (mm)=  18.13
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
  Comments:

        HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
        ACTUAL PEAK FLOW: PEAK ( 114.10) + BASE (   0.00) =  114.10  (cms).
```

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	0.000	62.25	1.495	124.50	0.261	186.75	0.042	249.00	0.006
0.25	0.000	62.50	1.484	124.75	0.259	187.00	0.042	249.25	0.006
0.50	0.000	62.75	1.473	125.00	0.257	187.25	0.041	249.50	0.006
0.75	0.000	63.00	1.463	125.25	0.255	187.50	0.041	249.75	0.006
1.00	0.000	63.25	1.452	125.50	0.254	187.75	0.041	250.00	0.006
1.25	0.000	63.50	1.442	125.75	0.252	188.00	0.041	250.25	0.006
1.50	0.084	63.75	1.432	126.00	0.250	188.25	0.040	250.50	0.006
1.75	0.161	64.00	1.421	126.25	0.248	188.50	0.040	250.75	0.006
2.00	0.239	64.25	1.411	126.50	0.246	188.75	0.040	251.00	0.006
2.25	0.331	64.50	1.401	126.75	0.245	189.00	0.039	251.25	0.006
2.50	0.410	64.75	1.391	127.00	0.243	189.25	0.039	251.50	0.006
2.75	0.481	65.00	1.381	127.25	0.241	189.50	0.039	251.75	0.006
3.00	0.543	65.25	1.372	127.50	0.239	189.75	0.039	252.00	0.006
3.25	0.637	65.50	1.362	127.75	0.238	190.00	0.038	252.25	0.006
3.50	0.725	65.75	1.353	128.00	0.236	190.25	0.038	252.50	0.006
3.75	0.821	66.00	1.343	128.25	0.234	190.50	0.038	252.75	0.006
4.00	0.925	66.25	1.334	128.50	0.233	190.75	0.037	253.00	0.006
4.25	1.127	66.50	1.324	128.75	0.231	191.00	0.037	253.25	0.006
4.50	1.341	66.75	1.315	129.00	0.229	191.25	0.037	253.50	0.006
4.75	1.694	67.00	1.306	129.25	0.228	191.50	0.037	253.75	0.006
5.00	2.097	67.25	1.297	129.50	0.226	191.75	0.036	254.00	0.006
5.25	2.786	67.50	1.288	129.75	0.224	192.00	0.036	254.25	0.005
5.50	3.594	67.75	1.279	130.00	0.223	192.25	0.036	254.50	0.005
5.75	6.812	68.00	1.270	130.25	0.221	192.50	0.035	254.75	0.005
6.00	18.188	68.25	1.261	130.50	0.220	192.75	0.035	255.00	0.005
6.25	25.631	68.50	1.252	130.75	0.218	193.00	0.035	255.25	0.005
6.50	35.444	68.75	1.244	131.00	0.217	193.25	0.035	255.50	0.005
6.75	42.908	69.00	1.235	131.25	0.215	193.50	0.034	255.75	0.005
7.00	49.355	69.25	1.227	131.50	0.213	193.75	0.034	256.00	0.005
7.25	54.707	69.50	1.218	131.75	0.212	194.00	0.034	256.25	0.005
7.50	59.725	69.75	1.210	132.00	0.210	194.25	0.034	256.50	0.005
7.75	64.589	70.00	1.201	132.25	0.209	194.50	0.033	256.75	0.005
8.00	69.384	70.25	1.193	132.50	0.207	194.75	0.033	257.00	0.005
8.25	73.892	70.50	1.185	132.75	0.206	195.00	0.033	257.25	0.005
8.50	78.244	70.75	1.177	133.00	0.204	195.25	0.033	257.50	0.005
8.75	82.386	71.00	1.168	133.25	0.203	195.50	0.032	257.75	0.005
9.00	86.357	71.25	1.160	133.50	0.201	195.75	0.032	258.00	0.005
9.25	90.161	71.50	1.152	133.75	0.200	196.00	0.032	258.25	0.005
9.50	93.792	71.75	1.145	134.00	0.199	196.25	0.032	258.50	0.005
9.75	97.239	72.00	1.137	134.25	0.197	196.50	0.031	258.75	0.005
10.00	100.484	72.25	1.129	134.50	0.196	196.75	0.031	259.00	0.005
10.25	103.358	72.50	1.121	134.75	0.194	197.00	0.031	259.25	0.005
10.50	105.916	72.75	1.113	135.00	0.193	197.25	0.031	259.50	0.005
10.75	108.130	73.00	1.106	135.25	0.191	197.50	0.031	259.75	0.005
11.00	110.037	73.25	1.098	135.50	0.190	197.75	0.030	260.00	0.005
11.25	111.655	73.50	1.091	135.75	0.189	198.00	0.030	260.25	0.005
11.50	113.002	73.75	1.083	136.00	0.187	198.25	0.030	260.50	0.005
11.75	113.598	74.00	1.076	136.25	0.186	198.50	0.030	260.75	0.005
12.00	113.994	74.25	1.068	136.50	0.185	198.75	0.029	261.00	0.004
12.25	114.104	74.50	1.061	136.75	0.183	199.00	0.029	261.25	0.004
12.50	114.035	74.75	1.054	137.00	0.182	199.25	0.029	261.50	0.004
12.75	113.744	75.00	1.046	137.25	0.181	199.50	0.029	261.75	0.004
13.00	113.267	75.25	1.039	137.50	0.179	199.75	0.029	262.00	0.004
13.25	112.600	75.50	1.032	137.75	0.178	200.00	0.028	262.25	0.004
13.50	111.738	75.75	1.025	138.00	0.177	200.25	0.028	262.50	0.004
13.75	110.692	76.00	1.018	138.25	0.176	200.50	0.028	262.75	0.004
14.00	109.480	76.25	1.011	138.50	0.174	200.75	0.028	263.00	0.004
14.25	108.125	76.50	1.004	138.75	0.173	201.00	0.028	263.25	0.004
14.50	106.640	76.75	0.997	139.00	0.172	201.25	0.027	263.50	0.004
14.75	105.040	77.00	0.990	139.25	0.171	201.50	0.027	263.75	0.004
15.00	103.336	77.25	0.983	139.50	0.169	201.75	0.027	264.00	0.004
15.25	101.541	77.50	0.977	139.75	0.168	202.00	0.027	264.25	0.004
15.50	99.664	77.75	0.970	140.00	0.167	202.25	0.027	264.50	0.004
15.75	97.017	78.00	0.963	140.25	0.166	202.50	0.026	264.75	0.004
16.00	94.406	78.25	0.957	140.50	0.164	202.75	0.026	265.00	0.004
16.25	91.851	78.50	0.950	140.75	0.163	203.00	0.026	265.25	0.004
16.50	89.337	78.75	0.943	141.00	0.162	203.25	0.026	265.50	0.004
16.75	86.856	79.00	0.937	141.25	0.161	203.50	0.026	265.75	0.004
17.00	84.380	79.25	0.931	141.50	0.160	203.75	0.025	266.00	0.004
17.25	81.876	79.50	0.924	141.75	0.158	204.00	0.025	266.25	0.004
17.50	79.353	79.75	0.918	142.00	0.157	204.25	0.025	266.50	0.004
17.75	76.832	80.00	0.912	142.25	0.156	204.50	0.025	266.75	0.004
18.00	74.331	80.25	0.905	142.50	0.155	204.75	0.025	267.00	0.004
18.25	71.865	80.50	0.899	142.75	0.154	205.00	0.024	267.25	0.004
18.50	69.441	80.75	0.893	143.00	0.153	205.25	0.024	267.50	0.004
18.75	67.060	81.00	0.887	143.25	0.152	205.50	0.024	267.75	0.004
19.00	64.726	81.25	0.881	143.50	0.150	205.75	0.024	268.00	0.004
19.25	62.446	81.50	0.875	143.75	0.149	206.00	0.024	268.25	0.004
19.50	60.222	81.75	0.869	144.00	0.148	206.25	0.024	268.50	0.004
19.75	58.058	82.00	0.863	144.25	0.147	206.50	0.023	268.75	0.004
20.00	55.957	82.25	0.857	144.50	0.146	206.75	0.023	269.00	0.004
20.25	53.919	82.50	0.851	144.75	0.145	207.00	0.023	269.25	0.003
20.50	51.947	82.75	0.845	145.00	0.144	207.25	0.023	269.50	0.003
20.75	50.038	83.00	0.839	145.25	0.143	207.50	0.023	269.75	0.003
21.00	48.194	83.25	0.833	145.50	0.142	207.75	0.022	270.00	0.003
21.25	46.411	83.50	0.828	145.75	0.141	208.00	0.022	270.25	0.003
21.50	44.690	83.75	0.822	146.00	0.140	208.25	0.022	270.50	0.003
21.75	43.026	84.00	0.816	146.25	0.139	208.50	0.022	270.75	0.003
22.00	41.419	84.25	0.811	146.50	0.138	208.75	0.022	271.00	0.003
22.25	39.867	84.50	0.805	146.75	0.137	209.00	0.022	271.25	0.003
22.50	38.370	84.75	0.800	147.00	0.136	209.25	0.021	271.50	0.003
22.75	36.928	85.00	0.794	147.25	0.135	209.50	0.021	271.75	0.003
23.00	35.538	85.25	0.789	147.50	0.134	209.75	0.021	272.00	0.003
23.25	34.200	85.50	0.783	147.75	0.133	210.00	0.021	272.25	0.003
23.50	32.912	85.75	0.778	148.00	0.132	210.25	0.021	272.50	0.003
23.75	31.672	86.00	0.773	148.25	0.131	210.50	0.021	272.75	0.003
24.00	30.479	86.25	0.767	148.50	0.130	210.75	0.021	273.00	0.003
24.25	29.332	86.50	0.762	148.75	0.129	211.00	0.020	273.25	0.003
24.50	28.230	86.75	0.757	149.00	0.128	211.25	0.020	273.50	0.003
24.75	27.172	87.00	0.751	149.25	0.127	211.50	0.020	273.75	0.003
25.00	26.159	87.25	0.746	149.50	0.126	211.75	0.020	274.00	0.003
25.25	25.191	87.50	0.741	149.75	0.125	212.00	0.020	274.25	0.003
25.50	24.264	87.75	0.736	150.00	0.124	212.25	0.020	274.50	0.003
25.75	23.374	88.00	0.731	150.25	0.124	212.50	0.019	274.75	0.003
26.00	22.521	88.25	0.726	150.50	0.123	212.75	0.019	275.00	0.003
26.25	21.701	88.50	0.721	150.75	0.122	213.00	0.019	275.25	0.003
26.50	20.914	88.75	0.716	151.00	0.121	213.25	0.019	275.50	0.003
26.75	20.158	89.00	0.711	151.25	0.120	213.50	0.019	275.75	0.003
27.00	19.432	89.25	0.706	151.50	0.119	213.75	0.019	276.00	0.003
27.25	18.735	89.50	0.701	151.75	0.118	214.00	0.019	276.25	0.003
27.50	18.064	89.75	0.696	152.00	0.117	214.25	0.018	276.50	0.003
27.75	17.421	90.00	0.691	152.25	0.117	214.50	0.018	276.75	0.003
28.00	16.802	90.25	0.687	152.50	0.116	214.75	0.018	277.00	0.003
28.25	16.209	90.50	0.682	152.75	0.115	215.00	0.018	277.25	0.003
28.50	15.638	90.75	0.677	153.00	0.114	215.25	0.018	277.50	0.003
28.75	15.091	91.00	0.673	153.25	0.113	215.50	0.018	277.75	0.003
29.00	14.565	91.25	0.668	153.50	0.112	215.75	0.018	278.00	0.003
29.25	14.059	91.50	0.663	153.75	0.112	216.00	0.018	278.25	0.003
29.50	13.574	91.75	0.659	154.00	0.111	216.25	0.017	278.50	0.003
29.75	13.108	92.00	0.654	154.25	0.110	216.50	0.017	278.75	0.003
30.00	12.660	92.25	0.650	154.50	0.109	216.75	0.017	279.00	0.003
30.25	12.231	92.50	0.645	154.75	0.108	217.00	0.017	279.25	0.003
30.50	11.818	92.75	0.641	155.00	0.108	217.25	0.017	279.50	0.003
30.75	11.422	93.00	0.636	155.25	0.107	217.50	0.017	279.75	0.003
31.00	11.041	93.25	0.632	155.50	0.106	217.75	0.017	280.00	0.002
31.25	10.676	93.50	0.627	155.75	0.105	218.00	0.016	280.25	0.002
31.50	10.326	93.75	0.623	156.00	0.104	218.25	0.016	280.50	0.002
31.75	9.990	94.00	0.618	156.25	0.104	218.50	0.016	280.75	0.002
32.00	9.668	94.25	0.614	156.50	0.103	218.75	0.016	281.00	0.002
32.25	9.358	94.50	0.610	156.75	0.102	219.00	0.016	281.25	0.002
32.50	9.062	94.75	0.606	157.00	0.101	219.25	0.016	281.50	0.002
32.75	8.777	95.00	0.602	157.25	0.101	219.50	0.016	281.75	0.002
33.00	8.505	95.25	0.597	157.50	0.100	219.75	0.016	282.00	0.002
33.25	8.244	95.50	0.593	157.75	0.099	220.00	0.016	282.25	0.002
33.50	7.993	95.75	0.589	158.00	0.099	220.25	0.015	282.50	0.002
33.75	7.753	96.00	0.585	158.25	0.098	220.50	0.015	282.75	0.002
34.00	7.523	96.25	0.581	158.50	0.097	220.75	0.015	283.00	0.002
34.25	7.303	96.50	0.577	158.75	0.096	221.00	0.015	283.25	0.002
34.50	7.092	96.75	0.573	159.00	0.096	221.25	0.015	283.50	0.002
34.75	6.889	97.00	0.569	159.25	0.095	221.50	0.015	283.75	0.002
35.00	6.695	97.25	0.565	159.50	0.094	221.75	0.015	284.00	0.002
35.25	6.509	97.50	0.561	159.75	0.094	222.00	0.015	284.25	0.002
35.50	6.331	97.75	0.557	160.00	0.093	222.25	0.015	284.50	0.002
35.75	6.160	98.00	0.553	160.25	0.092	222.50	0.014	284.75	0.002
36.00	5.996	98.25	0.549	160.50	0.092	222.75	0.014	285.00	0.002
36.25	5.838	98.50	0.546	160.75	0.091	223.00	0.014	285.25	0.002
36.50	5.687	98.75	0.542	161.00	0.090	223.25	0.014	285.50	0.002
36.75	5.542	99.00	0.538	161.25	0.090	223.50	0.014	285.75	0.002
37.00	5.403	99.25	0.534	161.50	0.089	223.75	0.014	286.00	0.002
37.25	5.269	99.50	0.530	161.75	0.088	224.00	0.014	286.25	0.002
37.50	5.141	99.75	0.527	162.00	0.088	224.25	0.014	286.50	0.002
37.75	5.017	100.00	0.523	162.25	0.087	224.50	0.014	286.75	0.002
38.00	4.899	100.25	0.519	162.50	0.086	224.75	0.013	287.00	0.002
38.25	4.785	100.50	0.516	162.75	0.086	225.00	0.013	287.25	0.002
38.50	4.675	100.75	0.512	163.00	0.085	225.25	0.013	287.50	0.002
38.75	4.570	101.00	0.509	163.25	0.084	225.50	0.013	287.75	0.002
39.00	4.469	101.25	0.505	163.50	0.084	225.75	0.013	288.00	0.002
39.25	4.371	101.50	0.502	163.75	0.083	226.00	0.013	288.25	0.002
39.50	4.278	101.75	0.498	164.00	0.083	226.25	0.013	288.50	0.002
39.75	4.187	102.00	0.495	164.25	0.082	226.50	0.013	288.75	0.002
40.00	4.101	102.25	0.491	164.50	0.081	226.75	0.013	289.00	0.002
40.25	4.017	102.50	0.488	164.75	0.081	227.00	0.013	289.25	0.002
40.50	3.937	102.75	0.484	165.00	0.080	227.25	0.012	289.50	0.002
40.75	3.859	103.00	0.481	165.25	0.080	227.50	0.012	289.75	0.002
41.00	3.784	103.25	0.477	165.50	0.079	227.75	0.012	290.00	0.002
41.25	3.712	103.50	0.474	165.75	0.078	228.00	0.012	290.25	0.002
41.50	3.643	103.75	0.471	166.00	0.078	228.25	0.012	290.50	0.002
41.75	3.576	104.00	0.467	166.25	0.077	228.50	0.012	290.75	0.002
42.00	3.512	104.25	0.464	166.50	0.077	228.75	0.012	291.00	0.002
42.25	3.450	104.50	0.461	166.75	0.076	229.00	0.012	291.25	0.002
42.50	3.390	104.75	0.458	167.00	0.076	229.25	0.012	291.50	0.002
42.75	3.332	105.00	0.454	167.25	0.075	229.50	0.012	291.75	0.002
43.00	3.276	105.25	0.451	167.50	0.074	229.75	0.012	292.00	0.002
43.25	3.222	105.50	0.448	167.75	0.074	230.00	0.011	292.25	0.002
43.50	3.169	105.75	0.445	168.00	0.073	230.25	0.011	292.50	0.002
43.75	3.119	106.00	0.442	168.25	0.073	230.50	0.011	292.75	0.002

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 44.00   3.070 |106.25   0.439 |168.50   0.072 |230.75   0.011 |293.00   0.002
 44.25   3.023 |106.50   0.436 |168.75   0.072 |231.00   0.011 |293.25   0.002
 44.50   2.978 |106.75   0.433 |169.00   0.071 |231.25   0.011 |293.50   0.002
 44.75   2.933 |107.00   0.430 |169.25   0.071 |231.50   0.011 |293.75   0.002
 45.00   2.891 |107.25   0.427 |169.50   0.070 |231.75   0.011 |294.00   0.002
 45.25   2.849 |107.50   0.424 |169.75   0.070 |232.00   0.011 |294.25   0.002
 45.50   2.809 |107.75   0.421 |170.00   0.069 |232.25   0.011 |294.50   0.002
 45.75   2.770 |108.00   0.418 |170.25   0.069 |232.50   0.011 |294.75   0.002
 46.00   2.733 |108.25   0.415 |170.50   0.068 |232.75   0.011 |295.00   0.002
 46.25   2.696 |108.50   0.412 |170.75   0.068 |233.00   0.010 |295.25   0.002
 46.50   2.661 |108.75   0.409 |171.00   0.067 |233.25   0.010 |295.50   0.002
 46.75   2.627 |109.00   0.406 |171.25   0.067 |233.50   0.010 |295.75   0.002
 47.00   2.593 |109.25   0.403 |171.50   0.066 |233.75   0.010 |296.00   0.002
 47.25   2.561 |109.50   0.400 |171.75   0.066 |234.00   0.010 |296.25   0.002
 47.50   2.529 |109.75   0.397 |172.00   0.065 |234.25   0.010 |296.50   0.002
 47.75   2.499 |110.00   0.395 |172.25   0.065 |234.50   0.010 |296.75   0.001
 48.00   2.469 |110.25   0.392 |172.50   0.064 |234.75   0.010 |297.00   0.001
 48.25   2.440 |110.50   0.389 |172.75   0.064 |235.00   0.010 |297.25   0.001
 48.50   2.412 |110.75   0.386 |173.00   0.063 |235.25   0.010 |297.50   0.001
 48.75   2.384 |111.00   0.384 |173.25   0.063 |235.50   0.010 |297.75   0.001
 49.00   2.358 |111.25   0.381 |173.50   0.062 |235.75   0.010 |298.00   0.001
 49.25   2.332 |111.50   0.378 |173.75   0.062 |236.00   0.010 |298.25   0.001
 49.50   2.306 |111.75   0.376 |174.00   0.061 |236.25   0.010 |298.50   0.001
 49.75   2.282 |112.00   0.373 |174.25   0.061 |236.50   0.009 |298.75   0.001
 50.00   2.258 |112.25   0.370 |174.50   0.061 |236.75   0.009 |299.00   0.001
 50.25   2.234 |112.50   0.368 |174.75   0.060 |237.00   0.009 |299.25   0.001
 50.50   2.211 |112.75   0.365 |175.00   0.060 |237.25   0.009 |299.50   0.001
 50.75   2.189 |113.00   0.362 |175.25   0.059 |237.50   0.009 |299.75   0.001
 51.00   2.167 |113.25   0.360 |175.50   0.059 |237.75   0.009 |300.00   0.001
 51.25   2.145 |113.50   0.357 |175.75   0.058 |238.00   0.009 |300.25   0.001
 51.50   2.124 |113.75   0.355 |176.00   0.058 |238.25   0.009 |300.50   0.001
 51.75   2.104 |114.00   0.352 |176.25   0.058 |238.50   0.009 |300.75   0.001
 52.00   2.084 |114.25   0.350 |176.50   0.057 |238.75   0.009 |301.00   0.001
 52.25   2.064 |114.50   0.347 |176.75   0.057 |239.00   0.009 |301.25   0.001
 52.50   2.045 |114.75   0.345 |177.00   0.056 |239.25   0.009 |301.50   0.001
 52.75   2.026 |115.00   0.342 |177.25   0.056 |239.50   0.009 |301.75   0.001
 53.00   2.007 |115.25   0.340 |177.50   0.055 |239.75   0.009 |302.00   0.001
 53.25   1.989 |115.50   0.338 |177.75   0.055 |240.00   0.008 |302.25   0.001
 53.50   1.971 |115.75   0.335 |178.00   0.055 |240.25   0.008 |302.50   0.001
 53.75   1.954 |116.00   0.333 |178.25   0.054 |240.50   0.008 |302.75   0.001
 54.00   1.937 |116.25   0.330 |178.50   0.054 |240.75   0.008 |303.00   0.001
 54.25   1.920 |116.50   0.328 |178.75   0.053 |241.00   0.008 |303.25   0.001
 54.50   1.903 |116.75   0.326 |179.00   0.053 |241.25   0.008 |303.50   0.001
 54.75   1.887 |117.00   0.323 |179.25   0.053 |241.50   0.008 |303.75   0.001
 55.00   1.871 |117.25   0.321 |179.50   0.052 |241.75   0.008 |304.00   0.001
 55.25   1.855 |117.50   0.319 |179.75   0.052 |242.00   0.008 |304.25   0.001
 55.50   1.840 |117.75   0.317 |180.00   0.051 |242.25   0.008 |304.50   0.001
 55.75   1.825 |118.00   0.314 |180.25   0.051 |242.50   0.008 |304.75   0.001
 56.00   1.810 |118.25   0.312 |180.50   0.051 |242.75   0.008 |305.00   0.001
 56.25   1.795 |118.50   0.310 |180.75   0.050 |243.00   0.008 |305.25   0.001
 56.50   1.781 |118.75   0.308 |181.00   0.050 |243.25   0.008 |305.50   0.001
 56.75   1.766 |119.00   0.305 |181.25   0.050 |243.50   0.008 |305.75   0.001
 57.00   1.752 |119.25   0.303 |181.50   0.049 |243.75   0.008 |306.00   0.001
 57.25   1.738 |119.50   0.301 |181.75   0.049 |244.00   0.008 |306.25   0.001
 57.50   1.725 |119.75   0.299 |182.00   0.048 |244.25   0.007 |306.50   0.001
 57.75   1.711 |120.00   0.297 |182.25   0.048 |244.50   0.007 |306.75   0.001
 58.00   1.698 |120.25   0.295 |182.50   0.048 |244.75   0.007 |307.00   0.001
 58.25   1.685 |120.50   0.293 |182.75   0.047 |245.00   0.007 |307.25   0.001
 58.50   1.672 |120.75   0.291 |183.00   0.047 |245.25   0.007 |307.50   0.001
 58.75   1.659 |121.00   0.289 |183.25   0.047 |245.50   0.007 |307.75   0.001
 59.00   1.646 |121.25   0.286 |183.50   0.046 |245.75   0.007 |308.00   0.001
 59.25   1.634 |121.50   0.284 |183.75   0.046 |246.00   0.007 |308.25   0.001
 59.50   1.621 |121.75   0.282 |184.00   0.046 |246.25   0.007 |308.50   0.001
 59.75   1.609 |122.00   0.280 |184.25   0.045 |246.50   0.007 |308.75   0.001
 60.00   1.597 |122.25   0.278 |184.50   0.045 |246.75   0.007 |309.00   0.001
 60.25   1.585 |122.50   0.276 |184.75   0.045 |247.00   0.007 |309.25   0.001
 60.50   1.574 |122.75   0.274 |185.00   0.044 |247.25   0.007 |309.50   0.001
 60.75   1.562 |123.00   0.272 |185.25   0.044 |247.50   0.007 |309.75   0.001
 61.00   1.550 |123.25   0.271 |185.50   0.044 |247.75   0.007 |
 61.25   1.539 |123.50   0.269 |185.75   0.043 |248.00   0.007 |
 61.50   1.528 |123.75   0.267 |186.00   0.043 |248.25   0.007 |
 61.75   1.517 |124.00   0.265 |186.25   0.043 |248.50   0.007 |
 62.00   1.506 |124.25   0.263 |186.50   0.042 |248.75   0.006 |
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--------------------
| ADD HYD   (8188) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22248.87  85.102    13.75    19.05
       + ID2= 2 (8190):  1908.71   7.239     9.75    15.08
         ================================================
         ID = 3 (8188): 24157.57  90.556    13.50    18.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1366.10   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.22

     Unit Hyd Qpeak  (cms)=   5.524

     PEAK FLOW      (cms)=   3.109 (i)
     TIME TO PEAK   (hrs)=  12.000
     RUNOFF VOLUME   (mm)=  15.109
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT  =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (4461) |   Area    (ha)= 108.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      54.45        54.45
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     852.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        25.92
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.27 (ii)   30.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW      (cms)=       5.92         2.40          6.926 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME   (mm)=      60.70        19.96         32.18
     TOTAL RAINFALL  (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT  =       0.97         0.32          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  1.6700      2.9494
                         0.3690     1.4413    |  1.8200      3.3343
                         0.5700     1.6830    |  1.9700      3.7111
                         1.0600     2.1139    |  2.3700      3.7211
                         1.3800     2.4971    |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    108.900      6.926      6.00      32.18
     OUTFLOW: ID= 1 (5446)    108.900      1.087      7.75      32.18

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.69
               TIME SHIFT OF PEAK FLOW        (min)=105.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.1490

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| ADD HYD   (8192) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1366.10   3.109    12.00    15.11
       + ID2= 2 (5446):   108.90   1.087     7.75    32.18
         ================================================
         ID = 3 (8192):  1475.00   3.691    10.25    16.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8194) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 24157.57  90.556    13.50    18.73
       + ID2= 2 (8192):  1475.00   3.691    10.25    16.37
         ================================================
         ID = 3 (8194): 25632.58  93.944    13.50    18.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17
```

```
     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW      (cms)=   0.395 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=   8.373
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.134

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW      (cms)=   1.396 (i)
     TIME TO PEAK   (hrs)=   7.750
     RUNOFF VOLUME   (mm)=  14.536
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW      (cms)=   0.963 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  10.792
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW      (cms)=   1.356 (i)
     TIME TO PEAK   (hrs)=   7.000
     RUNOFF VOLUME   (mm)=  12.334
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW      (cms)=   0.394 (i)
     TIME TO PEAK   (hrs)=   6.500
     RUNOFF VOLUME   (mm)=   9.103
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.394     6.50     9.10
       + ID2= 2 (0436):   187.51   1.356     7.00    12.33
         ================================================
         ID = 3 (8206):   244.15   1.736     6.75    11.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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-------------------
                <------ DATA FOR SECTION (4381.0) ------>
                Distance      Elevation       Manning
                   0.00         256.00        0.0600
                   9.23         255.50        0.0600
                  27.69         255.00        0.0600
                  50.77         254.90        0.0600
                  64.62         254.85        0.0600
                  78.47         252.26        0.0600
                  96.93         249.44        0.0600
                 129.24         245.94        0.0600
                 145.40         245.76        0.0600
                 146.20         245.80    0.0600 /0.0350  Main Channel
                 146.70         245.30        0.0350      Main Channel
                 147.70         245.30        0.0350      Main Channel
                 148.20         245.80    0.0350 /0.0600  Main Channel
                 150.01         245.78        0.0600
                 152.32         245.79        0.0600
                 163.86         246.72        0.0600
                 175.40         249.07        0.0600
                 186.94         253.15        0.0600
                 196.17         255.38        0.0600
                 228.48         255.55        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   245.80    .221E+04       0.9          1.02      40.44
      1.01   246.31    .352E+05      14.0          0.99      41.77
      1.53   246.83    .841E+05      47.3          1.39      29.61
      2.04   247.34    .144E+06     102.0          1.76      23.49
      2.55   247.85    .213E+06     177.3          2.07      19.99
      3.07   248.37    .291E+06     274.4          2.34      17.66
      3.58   248.88    .378E+06     394.6          2.58      15.97
      4.09   249.39    .474E+06     541.4          2.83      14.60
      4.61   249.91    .578E+06     719.9          3.08      13.38
      5.12   250.42    .688E+06     923.8          3.33      12.40
      5.63   250.93    .803E+06    1153.3          3.56      11.61
      6.14   251.44    .925E+06    1408.6          3.77      10.95
      6.66   251.96    .105E+07    1690.6          3.98      10.38
      7.17   252.47    .119E+07    2002.3          4.18       9.88
      7.68   252.98    .133E+07    2345.4          4.38       9.43
      8.20   253.50    .147E+07    2710.1          4.56       9.05
      8.71   254.01    .162E+07    3101.0          4.73       8.72
      9.22   254.52    .178E+07    3521.8          4.90       8.43
      9.74   255.04    .195E+07    3467.6          4.39       9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     1.74    6.75  11.58      0.53      1.02
    OUTFLOW: ID= 1 (6438)  244.15     1.53    7.75  11.58      0.52      1.02


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| ADD HYD   (8208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   0.963     6.75    10.79
       + ID2= 2 (6438):   244.15   1.527     7.75    11.58
         ================================================
         ID = 3 (8208):   374.85   2.355     7.50    11.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   1.396     7.75    14.54
       + ID2= 2 (8208):   374.85   2.355     7.50    11.31
         ================================================
         ID = 3 (8210):   601.20   3.750     7.50    12.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW      (cms)=   0.530 (i)
     TIME TO PEAK   (hrs)=   8.000
     RUNOFF VOLUME   (mm)=  11.676
     TOTAL RAINFALL  (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.186
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0430)	Area	(ha)= 111.64	Curve Number	(CN)= 55.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.52				

Unit Hyd Qpeak (cms)= 3.687

PEAK FLOW (cms)= 1.054 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 12.200
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.195

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0428)	Area	(ha)= 50.53	Curve Number	(CN)= 51.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.50				

Unit Hyd Qpeak (cms)= 1.725

PEAK FLOW (cms)= 0.428 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 10.720
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.171

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0426)	Area	(ha)= 247.17	Curve Number	(CN)= 61.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.98				

Unit Hyd Qpeak (cms)= 4.315

PEAK FLOW (cms)= 1.733 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 14.967
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.239

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0424)	Area	(ha)= 49.57	Curve Number	(CN)= 59.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.37				

Unit Hyd Qpeak (cms)= 2.293

PEAK FLOW (cms)= 0.670 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.586
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.217

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8198)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0424):	49.57	0.670	6.50	13.59
+ ID2= 2 (0426):	247.17	1.733	7.25	14.97
ID = 3 (8198):	296.74	2.260	6.75	14.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4281.0) ------>

Distance	Elevation	Manning
0.00	246.54	0.0900
8.80	246.29	0.0900
30.78	246.03	0.0900
41.78	243.97	0.0900
63.77	237.16	0.0900
85.76	232.53	0.0900
96.75	230.16	0.0900
109.94	228.40	0.0900
112.14	228.28	0.0900 /0.0450 Main Channel
112.84	228.00	0.0450 Main Channel
113.34	227.50	0.0450 Main Channel
114.34	227.50	0.0450 Main Channel
114.84	228.00	0.0450 Main Channel
116.54	228.29	0.0450 /0.0900 Main Channel
118.74	228.40	0.0900
120.94	228.52	0.0900
149.52	229.51	0.0900
169.31	230.69	0.0900
186.00	234.27	0.0900
217.69	243.56	0.0900

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	228.28	.205E+04	1.6	0.97	21.60
1.58	229.08	.202E+05	16.6	1.02	20.37
2.39	229.89	.665E+05	64.8	1.22	17.11
3.19	230.69	.133E+06	158.1	1.49	14.05
4.00	231.50	.213E+06	308.6	1.82	11.48
4.80	232.30	.299E+06	504.9	2.11	9.89
5.61	233.11	.394E+06	746.6	2.37	8.79
6.41	233.91	.496E+06	1034.5	2.61	7.99
7.21	234.71	.605E+06	1373.3	2.84	7.35
8.02	235.52	.722E+06	1763.3	3.06	6.82
8.82	236.32	.844E+06	2202.0	3.27	6.39
9.63	237.13	.974E+06	2690.5	3.46	6.03
10.43	237.93	.111E+07	3239.5	3.66	5.71
11.23	238.73	.125E+07	3839.0	3.84	5.43
12.04	239.54	.140E+07	4489.1	4.03	5.18
12.84	240.34	.155E+07	5190.5	4.20	4.97
13.65	241.15	.170E+07	5943.8	4.36	4.78
14.45	241.95	.187E+07	6749.8	4.53	4.61
15.26	242.76	.204E+07	7609.4	4.68	4.46

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8198)	296.74	2.26	6.75	14.74	0.82	0.97
OUTFLOW:	ID= 1 (6428)	296.74	2.17	7.25	14.74	0.81	0.97

ADD HYD (8200)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0428):	50.53	0.428	6.50	10.72
+ ID2= 2 (6428):	296.74	2.171	7.25	14.74
ID = 3 (8200):	347.27	2.537	7.25	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8202)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0430):	111.64	1.054	6.50	12.20
+ ID2= 2 (8200):	347.27	2.537	7.25	14.15
ID = 3 (8202):	458.91	3.490	7.00	13.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6432)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4321.0) ------>

Distance	Elevation	Manning
0.00	221.00	0.0600
15.29	219.85	0.0600
45.86	219.86	0.0600
76.44	219.96	0.0600
110.84	220.23	0.0600
112.00	220.15	0.0600
114.66	220.09	0.0600
118.48	219.73	0.0600
120.80	219.70	0.0600 /0.0350 Main Channel
121.30	219.20	0.0350 Main Channel
122.30	219.20	0.0350 Main Channel
122.80	219.70	0.0350 /0.0600 Main Channel
129.95	220.11	0.0600
175.81	220.24	0.0600
214.03	220.55	0.0600
252.25	220.61	0.0600

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              290.47        220.70        0.0600
              328.69        221.04        0.0600
              347.80        221.08        0.0600
              378.37        221.04        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.08   219.28    .185E+03        0.0         0.23     149.38
        0.17   219.37    .399E+03        0.1         0.34     100.62
        0.25   219.45    .641E+03        0.1         0.42      80.98
        0.33   219.53    .911E+03        0.2         0.49      69.79
        0.42   219.62    .121E+04        0.3         0.55      62.35
        0.50   219.70    .154E+04        0.5         0.60      56.91
        0.61   219.81    .267E+04        0.7         0.56      61.28
        0.71   219.91    .901E+04        1.3         0.30     112.96
        0.82   220.02    .249E+05        3.4         0.28     122.71
        0.92   220.12    .452E+05        6.8         0.31     109.98
        1.03   220.23    .747E+05       12.2         0.33     102.05
        1.14   220.34    .112E+06       21.3         0.39      87.59
        1.24   220.44    .153E+06       33.0         0.44      77.01
        1.35   220.55    .196E+06       47.2         0.49      69.22
        1.46   220.66    .248E+06       62.3         0.51      66.48
        1.56   220.76    .310E+06       83.4         0.55      62.06
        1.67   220.87    .376E+06      108.8         0.59      57.56
        1.77   220.97    .444E+06      137.7         0.64      53.77
        1.88   221.08    .517E+06      163.6         0.65      52.70

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     3.49    7.00  13.68      0.82      0.28
     OUTFLOW: ID= 1 (6432)  458.91     2.33    9.25  13.68      0.76      0.29


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| ADD HYD   (8204) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.530     8.00    11.68
       + ID2= 2 (6432):   458.91   2.333     9.25    13.68
         ================================================
         ID = 3 (8204):   573.12   2.816     9.00    13.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8212) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   2.816     9.00    13.28
       + ID2= 2 (8210):   601.20   3.750     7.50    12.52
         ================================================
         ID = 3 (8212):  1174.32   6.240     8.00    12.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation       Manning
                 0.00         221.00        0.0350
                26.73         220.80        0.0350
                53.47         220.60        0.0350
                66.83         220.40        0.0350
                80.20         220.20        0.0350
               347.52         220.00        0.0350
               354.21         219.59        0.0350
               360.89         219.50        0.0350
               367.57         219.08        0.0350
               368.76         219.00    0.0350 /0.0300  Main Channel
               369.26         218.50        0.0300      Main Channel
               374.26         218.50        0.0300      Main Channel
               374.76         219.00    0.0300 /0.0350  Main Channel
               380.94         220.33        0.0350
               387.62         219.62        0.0350
               394.31         219.23        0.0350
               454.45         219.07        0.0350
               514.60         219.09        0.0350
               660.00         219.19        0.0350
               661.63         221.00        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.12   218.62    .100E+04        0.2         0.28      92.89
        0.25   218.75    .205E+04        0.6         0.43      60.09
        0.37   218.87    .315E+04        1.1         0.55      46.99
        0.50   219.00    .430E+04        1.8         0.66      39.67
        0.63   219.13    .141E+05        3.4         0.37      69.99
        0.77   219.27    .652E+05       13.7         0.33      79.14
        0.90   219.40    .124E+06       35.5         0.45      58.02
        1.03   219.53    .183E+06       65.7         0.56      46.45
        1.17   219.67    .245E+06      103.8         0.66      39.30
        1.30   219.80    .307E+06      149.3         0.76      34.30
        1.43   219.93    .371E+06      201.6         0.85      30.65
        1.57   220.07    .440E+06      256.5         0.91      28.56
        1.70   220.20    .541E+06      325.7         0.94      27.70
        1.83   220.33    .663E+06      415.2         0.98      26.62
        1.97   220.47    .787E+06      520.3         1.03      25.21
        2.10   220.60    .913E+06      638.5         1.09      23.82
        2.23   220.73    .104E+07      767.2         1.15      22.62
        2.37   220.87    .117E+07      908.0         1.21      21.54
        2.50   221.00    .131E+07     1060.7         1.27      20.57

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32     6.24    8.00  12.89      0.67      0.36
     OUTFLOW: ID= 1 (6442) 1174.32     5.46    9.50  12.89      0.66      0.36


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| ADD HYD   (8214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.395     8.00     8.37
       + ID2= 2 (6442):  1174.32   5.460     9.50    12.89
         ================================================
         ID = 3 (8214):  1291.58   5.802     9.50    12.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8196) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 25632.58  93.944    13.50    18.60
       + ID2= 2 (8214):  1291.58   5.802     9.50    12.48
         ================================================
         ID = 3 (8196): 26924.15  97.761    13.25    18.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   1.266 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.815
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.204

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   1.266     7.50    12.82
       + ID2= 2 (8196): 26924.15  97.761    13.25    18.30
         ================================================
         ID = 3 (8216): 27145.80  98.177    13.25    18.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
================================================================================================================
```

EXISTING
EAST HOLLAND RIVER 25-YEAR STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO               Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\b43ea7bc-a90f-4b93-818e-3b13e8d86fb7\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\b43ea7bc-a90f-4b93-818e-3b13e8d86fb7\Scenario.sum

DATE: 08/22/2012                          TIME: 01:27:52

USER:

COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************

-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              b43ea7bc-a90f-4b93-818e-3b13e8d86fb7\4619ab72
| Ptotal= 73.10 mm |    Comments: 25-Year 12-Hour SCS II Design Storm
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.25     1.83 |  3.25     2.92 |  6.25    13.16 |  9.25     2.56
                0.50     1.83 |  3.50     2.92 |  6.50    13.16 |  9.50     2.56
                0.75     1.83 |  3.75     2.92 |  6.75     5.85 |  9.75     2.56
                1.00     1.83 |  4.00     2.92 |  7.00     5.85 | 10.00     2.56
                1.25     1.83 |  4.25     4.39 |  7.25     4.39 | 10.25     1.46
                1.50     1.83 |  4.50     4.39 |  7.50     4.39 | 10.50     1.46
                1.75     1.83 |  4.75     5.85 |  7.75     4.39 | 10.75     1.46
                2.00     1.83 |  5.00     5.85 |  8.00     4.39 | 11.00     1.46
                2.25     2.19 |  5.25     8.77 |  8.25     2.56 | 11.25     1.46
                2.50     2.19 |  5.50     8.77 |  8.50     2.56 | 11.50     1.46
                2.75     2.19 |  5.75    35.09 |  8.75     2.56 | 11.75     1.46
                3.00     2.19 |  6.00    96.49 |  9.00     2.56 | 12.00     1.46

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-------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       91.70         66.40
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1026.65         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49        100.04
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      12.90 (ii)    23.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.84          8.74          15.535 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         38.86          48.53
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.53           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      110.64        165.96
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1357.94         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49         69.46
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      15.26 (ii)    27.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.26         13.91          20.119 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         34.15          41.91
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.47           0.57

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |  6.0870     6.1196
                         0.3730     3.2753   |  7.7230     7.0042
                         1.3370     3.4678   |  9.3080     7.8876
                         2.9800     4.4433   |  9.7080     7.8976
                         4.4520     5.2716   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    276.600     20.119      6.00      41.91
     OUTFLOW: ID= 1 (5166)    276.600      6.179      7.00      41.90

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.71
               TIME SHIFT OF PEAK FLOW          (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  6.1963

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-------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10  15.535     6.00    48.53
        + ID2= 2 (5166):   276.60   6.179     7.00    41.90
          ================================================
          ID = 3 (8134):   434.70  15.830     6.00    44.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       26.50        106.00
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      939.86         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49         47.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      12.24 (ii)    26.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.21          6.14           8.047 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         28.99          35.31
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.40           0.48
```

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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19        30.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     823.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        91.81
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.30 (ii)   22.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      11.51         3.77        13.957 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        37.18         54.82
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.51          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.6100      4.1638
                          0.3440     1.7056   |   8.2090      4.5053
                          3.1340     1.9730   |   8.8070      4.8468
                          4.1310     3.0607   |   9.2070      4.8568
                          5.1070     3.7142   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700     13.957      6.00      54.82
     OUTFLOW: ID= 1 (5164)    101.700      3.941      6.75      54.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.23
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.8909

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1642):   132.50   8.047     6.00    35.31
      + ID2= 2 (5164):   101.70   3.941     6.75    54.80
        ================================================
        ID = 3 (8132):   234.20  11.570     6.25    43.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   2.316 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.664
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   2.227 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.002
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.731
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   0.972 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.816
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.080

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.251 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.463
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.047

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0148):   417.89   0.972     8.00     5.82
      + ID2= 2 (0150):   105.88   0.251     6.75     3.46
        ================================================
        ID = 3 (8116):   523.77   1.179     7.50     5.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1521.0) ------>
                Distance      Elevation        Manning
                    0.00         290.00         0.0500
                   15.34         286.87         0.0500
                   46.03         284.84         0.0500
                   88.22         283.07         0.0500
                  126.57         282.11         0.0500
                  153.42         280.34         0.0500
                  157.26         280.07         0.0500
                  161.09         279.72         0.0500
```

167.76	278.94	0.0500 /0.0300	Main Channel
168.01	278.60	0.0300	Main Channel
168.76	278.60	0.0300	Main Channel
169.51	278.60	0.0300	Main Channel
169.76	278.90	0.0300 /0.0500	Main Channel
173.76	279.40	0.0500	
180.27	279.69	0.0500	
184.11	279.93	0.0500	
218.62	281.86	0.0500	
260.82	283.20	0.0500	
360.54	289.25	0.0500	
379.72	289.80	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	278.90	.114E+04	0.4	0.80	45.70
0.87	279.47	.932E+04	4.2	0.98	37.22
1.45	280.05	.353E+05	17.5	1.09	33.68
2.02	280.62	.831E+05	47.8	1.26	29.01
2.59	281.19	.155E+06	102.9	1.46	25.06
3.17	281.77	.250E+06	189.3	1.66	22.03
3.74	282.34	.375E+06	298.5	1.75	20.91
4.32	282.92	.547E+06	456.5	1.83	19.98
4.89	283.49	.767E+06	705.7	2.02	18.12
5.46	284.06	.102E+07	1038.0	2.24	16.34
6.04	284.64	.130E+07	1444.1	2.45	14.98
6.61	285.21	.161E+07	1940.1	2.66	13.79
7.18	285.78	.194E+07	2522.6	2.86	12.80
7.76	286.36	.229E+07	3187.4	3.06	11.98
8.33	286.93	.267E+07	3942.3	3.25	11.28
8.91	287.51	.306E+07	4824.9	3.46	10.58
9.48	288.08	.347E+07	5795.7	3.67	9.99
10.05	288.65	.390E+07	6855.4	3.86	9.48
10.63	289.23	.434E+07	8005.0	4.05	9.04

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8116)	523.77	1.18	7.50	5.34	0.42	0.83
OUTFLOW: ID= 1 (6152)	523.77	1.11	8.50	5.34	0.40	0.83

ADD HYD (8122)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0152):	124.37	1.174	7.00	18.73
+	ID2= 2 (6152):	523.77	1.107	8.50	5.34
	ID = 3 (8122):	648.14	2.191	8.00	7.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0158)	Area	(ha)= 178.59	Curve Number	(CN)= 61.0
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)= 0.94			

Unit Hyd Qpeak (cms)= 3.230

PEAK FLOW (cms)= 1.724 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 19.897
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.272

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0156)	Area	(ha)= 83.49	Curve Number	(CN)= 45.0
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)= 0.62			

Unit Hyd Qpeak (cms)= 2.306

PEAK FLOW (cms)= 0.666 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 11.996
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.164

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0154)	Area	(ha)= 200.32	Curve Number	(CN)= 37.0
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)= 0.97			

Unit Hyd Qpeak (cms)= 3.537

PEAK FLOW (cms)= 0.852 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 9.165
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.125

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8118)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0154):	200.32	0.852	7.25	9.16
+	ID2= 2 (0156):	83.49	0.666	6.75	12.00
	ID = 3 (8118):	283.81	1.496	7.00	10.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6158)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1581.0) ------>

Distance	Elevation	Manning		
0.00	290.00	0.0400		
19.20	288.88	0.0400		
48.00	288.26	0.0400		
119.99	283.68	0.0400		
167.99	282.07	0.0400		
196.79	281.32	0.0400		
210.79	280.90	0.0400		
219.79	280.38	0.0400 /0.0300	Main Channel	
220.04	279.65	0.0300	Main Channel	
220.79	279.65	0.0300	Main Channel	
221.54	279.65	0.0300	Main Channel	
221.79	280.39	0.0300 /0.0400	Main Channel	
225.79	280.59	0.0400		
235.19	280.88	0.0400		
254.39	281.50	0.0400		
273.58	282.56	0.0400		
302.38	283.42	0.0400		
359.98	284.03	0.0400		
436.77	289.37	0.0400		
475.17	290.37	0.0400		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8118)	283.81	1.50	7.00	10.00	0.73	1.18
OUTFLOW: ID= 1 (6158)	283.81	1.46	7.50	10.00	0.71	1.16

ADD HYD (8120)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0158):	178.59	1.724	7.25	19.90
+	ID2= 2 (6158):	283.81	1.458	7.50	10.00
	ID = 3 (8120):	462.40	3.182	7.25	13.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8124) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8120):   462.40   3.182     7.25    13.82
      + ID2= 2 (8122):   648.14   2.191     8.00     7.91
        ==========================================================
        ID = 3 (8124):  1110.54   5.324     7.50    10.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1601.0) ------>
             Distance      Elevation       Manning
                0.00         261.02        0.0400
               29.89         254.30        0.0400
               40.75         252.58        0.0400
               62.49         251.30        0.0400
              114.11         250.94        0.0400
              130.41         248.58        0.0400
              141.28         247.50        0.0400
              154.86         246.87        0.0400
              155.20         246.70        0.0400
              160.20         246.30    0.0400 /0.0300  Main Channel
              160.30         245.30        0.0300      Main Channel
              165.20         245.30        0.0300      Main Channel
              165.30         246.30    0.0300 /0.0400  Main Channel
              168.45         246.96        0.0400
              195.62         249.20        0.0400
              203.77         250.82        0.0400
              225.50         256.78        0.0400
              244.52         261.14        0.0400
              255.39         261.95        0.0400
              268.97         261.92        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.50   245.80   .120E+05         2.9         1.18      68.31
       1.00   246.30   .242E+05         8.5         1.70      47.47
       1.92   247.22   .825E+05        31.7         1.86      43.34
       2.84   248.14   .248E+06       102.5         2.00      40.39
       3.76   249.06   .506E+06       247.7         2.37      34.03
       4.68   249.98   .832E+06       486.8         2.83      28.49
       5.60   250.90   .121E+07       814.9         3.27      24.71
       6.52   251.82   .180E+07      1157.1         3.11      25.97
       7.44   252.74   .253E+07      1840.2         3.52      22.92
       8.36   253.66   .331E+07      2727.1         3.98      20.25
       9.29   254.59   .414E+07      3782.6         4.43      18.22
      10.21   255.51   .499E+07      5010.7         4.86      16.61
      11.13   256.43   .589E+07      6397.4         5.26      15.33
      12.05   257.35   .681E+07      7932.8         5.64      14.31
      12.97   258.27   .777E+07      9621.2         5.99      13.46
      13.89   259.19   .877E+07     11469.4         6.33      12.74
      14.81   260.11   .980E+07     13478.4         6.66      12.12
      15.73   261.03   .109E+08     15651.7         6.97      11.58
      16.65   261.95   .120E+08     17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8124) 1110.54     5.32    7.50  10.37      0.72      1.36
    OUTFLOW: ID= 1 (6160) 1110.54     4.68    8.75  10.37      0.66      1.31


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| ADD HYD   (8126) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0160):   318.82   2.227     8.00    20.00
      + ID2= 2 (6160):  1110.54   4.684     8.75    10.37
        ==========================================================
        ID = 3 (8126):  1429.36   6.875     8.50    12.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0162):   190.14   2.316     7.00    21.66
      + ID2= 2 (8126):  1429.36   6.875     8.50    12.52
        ==========================================================
        ID = 3 (8128):  1619.50   8.752     8.25    13.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8128):  1619.50   8.752     8.25    13.59
      + ID2= 2 (8132):   234.20  11.570     6.25    43.77
        ==========================================================
        ID = 3 (8130):  1853.70  15.773     6.25    17.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1661.0) ------>
             Distance      Elevation       Manning
                0.00         248.36        0.0500
               41.67         246.98        0.0500
               95.82         244.93        0.0500
              149.98         242.42        0.0500
              191.64         241.88        0.0500
              224.97         239.90        0.0500
              229.13         239.35        0.0500
              233.30         237.77        0.0500
              237.47         236.57        0.0500
              240.63         235.60    0.0500 /0.0300  Main Channel
              241.63         234.10        0.0300      Main Channel
              247.13         234.10        0.0300      Main Channel
              247.53         235.60    0.0300 /0.0500  Main Channel
              254.13         236.25        0.0500
              266.63         236.77        0.0500
              283.29         237.84        0.0500
              291.63         238.89        0.0500
              329.12         244.66        0.0500
              370.78         249.55        0.0500
              412.44         253.17        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.75   234.85   .130E+05         6.0         1.36      36.45
       1.50   235.60   .276E+05        18.1         1.95      25.41
       2.25   236.35   .544E+05        40.0         2.18      22.69
       3.00   237.10   .117E+06        80.1         2.04      24.32
       3.75   237.85   .213E+06       148.9         2.07      23.89
       4.50   238.60   .334E+06       255.1         2.27      21.85
       5.25   239.35   .473E+06       395.8         2.49      19.90
       6.00   240.10   .631E+06       563.8         2.65      18.66
       6.75   240.85   .824E+06       773.2         2.79      17.77
       7.50   241.60   .106E+07      1037.9         2.92      16.97
       8.26   242.36   .135E+07      1326.7         2.92      16.94
       9.01   243.11   .173E+07      1758.5         3.01      16.44
       9.76   243.86   .217E+07      2285.9         3.13      15.81
      10.51   244.61   .265E+07      2909.5         3.26      15.17
      11.26   245.36   .318E+07      3610.1         3.37      14.67
      12.01   246.11   .377E+07      4417.4         3.48      14.21
      12.76   246.86   .441E+07      5348.0         3.60      13.75
      13.51   247.61   .512E+07      6394.0         3.71      13.34
      14.26   248.36   .589E+07      7580.3         3.82      12.95

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8130) 1853.70    15.77    6.25  17.41      1.36      1.80
    OUTFLOW: ID= 1 (6166) 1853.70    13.28    7.25  17.41      1.20      1.66


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| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6166):  1853.70  13.285     7.25    17.41
      + ID2= 2 (8134):   434.70  15.830     6.00    44.31
        ==========================================================
        ID = 3 (8136):  2288.40  24.489     6.50    22.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.48        54.72
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     779.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        65.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.94 (ii)   23.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.82         4.66          7.793 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        33.37         42.42
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.46          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0850     2.2999
                         0.3100     0.9668   |   5.0850     2.6924
                         1.2590     1.1373   |   5.9090     3.1012
                         2.2140     1.5358   |   6.3090     3.1112
                         3.0620     1.8918   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)     91.200     7.793      6.00       42.42
     OUTFLOW: ID= 1 (5202)     91.200     2.867      6.75       42.41

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.78
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.8102

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-------------------
| CALIB           |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     215.06       162.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1585.98        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        84.00
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      16.75 (ii)   28.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      23.85        16.32         34.300 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        35.49         47.60
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.49          0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2022):   377.30  34.300     6.00    47.60
        + ID2= 2 (5202):    91.20   2.867     6.75    42.41
          ================================================
          ID = 3 (8110):   468.50  34.598     6.00    46.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        17.28
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.85 (ii)   39.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.57         9.30         11.959 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10        16.21         21.15
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.22          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   1.955 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  10.287
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0100):   693.84   1.955     9.25     10.29
        + ID2= 2 (0102):   466.00  11.959     6.50     21.15
          ================================================
          ID = 3 (8000):  1159.84  13.215     6.50     14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1041.0) ------>
               Distance      Elevation       Manning
                  0.00         330.16        0.0450
                 50.03         328.36        0.0450
                 89.34         326.33        0.0450
                117.94         324.30        0.0450
                160.82         322.75        0.0450
                178.34         319.96        0.0450
                183.34         319.81        0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78        0.0300      Main Channel
                185.84         318.72        0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70        0.0450
                198.84         320.38        0.0450
                200.13         320.81        0.0450
                218.00         322.49        0.0450
                239.44         323.49        0.0450
                250.17         323.96        0.0450
                275.18         325.20        0.0450
                310.92         326.47        0.0450
                353.81         330.00        0.0450

              <--------------------- TRAVEL TIME TABLE ---------------------->
               DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
                (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
               0.30   319.02    .624E+03        0.1          0.45       73.00
               0.60   319.32    .181E+04        0.6          0.67       49.46
               1.23   319.95    .128E+05        4.9          0.77       43.38
               1.86   320.58    .396E+05       19.1          0.96       34.50
```

2.48	321.20	.757E+05	43.5	1.15	28.98
3.11	321.83	.125E+06	81.2	1.30	25.58
3.74	322.46	.187E+06	135.9	1.45	22.92
4.37	323.09	.269E+06	195.6	1.45	22.90
5.00	323.72	.387E+06	287.8	1.48	22.44
5.63	324.35	.545E+06	428.4	1.56	21.22
6.25	324.97	.735E+06	630.5	1.71	19.42
6.88	325.60	.952E+06	876.1	1.83	18.12
7.51	326.23	.120E+07	1177.0	1.95	17.03
8.14	326.86	.149E+07	1554.4	2.08	15.93
8.77	327.49	.179E+07	2009.7	2.23	14.88
9.40	328.12	.213E+07	2533.9	2.37	13.99
10.02	328.74	.249E+07	3112.6	2.49	13.31
10.65	329.37	.288E+07	3760.9	2.60	12.75
11.28	330.00	.330E+07	4494.8	2.71	12.23

		<---- hydrograph ---->			<-pipe / channel->
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m) (m/s)
INFLOW : ID= 2 (8000)	1159.84	13.22	6.50	14.65	1.59 0.87
OUTFLOW: ID= 1 (6104)	1159.84	9.58	6.75	14.65	1.43 0.82

CALIB			
NASHYD (0104)	Area (ha)=	527.81	Curve Number (CN)= 43.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.34	

Unit Hyd Qpeak (cms)= 6.735

PEAK FLOW (cms)= 2.204 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 11.381
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8002)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	527.81	2.204	8.00	11.38
+ ID2= 2 (6104):	1159.84	9.578	6.75	14.65
ID = 3 (8002):	1687.65	11.468	7.00	13.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0106)	Area (ha)=	259.52	Curve Number (CN)= 55.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.23	

Unit Hyd Qpeak (cms)= 3.614

PEAK FLOW (cms)= 1.709 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 16.681
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.228

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8004)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0106):	259.52	1.709	8.00	16.68
+ ID2= 2 (8002):	1687.65	11.468	7.00	13.63
ID = 3 (8004):	1947.17	13.081	7.00	14.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6108)			
IN= 2---> OUT= 1	Routing time step (min)'= 15.00		

<------ DATA FOR SECTION (1081.0) ------>

Distance	Elevation	Manning
0.00	326.06	0.0400
12.06	325.74	0.0400
30.15	324.28	0.0400
59.27	320.35	0.0400
72.37	317.60	0.0400
87.45	314.52	0.0400
93.48	313.91	0.0400
105.54	313.55	0.0400
106.17	313.40	0.0400 /0.0300 Main Channel
110.62	313.04	0.0300 Main Channel
110.82	312.97	0.0300 Main Channel
111.57	313.08	0.0300 Main Channel
111.67	313.48	0.0300 /0.0400 Main Channel
129.66	316.62	0.0400
150.77	318.95	0.0400
180.92	319.61	0.0400
205.04	321.23	0.0400
232.18	322.09	0.0400
268.37	322.31	0.0400
298.52	326.00	0.0400

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	313.40	.244E+04	0.7	0.59	58.83
1.09	314.06	.214E+05	10.4	1.01	34.24
1.76	314.73	.600E+05	40.2	1.39	24.89
2.42	315.39	.109E+06	92.1	1.75	19.80
3.08	316.05	.169E+06	166.5	2.05	16.88
3.75	316.72	.237E+06	264.4	2.31	14.97
4.41	317.38	.318E+06	386.3	2.52	13.72
5.07	318.04	.411E+06	539.3	2.72	12.71
5.74	318.71	.517E+06	725.5	2.91	11.88
6.40	319.37	.642E+06	909.2	2.94	11.77
7.06	320.03	.806E+06	1179.3	3.04	11.38
7.72	320.69	.989E+06	1515.9	3.18	10.87
8.39	321.36	.119E+07	1895.5	3.30	10.49
9.05	322.02	.143E+07	2310.2	3.36	10.30
9.71	322.68	.172E+07	2763.2	3.33	10.39
10.38	323.35	.205E+07	3477.6	3.53	9.81
11.04	324.01	.238E+07	4284.3	3.73	9.27
11.70	324.67	.274E+07	5154.0	3.91	8.85
12.37	325.34	.311E+07	6104.0	4.08	8.48

		<---- hydrograph ---->			<-pipe / channel->
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m) (m/s)
INFLOW : ID= 2 (8004)	1947.17	13.08	7.00	14.04	1.15 1.04
OUTFLOW: ID= 1 (6108)	1947.17	11.95	7.50	14.04	1.13 1.03

CALIB			
NASHYD (0108)	Area (ha)=	207.05	Curve Number (CN)= 27.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.03	

Unit Hyd Qpeak (cms)= 3.432

PEAK FLOW (cms)= 0.554 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 6.084
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.083

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0108):	207.05	0.554	7.50	6.08
+ ID2= 2 (6108):	1947.17	11.951	7.50	14.04
ID = 3 (8006):	2154.22	12.505	7.50	13.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0110)	Area (ha)=	323.92	Curve Number (CN)= 52.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.35	

Unit Hyd Qpeak (cms)= 4.087

PEAK FLOW (cms)= 1.806 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 15.228
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.208

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0110):   323.92   1.806     8.00    15.23
        + ID2= 2 (8006):  2154.22  12.505     7.50    13.27
          ==================================================
          ID = 3 (8008):  2478.14  14.266     7.50    13.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation        Manning
                   0.00        320.59         0.0400
                  13.48        317.93         0.0400
                  40.45        311.52         0.0400
                  64.04        307.68         0.0400
                  74.15        307.01         0.0400
                  91.00        307.22         0.0400
                 107.86        305.21         0.0400
                 111.23        304.86         0.0400
                 113.32        304.60    0.0400 /0.0300  Main Channel
                 117.77        304.24         0.0300      Main Channel
                 117.97        304.17         0.0300      Main Channel
                 118.72        304.28         0.0300      Main Channel
                 118.82        304.68    0.0300 /0.0400  Main Channel
                 124.71        304.76         0.0400
                 171.90        306.30         0.0400
                 205.60        307.24         0.0400
                 239.31        308.24         0.0400
                 262.90        310.64         0.0400
                 289.86        314.34         0.0400
                 333.68        317.66         0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43   304.60    .372E+04        0.6         0.54      97.65
        1.12   305.29    .463E+05       12.5         0.85      61.89
        1.80   305.97    .149E+06       53.0         1.13      46.85
        2.49   306.66    .311E+06      134.2         1.37      38.62
        3.18   307.35    .554E+06      261.6         1.50      35.27
        3.87   308.04    .894E+06      490.7         1.74      30.37
        4.55   308.72    .129E+07      833.0         2.05      25.75
        5.24   309.41    .171E+07     1269.8         2.36      22.39
        5.93   310.10    .215E+07     1789.0         2.64      20.01
        6.62   310.79    .261E+07     2392.7         2.90      18.21
        7.30   311.47    .310E+07     3087.8         3.16      16.74
        7.99   312.16    .361E+07     3873.6         3.40      15.52
        8.68   312.85    .413E+07     4741.0         3.64      14.52
        9.37   313.54    .467E+07     5689.3         3.86      13.69
       10.05   314.22    .523E+07     6718.4         4.07      12.97
       10.74   314.91    .581E+07     7770.7         4.24      12.46
       11.43   315.60    .641E+07     8897.5         4.40      12.01
       12.12   316.29    .704E+07    10113.2         4.55      11.61
       12.80   316.97    .770E+07    11420.1         4.70      11.24

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.14    14.27    7.50  13.53      1.15      0.86
     OUTFLOW: ID= 1 (6112) 2478.14    12.19    8.75  13.53      1.10      0.84

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| CALIB            |
| NASHYD    (0112) |   Area    (ha)= 414.89   Curve Number   (CN)= 30.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   3.699

     PEAK FLOW       (cms)=   0.801 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   6.991
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.096

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0112):   414.89   0.801     9.25     6.99
        + ID2= 2 (6112):  2478.14  12.188     8.75    13.53
          ==================================================
          ID = 3 (8010):  2893.03  12.987     8.75    12.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1141.0) ------>
               Distance      Elevation        Manning
                   0.00        312.27         0.0500
                  14.07        309.70         0.0500
                  28.14        306.51         0.0500
                  35.17        305.81         0.0500
                  42.20        304.95         0.0500
                  52.75        304.24         0.0500
                  77.37        303.61         0.0500
                  98.47        301.33         0.0500
                 131.76        300.40    0.0500 /0.0300  Main Channel
                 136.21        300.04         0.0300      Main Channel
                 136.41        299.97         0.0300      Main Channel
                 137.16        300.08         0.0300      Main Channel
                 137.26        300.48    0.0300 /0.0500  Main Channel
                 140.68        300.53         0.0500
                 179.36        302.20         0.0500
                 214.53        303.82         0.0500
                 242.66        305.27         0.0500
                 288.38        307.66         0.0500
                 316.52        311.76         0.0500
                 348.17        313.48         0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.43   300.40    .366E+04        0.7         0.59      88.31
        1.05   301.02    .505E+05       12.1         0.75      69.49
        1.68   301.65    .165E+06       52.7         0.99      52.28
        2.30   302.27    .324E+06      130.3         1.26      41.40
        2.93   302.90    .520E+06      247.1         1.48      35.08
        3.55   303.52    .754E+06      406.8         1.68      30.91
        4.18   304.15    .104E+07      586.1         1.76      29.55
        4.80   304.77    .138E+07      856.0         1.93      26.96
        5.43   305.40    .177E+07     1201.1         2.12      24.56
        6.05   306.02    .219E+07     1612.2         2.30      22.63
        6.68   306.65    .264E+07     2090.6         2.47      21.07
        7.30   307.27    .313E+07     2653.0         2.64      19.65
        7.93   307.90    .364E+07     3303.9         2.83      18.36
        8.55   308.52    .417E+07     4053.9         3.03      17.14
        9.18   309.15    .471E+07     4871.9         3.22      16.12
        9.80   309.77    .527E+07     5756.2         3.41      15.25
       10.43   310.40    .584E+07     6699.8         3.58      14.52
       11.05   311.02    .642E+07     7710.5         3.74      13.89
       11.68   311.65    .702E+07     8788.5         3.90      13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.03    12.99    8.75  12.59      1.07      0.75
     OUTFLOW: ID= 1 (6114) 2893.03    11.07   10.00  12.59      1.00      0.73

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| CALIB            |
| NASHYD    (0114) |   Area    (ha)= 287.65   Curve Number   (CN)= 49.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.389

     PEAK FLOW       (cms)=   1.670 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  13.829
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0114):   287.65   1.670     7.75    13.83
        + ID2= 2 (6114):  2893.03  11.071    10.00    12.59
          ==================================================
          ID = 3 (8012):  3180.68  12.416     9.75    12.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
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| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   2.488 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.671
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0116):   206.43   2.488     7.00    21.67
      + ID2= 2 (8012):  3180.68  12.416     9.75    12.70
        ==========================================
        ID = 3 (8014):  3387.11  13.907     9.50    13.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1181.0) ------>
             Distance       Elevation       Manning
                0.00          307.18        0.0450
               24.89          299.75        0.0450
               37.34          296.39        0.0450
               71.57          292.75        0.0450
               96.46          291.12        0.0450
              108.90          289.43        0.0450
              112.02          288.86        0.0450
              115.13          288.46        0.0450
              117.24          288.32    0.0450 /0.0350  Main Channel
              117.49          288.15        0.0350      Main Channel
              118.24          288.00        0.0350      Main Channel
              118.99          288.20        0.0350      Main Channel
              119.24          288.36    0.0350 /0.0450  Main Channel
              121.35          288.40        0.0450
              149.35          289.36        0.0450
              171.14          290.47        0.0450
              208.47          293.14        0.0450
              236.48          295.17        0.0450
              280.04          299.48        0.0450
              308.04          307.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.32  288.32    .116E+04        0.2         0.62      81.92
        1.30  289.30    .631E+05       22.2         1.07      47.43
        2.29  290.29    .218E+06      117.5         1.64      30.95
        3.27  291.27    .448E+06      314.6         2.15      23.72
        4.25  292.25    .756E+06      625.6         2.53      20.13
        5.24  293.24    .115E+07     1093.2         2.91      17.50
        6.22  294.22    .161E+07     1731.6         3.28      15.50
        7.20  295.20    .214E+07     2547.4         3.63      14.01
        8.19  296.19    .274E+07     3584.9         4.00      12.72
        9.17  297.17    .338E+07     4859.1         4.39      11.60
       10.15  298.15    .407E+07     6341.5         4.76      10.70
       11.13  299.13    .480E+07     8024.6         5.11       9.97
       12.12  300.12    .556E+07    10006.6         5.49       9.27
       13.10  301.10    .635E+07    12244.6         5.89       8.64
       14.08  302.08    .716E+07    14681.7         6.26       8.13
       15.07  303.07    .799E+07    17316.5         6.62       7.69
       16.05  304.05    .884E+07    20148.1         6.96       7.31
       17.03  305.03    .971E+07    23176.2         7.29       6.98
       18.02  306.02    .106E+08    26400.8         7.61       6.69

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11    13.91    9.50  13.25      0.93      0.84
     OUTFLOW: ID= 1 (6118) 3387.11    13.02   10.50  13.25      0.89      0.82


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-------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=   1.732 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.145
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8016) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0118):   340.53   1.732     7.75    12.15
      + ID2= 2 (6118):  3387.11  13.020    10.50    13.25
        ==========================================
        ID = 3 (8016):  3727.64  14.262    10.50    13.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1221.0) ------>
             Distance       Elevation       Manning
                0.00          277.00        0.0500
               52.18          272.82        0.0500
               86.97          269.38        0.0500
              134.80          267.35        0.0500
              160.89          263.85        0.0500
              169.58          262.88        0.0500
              178.28          262.45        0.0500
              195.67          262.07        0.0500
              213.07          260.99        0.0500
              226.01          259.80    0.0500 /0.0300  Main Channel
              226.11          259.30        0.0300      Main Channel
              230.11          259.30        0.0300      Main Channel
              230.21          259.80    0.0300 /0.0500  Main Channel
              235.01          260.20        0.0500
              239.15          260.57        0.0500
              243.50          260.93        0.0500
              300.03          264.43        0.0500
              339.16          268.34        0.0500
              373.95          272.36        0.0500
              430.48          277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50  259.80    .626E+04        2.5         1.23      41.35
        1.41  260.71    .462E+05       21.8         1.44      35.27
        2.31  261.61    .149E+06       79.6         1.63      31.19
        3.22  262.52    .340E+06      200.1         1.80      28.34
        4.12  263.42    .636E+06      446.8         2.15      23.71
        5.03  264.33    .995E+06      819.9         2.52      20.23
        5.93  265.23    .141E+07     1337.0         2.90      17.56
        6.84  266.14    .187E+07     1984.8         3.25      15.67
        7.74  267.04    .237E+07     2766.0         3.57      14.26
        8.65  267.95    .292E+07     3596.9         3.76      13.53
        9.55  268.85    .355E+07     4575.4         3.93      12.95
       10.46  269.76    .427E+07     5814.9         4.16      12.23
       11.36  270.66    .503E+07     7319.0         4.44      11.46
       12.27  271.57    .584E+07     9009.7         4.71      10.81
       13.17  272.47    .670E+07    10886.3         4.96      10.26
       14.08  273.38    .761E+07    12893.2         5.17       9.84
       14.98  274.28    .858E+07    15098.1         5.37       9.48
       15.89  275.19    .961E+07    17527.6         5.57       9.14
       16.79  276.09    .107E+08    20190.3         5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    14.26   10.50  13.15      1.05      1.35
     OUTFLOW: ID= 1 (6122) 3727.64    13.91   11.25  13.15      1.03      1.35


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1221) |   Area    (ha)=  17.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.37        11.33
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    343.51        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        12.10
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      6.69 (ii)   31.59 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
```

```
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.84         0.23          0.931 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10        10.82         22.27
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.15          0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  35.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1840     0.4294
                          0.0600     0.1855   |   1.4870     0.5014
                          0.3430     0.2103   |   1.7310     0.5718
                          0.6390     0.2878   |   2.1310     0.5818
                          0.8860     0.3509   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)     17.700     0.931      6.00      22.27
     OUTFLOW: ID= 1 (5122)     17.700     0.257      6.75      22.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.65
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2033

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1222) |   Area    (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   1.222 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  10.637
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   347.20   1.222    8.25    10.64
       + ID2= 2 (5122):    17.70   0.257    6.75    22.23
         ================================================
         ID = 3 (8018):   364.90   1.332    8.00    11.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  13.910    11.25    13.15
       + ID2= 2 (8018):   364.90   1.332     8.00    11.20
         ================================================
         ID = 3 (8020):  4092.54  14.980    11.00    12.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.00         32.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     577.35         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         16.03
           over (min)            15.00         45.00
     Storage Coeff.  (min)=       9.14 (ii)    31.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.02          0.87          3.373 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         15.42         29.90
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.21          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  48.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3450     1.2129
                          0.1690     0.5421   |   4.2000     1.4164
                          0.9690     0.5941   |   4.8890     1.6153
                          1.8040     0.8130   |   5.2890     1.6253
                          2.5020     0.9912   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.000     3.373      6.00      29.90
     OUTFLOW: ID= 1 (5126)     50.000     1.170      6.75      29.88

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.68
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6561

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   1.091 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.964
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.50   1.091     6.50    17.96
       + ID2= 2 (5126):    50.00   1.170     6.75    29.88
         ================================================
         ID = 3 (8024):   133.50   2.253     6.75    22.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.047 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  11.142
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   1.047     6.50    11.14
```

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       + ID2= 2 (8024):   133.50   2.253     6.75    22.43
         ================================================
         ID = 3 (8026):   254.93   3.295     6.50    17.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                   0.00         270.58        0.0400
                   7.71         270.36        0.0400
                  15.43         269.48        0.0400
                  23.14         265.88        0.0400
                  42.43         261.83        0.0400
                  61.71         258.31        0.0400
                  75.21         256.62        0.0400
                  90.64         255.35        0.0400
                  92.49         255.00   0.0400 /0.0300  Main Channel
                  93.49         254.00      0.0300       Main Channel
                  94.49         253.90      0.0300       Main Channel
                  94.99         253.80      0.0300       Main Channel
                  95.49         253.70      0.0300       Main Channel
                  95.99         253.80      0.0300       Main Channel
                  98.49         255.00   0.0300 /0.0400  Main Channel
                 100.28         255.44      0.0400
                 134.99         257.45      0.0400
                 148.49         259.67      0.0400
                 167.77         263.42      0.0400
                 190.92         270.00      0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.65   254.35    .439E+04         2.0          1.24      36.10
        1.30   255.00    .131E+05         9.4          1.92      23.39
        2.18   255.88    .433E+05        37.0          2.30      19.54
        3.06   256.76    .131E+06       113.3          2.34      19.20
        3.95   257.65    .273E+06       273.8          2.70      16.64
        4.83   258.53    .453E+06       538.5          3.21      14.01
        5.71   259.41    .658E+06       902.9          3.70      12.14
        6.59   260.29    .886E+06      1368.4          4.16      10.79
        7.48   261.18    .114E+07      1936.3          4.59       9.79
        8.36   262.06    .141E+07      2610.9          4.99       9.01
        9.24   262.94    .171E+07      3398.7          5.37       8.36
       10.12   263.82    .202E+07      4309.6          5.75       7.81
       11.01   264.71    .235E+07      5347.5          6.13       7.33
       11.89   265.59    .270E+07      6501.0          6.48       6.93
       12.77   266.47    .307E+07      7808.6          6.86       6.55
       13.65   267.35    .345E+07      9250.5          7.23       6.21
       14.54   268.24    .384E+07     10808.3          7.59       5.92
       15.42   269.12    .424E+07     12482.5          7.94       5.66
       16.30   270.00    .466E+07     14127.4          8.18       5.49

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.93     3.30    6.50  17.05      0.76      1.33
     OUTFLOW: ID= 1 (6128)  254.93     2.77    7.25  17.05      0.72      1.29


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-------------------
| CALIB             |
| NASHYD    (0128) |   Area     (ha)= 240.24   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   2.294 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  20.511
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   240.24   2.294     7.25    20.51
       + ID2= 2 (6128):   254.93   2.775     7.25    17.05
         ================================================
         ID = 3 (8028):   495.17   5.069     7.25    18.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.54  14.980    11.00    12.97
       + ID2= 2 (8028):   495.17   5.069     7.25    18.73
         ================================================
         ID = 3 (8022):  4587.71  17.172    10.75    13.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         21.39
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.75 (ii)    30.57 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.66          2.01          3.494 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         17.56         25.05
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT    =      0.97          0.24          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7530      2.0863
                         0.2910     0.9015   |   7.2230      2.4361
                         1.6660     1.0219   |   8.4090      2.7784
                         3.1030     1.3984   |   8.8090      2.7884
                         4.3040     1.7049   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)     86.000      3.494      6.00       25.05
     OUTFLOW: ID= 1 (5120)     86.000      1.620      7.00       25.04

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.35
               TIME SHIFT OF PEAK FLOW       (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.0260

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-------------------
| CALIB             |
| NASHYD    (1202) |   Area     (ha)= 161.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=   1.784 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.082
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):   161.00   1.784     6.75    18.08
       + ID2= 2 (5120):    86.00   1.620     7.00    25.04
         ================================================
         ID = 3 (8030):   247.00   3.397     7.00    20.51
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8032)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8022):	4587.71	17.172	10.75	13.60
	+ ID2= 2 (8030):	247.00	3.397	7.00	20.51
	ID = 3 (8032):	4834.71	18.167	10.50	13.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6130) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1301.0) ------>

Distance	Elevation	Manning	
0.00	257.18	0.0350	
62.45	254.70	0.0350	
109.29	252.74	0.0350	
150.92	251.55	0.0350	
192.56	248.96	0.0350	
239.39	247.16	0.0350	
291.84	246.00	0.0350	
296.84	245.00	0.0350	
298.84	245.00	0.0350 /0.0300	Main Channel
299.24	244.60	0.0300	Main Channel
301.84	244.60	0.0300	Main Channel
303.44	244.60	0.0300	Main Channel
303.84	245.00	0.0300 /0.0350	Main Channel
306.84	245.00	0.0350	
309.84	246.00	0.0350	
317.46	247.22	0.0350	
348.68	254.83	0.0350	
359.09	256.70	0.0350	
452.76	258.23	0.0350	
515.22	258.33	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	245.00	.870E+04	1.2	0.64	124.12
1.04	245.64	.468E+05	9.5	0.96	81.81
1.68	246.28	.109E+06	25.6	1.11	70.86
2.32	246.92	.257E+06	63.5	1.17	67.51
2.96	247.56	.498E+06	142.7	1.36	58.18
3.61	248.21	.800E+06	266.7	1.58	50.01
4.25	248.85	.116E+07	437.4	1.78	44.24
4.89	249.49	.157E+07	669.1	2.01	39.20
5.53	250.13	.203E+07	954.9	2.23	35.36
6.17	250.77	.252E+07	1294.4	2.43	32.42
6.81	251.41	.305E+07	1689.6	2.62	30.07
7.45	252.05	.363E+07	2090.7	2.73	28.93
8.09	252.69	.429E+07	2553.1	2.82	27.98
8.73	253.33	.501E+07	3138.4	2.96	26.60
9.37	253.97	.579E+07	3803.8	3.11	25.36
10.02	254.62	.662E+07	4549.3	3.25	24.25
10.66	255.26	.751E+07	5364.9	3.38	23.32
11.30	255.90	.845E+07	6265.7	3.51	22.49
11.94	256.54	.946E+07	7260.1	3.63	21.72

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8032)		4834.71	18.17	10.50	13.95	1.39	1.04
OUTFLOW: ID= 1 (6130)		4834.71	17.13	11.75	13.95	1.34	1.03

CALIB | STANDHYD (1301) | ID= 1 DT=15.0 min | Area (ha)= 228.30 | Total Imp(%)= 65.00 | Dir. Conn.(%)= 47.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	148.39	79.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1233.69	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	88.64
over (min)		15.00	30.00
Storage Coeff. (min)=		14.41 (ii)	25.63 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.07	0.04

		TOTALS
PEAK FLOW	(cms)=	21.31 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	71.10
TOTAL RAINFALL	(mm)=	73.10
RUNOFF COEFFICIENT	=	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5130) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	12.4560	7.0142
0.8210	3.9074	14.9550	7.8554
4.8550	4.4209	22.4790	8.9550
7.0620	5.2214	22.8790	8.9650
9.5970	6.0904	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1301)		228.300	27.086	6.00	53.47
OUTFLOW: ID= 1 (5130)		228.300	9.558	6.75	53.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.29
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 6.1509

CALIB | NASHYD (1302) | ID= 1 DT=15.0 min | Area (ha)= 157.80 | Curve Number (CN)= 76.0 | Ia (mm)= 5.00 | # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 1.82

Unit Hyd Qpeak (cms)= 1.479

		TOTALS
PEAK FLOW	(cms)=	1.453 (i)
TIME TO PEAK	(hrs)=	8.500
RUNOFF VOLUME	(mm)=	31.139
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.426

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8036)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1302):	157.80	1.453	8.50	31.14
	+ ID2= 2 (5130):	228.30	9.558	6.75	53.47
	ID = 3 (8036):	386.10	10.705	6.75	44.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8034)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6130):	4834.71	17.128	11.75	13.95
	+ ID2= 2 (8036):	386.10	10.705	6.75	44.34
	ID = 3 (8034):	5220.81	19.200	11.50	16.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0188) | ID= 1 DT=15.0 min | Area (ha)= 308.53 | Total Imp(%)= 41.00 | Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	126.50	182.03
Dep. Storage	(mm)=	3.00	5.00
Average Slope	(%)=	0.10	0.10
Length	(m)=	1434.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		65.79	27.07
over (min)		30.00	60.00
Storage Coeff. (min)=		29.79 (ii)	59.03 (ii)
Unit Hyd. Tpeak (min)=		30.00	60.00
Unit Hyd. peak (cms)=		0.04	0.02

TOTALS

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     PEAK FLOW      (cms)=       9.28         5.52         12.324 (iii)
     TIME TO PEAK   (hrs)=       6.25         6.75           6.25
     RUNOFF VOLUME   (mm)=      70.10        23.00          34.77
     TOTAL RAINFALL  (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT  =       0.96         0.31           0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length             (m)=    1531.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      65.79        19.07
               over (min)        30.00        75.00
     Storage Coeff.  (min)=      30.98 (ii)   64.62 (ii)
     Unit Hyd. Tpeak (min)=      30.00        75.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       9.14         5.23         11.435 (iii)
     TIME TO PEAK   (hrs)=       6.25         7.00          6.25
     RUNOFF VOLUME   (mm)=      70.10        20.32         31.27
     TOTAL RAINFALL  (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT  =       0.96         0.28          0.43


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0186):   351.79  11.435     6.25    31.27
      + ID2= 2 (0188):   308.53  12.324     6.25    34.77
        ================================================
        ID = 3 (8068):   660.32  23.759     6.25    32.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length             (m)=     863.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        25.60
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.63 (ii)   30.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW      (cms)=       4.10         2.95          5.324 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME   (mm)=      71.10        20.20         28.86
     TOTAL RAINFALL  (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT  =       0.97         0.28          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7800      2.5656
                         0.3790     1.0207   |   7.3720      3.0829
                         1.6240     1.1939   |   8.7710      3.5956
                         3.0930     1.6631   |   9.1710      3.6056
                         4.3530     2.1032   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     5.324      6.00      28.86
     OUTFLOW: ID= 1 (5182)    111.800     2.297      7.00      28.85

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.14
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.4169

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| CALIB
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.437 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.596
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1822):    44.40   0.437     7.00    17.60
      + ID2= 2 (5182):   111.80   2.297     7.00    28.85
        ================================================
        ID = 3 (8062):   156.20   2.734     7.00    25.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length             (m)=     981.16        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        58.10
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.56 (ii)   25.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW      (cms)=       5.75         5.41          9.137 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME   (mm)=      71.10        24.67         33.49
     TOTAL RAINFALL  (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT  =       0.97         0.34          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.8820      2.3298
                         0.2960     1.0006   |   7.4070      2.7386
                         1.6530     1.1680   |   8.6830      3.1418
                         3.0860     1.4687   |   9.0830      3.1518
                         4.3760     1.8752   |   0.0000      0.0000
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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    144.400     9.137     6.00      33.49
     OUTFLOW: ID= 1 (5184)    144.400     4.419     6.75      33.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.37
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.9212

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| CALIB             |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.60         68.50
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     887.32         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         50.05
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.82 (ii)    25.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.30          4.24          6.940 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         23.17         31.32
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.32          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8060) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1842):   118.10   6.940     6.00    31.32
      + ID2= 2 (5184):   144.40   4.419     6.75    33.48
        ================================================
        ID = 3 (8060):   262.50   9.608     6.25    32.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8064) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8060):   262.50   9.608     6.25    32.51
      + ID2= 2 (8062):   156.20   2.734     7.00    25.65
        ================================================
        ID = 3 (8064):   418.70  10.813     6.50    29.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.00          7.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     305.51         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         82.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.24 (ii)    17.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.06          0.86          1.624 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         38.12         48.01
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.52          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.9360      0.3780
                         0.0470     0.1841   |   1.1760      0.4277
                         0.2710     0.2148   |   1.3690      0.4763
                         0.5050     0.2704   |   1.7690      0.4863
                         0.7010     0.3197   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)    14.000      1.624      6.00      48.01
     OUTFLOW: ID= 1 (5178)    14.000      0.659      6.50      47.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.60
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3100

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| CALIB             |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=   3.663 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  32.913
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1782):   261.40   3.663     7.50    32.91
      + ID2= 2 (5178):    14.00   0.659     6.50    47.94
        ================================================
        ID = 3 (8046):   275.40   4.111     7.00    33.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (8180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   2.096 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  22.455
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8180):   226.65   2.096     7.75    22.45
      + ID2= 2 (8046):   275.40   4.111     7.00    33.68
        ================================================
        ID = 3 (8050):   502.05   6.156     7.25    28.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         50.36
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.47 (ii)   23.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.33          2.40      3.833 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         26.21      34.29
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.36       0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1370      1.3070
                          0.0580     0.5427   |   1.4280      1.5354
                          0.3290     0.6196   |   1.6620      1.7593
                          0.6130     0.8627   |   2.0620      1.7693
                          0.8510     1.0621   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1741)     56.300     3.833      6.00      34.29
     OUTFLOW: ID= 1 (5174)     56.300     0.866      7.25      34.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.58
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.0796

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--------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.397 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.508
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.363

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1742):    82.80   1.397     6.75    26.51
        + ID2= 2 (5174):    56.30   0.866     7.25    34.25
          ==========================================
          ID = 3 (8044):   139.10   2.246     7.00    29.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   3.482 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  32.785
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.448

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   2.144 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  15.089
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.075 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.317
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0168):   247.13   2.144     7.00    15.09
        + ID2= 2 (0170):   166.91   2.075     7.00    22.32
          ==========================================
          ID = 3 (8040):   414.04   4.218     7.00    18.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0172):   202.23   3.482     7.00    32.79
        + ID2= 2 (8040):   414.04   4.218     7.00    18.00
          ==========================================
          ID = 3 (8042):   616.27   7.700     7.00    22.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1741.0) ------>
               Distance      Elevation        Manning
                  0.00         296.00         0.0450
                 13.36         288.94         0.0450
                 26.71         288.64         0.0450
                 51.19         287.96         0.0450
                 73.45         287.32         0.0450
                 86.81         286.48         0.0450
                102.39         285.08         0.0450
                110.73         282.76         0.0450
                115.73         281.06    0.0450 /0.0350  Main Channel
                115.74         280.35         0.0350      Main Channel
                120.73         280.35         0.0350      Main Channel
                120.74         281.10    0.0350 /0.0450  Main Channel
                125.74         282.64         0.0450
                135.78         286.87         0.0450
                149.13         289.58         0.0450
                162.49         292.29         0.0450
                175.84         293.95         0.0450
                195.88         295.13         0.0450
                213.68         296.02         0.0450
                220.36         296.09         0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.71   281.06    .136E+05       6.0          1.69      37.89
```

```
      1.50   281.85    .358E+05      22.5          2.42      26.43
      2.28   282.63    .726E+05      53.8          2.85      22.47
      3.07   283.42    .124E+06     104.1          3.24      19.79
      3.86   284.21    .189E+06     176.7          3.60      17.81
      4.64   284.99    .268E+06     274.9          3.94      16.26
      5.43   285.78    .369E+06     390.8          4.07      15.73
      6.21   286.56    .501E+06     551.6          4.23      15.15
      7.00   287.35    .674E+06     750.5          4.28      14.97
      7.79   288.14    .920E+06     993.3          4.15      15.44
      8.57   288.92    .126E+07    1361.5          4.14      15.47
      9.36   289.71    .167E+07    1986.0          4.56      14.04
     10.15   290.50    .210E+07    2739.7          5.02      12.76
     10.93   291.28    .254E+07    3615.0          5.47      11.70
     11.72   292.07    .300E+07    4608.8          5.91      10.83
     12.50   292.85    .347E+07    5693.3          6.30      10.16
     13.29   293.64    .397E+07    6892.9          6.67       9.60
     14.08   294.43    .450E+07    8150.4          6.97       9.19
     14.86   295.21    .506E+07    9525.0          7.23       8.86

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27     7.70    7.00  22.85      0.79      1.74
     OUTFLOW: ID= 1 (6174)  616.27     7.05    7.75  22.85      0.76      1.72


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-------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6174):   616.27   7.054     7.75     22.85
      + ID2= 2 (8044):   139.10   2.246     7.00     29.64
        ================================================
        ID = 3 (8048):   755.37   9.077     7.75     24.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8048):   755.37   9.077     7.75     24.10
      + ID2= 2 (8050):   502.05   6.156     7.25     28.61
        ================================================
        ID = 3 (8052):  1257.42  15.164     7.50     25.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8052):  1257.42  15.164     7.50     25.90
      + ID2= 2 (8064):   418.70  10.813     6.50     29.95
        ================================================
        ID = 3 (8058):  1676.12  23.384     6.75     26.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        24.46
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.00 (ii)   31.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03

                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.69         4.89          5.848 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10        22.04         27.43
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.30          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        64.60
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.07 (ii)   21.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05

                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.38         2.13          3.733 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        26.93         36.20
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.37          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640     1.3175
                         0.1650     0.6418   |   4.0090     1.4908
                         0.9450     0.7489   |   4.7720     1.6604
                         1.7610     0.9426   |   5.1720     1.6704
                         2.4420     1.1144   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800     3.733      6.00      36.20
     OUTFLOW: ID= 1 (5176)     48.800     1.394      6.75      36.18

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.36
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.8625

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-------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1762):   162.00   5.848     6.50     27.43
      + ID2= 2 (5176):    48.80   1.394     6.75     36.18
        ================================================
        ID = 3 (8056):   210.80   7.163     6.50     29.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8056):   210.80   7.163     6.50     29.46
      + ID2= 2 (8058):  1676.12  23.384     6.75     26.91
        ================================================
        ID = 3 (8066):  1886.92  29.803     6.50     27.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8066):  1886.92  29.803     6.50     27.20
      + ID2= 2 (8068):   660.32  23.759     6.25     32.91
        ================================================
        ID = 3 (8070):  2547.24  51.027     6.50     28.68
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6190)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1901.0) ------>

Distance	Elevation	Manning	
0.00	261.34	0.0600	
19.76	261.64	0.0600	
59.28	261.29	0.0600	
79.04	261.09	0.0600	
103.74	255.99	0.0600	
153.13	253.42	0.0600	
192.65	252.78	0.0600	
212.29	249.80	0.0600	
217.29	249.50	0.0600 /0.0350	Main Channel
217.30	249.05	0.0350	Main Channel
222.29	249.05	0.0350	Main Channel
222.30	249.50	0.0350 /0.0600	Main Channel
227.30	249.80	0.0600	
232.17	252.31	0.0600	
276.63	253.53	0.0600	
326.03	256.97	0.0600	
355.67	257.30	0.0600	
400.12	260.08	0.0600	
469.28	261.25	0.0600	
489.04	262.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	249.50	.436E+04	1.0	0.43	75.97
1.07	250.12	.205E+05	5.4	0.51	62.96
1.70	250.75	.451E+05	14.8	0.64	50.78
2.32	251.37	.762E+05	29.2	0.74	43.46
2.94	251.99	.114E+06	49.1	0.84	38.61
3.57	252.62	.161E+06	70.2	0.85	38.18
4.19	253.24	.248E+06	93.4	0.73	44.29
4.81	253.86	.398E+06	154.9	0.76	42.79
5.44	254.49	.576E+06	246.1	0.83	38.99
6.06	255.11	.779E+06	362.7	0.90	35.79
6.68	255.73	.101E+07	506.5	0.98	33.15
7.30	256.35	.126E+07	687.6	1.06	30.52
7.93	256.98	.153E+07	902.8	1.15	28.18
8.55	257.60	.183E+07	1114.3	1.18	27.39
9.17	258.22	.216E+07	1407.8	1.26	25.55
9.80	258.85	.250E+07	1735.4	1.35	24.03
10.42	259.47	.286E+07	2097.5	1.42	22.73
11.04	260.09	.324E+07	2492.3	1.49	21.63
11.67	260.72	.364E+07	2837.8	1.51	21.39

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8070)	2547.24	51.03	6.50	28.68	3.00	0.84
OUTFLOW:	ID= 1 (6190)	2547.24	40.27	7.00	28.68	2.67	0.79

CALIB	
STANDHYD (0190)	Area (ha)= 287.99
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	146.87	141.12
Dep. Storage	(mm)=	3.00	5.00
Average Slope	(%)=	0.10	0.10
Length	(m)=	1385.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		65.79	50.15
over (min)		30.00	60.00
Storage Coeff. (min)=		29.18 (ii)	52.03 (ii)
Unit Hyd. Tpeak (min)=		30.00	60.00
Unit Hyd. peak (cms)=		0.04	0.02

		TOTALS
PEAK FLOW	(cms)=	9.45 8.44 14.281 (iii)
TIME TO PEAK	(hrs)=	6.25 6.75 6.25
RUNOFF VOLUME	(mm)=	70.10 34.90 44.40
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.96 0.48 0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8072)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0190):	287.99	14.281	6.25	44.40
+ ID2= 2 (6190):	2547.24	40.272	7.00	28.68
ID = 3 (8072):	2835.23	52.447	6.75	30.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6192)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1921.0) ------>

Distance	Elevation	Manning	
0.00	264.40	0.0500	
3.64	263.94	0.0500	
14.54	261.05	0.0500	
29.08	256.78	0.0500	
36.36	254.96	0.0500	
50.90	252.20	0.0500	
65.44	249.78	0.0500	
76.35	246.86	0.0500	
77.24	245.90	0.0500	
82.24	245.45	0.0500 /0.0350	Main Channel
82.25	244.90	0.0350	Main Channel
87.25	244.90	0.0350	Main Channel
87.26	245.45	0.0350 /0.0500	Main Channel
94.53	246.89	0.0500	
170.87	247.16	0.0500	
218.13	248.69	0.0500	
265.40	249.22	0.0500	
301.75	250.78	0.0500	
338.11	253.47	0.0500	
359.92	264.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8072)	2835.23	52.45	6.75	30.28	2.49	0.86
OUTFLOW:	ID= 1 (6192)	2835.23	46.40	7.25	30.28	2.34	0.89

CALIB	
STANDHYD (1921)	Area (ha)= 30.70
ID= 1 DT=15.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.74	15.96
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	452.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	49.07
over (min)		15.00	30.00
Storage Coeff. (min)=		7.89 (ii)	22.11 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	1.78 1.05 2.430 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.00
RUNOFF VOLUME	(mm)=	71.10 22.30 34.01
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.31 0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0      Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.0560      0.7051
                         0.1040     0.3429   |   2.5020      0.7960
                         0.5960     0.4035   |   3.2900      0.8880
                         1.1090     0.5056   |   3.6900      0.8980
                         1.5380     0.5974   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     30.700     2.430     6.00       34.01
     OUTFLOW: ID= 1 (5192)     30.700     0.942     6.50       33.98

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.79
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4760

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       58.29         157.61
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=     1199.72          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       96.49          20.15
               over (min)         15.00          45.00
     Storage Coeff.  (min)=      14.17 (ii)     34.47 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.04           5.11          8.142 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10          18.78          26.10
     TOTAL RAINFALL   (mm)=      73.10          73.10          73.10
     RUNOFF COEFFICIENT   =       0.97           0.26           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0      Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1922):   215.90   8.142     6.00     26.10
       + ID2= 2 (5192):    30.70   0.942     6.50     33.98
         ==============================================
         ID = 3 (8074):   246.60   8.230     6.00     27.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8076) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.23  46.404     7.25     30.28
       + ID2= 2 (8074):   246.60   8.230     6.00     27.08
         ==============================================
         ID = 3 (8076):  3081.83  50.054     7.25     30.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.446 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  24.056
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0194) |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   4.108 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  24.989
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.342

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0194):   256.09   4.108     6.75     24.99
       + ID2= 2 (0196):    41.47   1.446     6.00     24.06
         ==============================================
         ID = 3 (8078):   297.56   5.253     6.50     24.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation       Manning
                  0.00         267.15        0.0500
                 22.99         265.94        0.0500
                 51.73         261.39        0.0500
                 74.72         258.75        0.0500
                 94.83         257.79        0.0500
                114.95         254.36        0.0500
                126.44         254.06        0.0500
                132.19         253.68        0.0500
                135.06         253.35        0.0500
                137.94         252.93     0.0500 /0.0300  Main Channel
                140.81         252.41        0.0300       Main Channel
                143.69         251.89        0.0300       Main Channel
                146.56         252.51        0.0300       Main Channel
                149.43         253.36    0.0300 /0.0500   Main Channel
                158.05         255.89        0.0500
                172.42         256.25        0.0500
                204.03         259.15        0.0500
                229.90         260.36        0.0500
                252.89         260.46        0.0500
                284.50         260.45        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.35   252.24    .111E+04        0.6         0.97       31.07
      0.69   252.58    .442E+04        3.8         1.55       19.42
      1.04   252.93    .974E+04       11.1         2.06       14.65
      1.51   253.40    .203E+05       31.2         2.77       10.87
      1.98   253.87    .357E+05       65.0         3.30        9.14
      2.45   254.34    .596E+05      112.9         3.43        8.80
      2.92   254.81    .935E+05      186.8         3.62        8.34
      3.39   255.28    .131E+06      282.1         3.89        7.75
      3.86   255.75    .172E+06      398.2         4.18        7.22
      4.33   256.22    .221E+06      527.0         4.31        6.99
      4.80   256.69    .282E+06      697.3         4.47        6.75
      5.27   257.16    .350E+06      898.5         4.64        6.50
      5.74   257.63    .425E+06     1131.4         4.82        6.26
      6.21   258.10    .508E+06     1367.4         4.88        6.19
      6.68   258.57    .603E+06     1635.6         4.91        6.14
      7.15   259.04    .709E+06     1977.2         5.04        5.98
      7.62   259.51    .826E+06     2360.5         5.17        5.83
      8.09   259.98    .954E+06     2790.7         5.29        5.70
      8.56   260.45    .110E+07     3179.6         5.25        5.74

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
```

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     INFLOW : ID= 2 (8078)  297.56     5.25    6.50  24.86      0.76      1.63
     OUTFLOW: ID= 1 (6198)  297.56     5.05    6.75  24.86      0.75      1.62


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--------------------
| CALIB              |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      46.07        58.63
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     835.46        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        52.80
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   25.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.54         3.89          6.972 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        24.42         33.76
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.33          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9640      2.3173
                          0.2850     1.2270   |   9.5520      2.6039
                          1.7410     1.4052   |  10.9290      2.8853
                          3.5350     1.7675   |  11.3290      2.8953
                          5.6580     2.0183   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    104.700     6.972      6.00      33.76
     OUTFLOW: ID= 1 (5198)    104.700     2.903      6.75      33.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.63
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED      (ha.m.)=  1.6531

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   3.537 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.320
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   285.90   3.537    7.00    22.32
       + ID2= 2 (5198):   104.70   2.903    6.75    33.75
         ================================================
         ID = 3 (8080):   390.60   6.394    6.75    25.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   5.049    6.75    24.86
       + ID2= 2 (8080):   390.60   6.394    6.75    25.38
         ================================================
         ID = 3 (8082):   688.16  11.443    6.75    25.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.83  50.054    7.25    30.02
       + ID2= 2 (8082):   688.16  11.443    6.75    25.16
         ================================================
         ID = 3 (8084):  3769.99  61.030    7.00    29.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (2001.0) ------>
                Distance      Elevation        Manning
                    0.00         252.47         0.0500
                   10.38         252.29         0.0500
                   20.76         252.28         0.0500
                   41.52         247.66         0.0500
                   62.28         247.47         0.0500
                   80.45         247.34         0.0500
                   90.83         246.85         0.0500
                  103.81         245.51         0.0500
                  106.00         244.50         0.0500
                  108.99         244.05    0.0500 /0.0300  Main Channel
                  109.00         243.50         0.0300      Main Channel
                  114.00         243.50         0.0300      Main Channel
                  114.01         244.05    0.0300 /0.0500  Main Channel
                  118.99         244.50         0.0500
                  132.36         245.09         0.0500
                  150.52         245.83         0.0500
                  199.83         249.24         0.0500
                  207.62         250.16         0.0500
                  236.16         253.11         0.0500
                  256.92         253.83         0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.28   243.77    .365E+04        0.7          0.54      81.42
       0.55   244.05    .730E+04        2.2          0.81      54.59
       1.05   244.55    .197E+05        7.2          0.97      45.51
       1.54   245.04    .463E+05       17.2          0.99      44.76
       2.04   245.54    .895E+05       34.8          1.03      42.81
       2.53   246.03    .152E+06       62.8          1.09      40.43
       3.03   246.53    .232E+06      104.7          1.20      36.91
       3.52   247.02    .328E+06      159.7          1.29      34.19
       4.02   247.52    .450E+06      223.4          1.32      33.56
       4.51   248.01    .627E+06      326.9          1.38      31.99
       5.01   248.51    .820E+06      463.0          1.50      29.52
       5.50   249.00    .103E+07      626.0          1.62      27.30
       6.00   249.50    .124E+07      820.1          1.75      25.24
       6.49   249.99    .147E+07     1044.4          1.89      23.42
       6.99   250.49    .170E+07     1292.6          2.01      21.95
       7.48   250.98    .195E+07     1565.6          2.13      20.71
       7.98   251.48    .220E+07     1864.5          2.25      19.65
       8.47   251.97    .246E+07     2189.4          2.36      18.73
       8.97   252.47    .274E+07     2427.5          2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    61.03    7.00  29.13      2.50      1.09
     OUTFLOW: ID= 1 (6200) 3769.99    53.16    8.00  29.13      2.36      1.07

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--------------------
| CALIB              |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.00         3.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     200.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        76.31
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.84 (ii)   16.75 (ii)
```

```
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.36         0.35          0.584 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        32.30          41.22
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.44           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4010      0.1620
                          0.0200     0.0789   |   0.5040      0.1833
                          0.1160     0.0921   |   0.5870      0.2041
                          0.2170     0.1159   |   0.9870      0.2141
                          0.3000     0.1370   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.584      6.00       41.22
     OUTFLOW: ID= 1 (5200)     6.000     0.221      6.50       41.06

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.88
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1185

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--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        85.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     853.62        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        47.05
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.55 (ii)   26.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.36         4.96          5.891 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10        26.69          31.13
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.37           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2002):   109.30   5.891     6.25    31.13
       + ID2= 2 (5200):     6.00   0.221     6.50    41.06
         ================================================
         ID = 3 (8086):   115.30   6.060     6.25    31.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6200):  3769.99  53.161     8.00    29.13
       + ID2= 2 (8086):   115.30   6.060     6.25    31.65
         ================================================
         ID = 3 (8088):  3885.29  54.224     7.75    29.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8034):  5220.81  19.200    11.50    16.20
       + ID2= 2 (8088):  3885.29  54.224     7.75    29.21
         ================================================
         ID = 3 (8038):  9106.10  70.690     8.00    21.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation        Manning
                   0.00         252.00         0.0400
                   2.35         244.60         0.0400
                  39.94         243.14         0.0400
                  58.74         242.65         0.0400
                  91.63         242.03         0.0400
                 101.03         241.69         0.0400
                 103.38         241.66         0.0400
                 105.73         240.76         0.0400
                 105.93         240.59         0.0400
                 109.18         240.28    0.0400 /0.0300  Main Channel
                 110.43         239.81         0.0300      Main Channel
                 111.68         239.81         0.0300      Main Channel
                 113.43         240.09    0.0300 /0.0400  Main Channel
                 118.43         240.50         0.0400
                 138.62         241.68         0.0400
                 152.72         241.60         0.0400
                 166.82         242.68         0.0400
                 185.62         249.09         0.0400
                 197.36         251.00         0.0400
                 232.61         252.28         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
      0.28    240.09    .118E+04        0.1          0.20     142.09
      0.91    240.72    .114E+05        2.4          0.35      79.92
      1.53    241.34    .352E+05        9.4          0.45      62.17
      2.16    241.97    .831E+05       22.8          0.46      60.69
      2.79    242.60    .172E+06       54.2          0.53      52.74
      3.41    243.22    .297E+06      111.4          0.63      44.49
      4.04    243.85    .445E+06      194.1          0.74      38.22
      4.67    244.48    .612E+06      301.1          0.83      33.88
      5.29    245.10    .793E+06      443.0          0.94      29.82
      5.92    245.73    .976E+06      611.3          1.06      26.60
      6.55    246.36    .116E+07      802.0          1.17      24.12
      7.18    246.99    .135E+07     1014.0          1.27      22.16
      7.80    247.61    .154E+07     1246.2          1.37      20.56
      8.43    248.24    .173E+07     1498.0          1.46      19.24
      9.06    248.87    .192E+07     1768.8          1.55      18.12
      9.68    249.49    .212E+07     2049.6          1.63      17.24
     10.31    250.12    .232E+07     2344.7          1.71      16.49
     10.94    250.75    .252E+07     2658.5          1.78      15.83
     11.56    251.37    .274E+07     2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.10    70.69    8.00  21.75      2.97      0.56
     OUTFLOW: ID= 1 (1365) 9106.10    61.22    8.75  21.75      2.86      0.54

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1322) |   Area     (ha)= 249.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130

     PEAK FLOW       (cms)=   3.873 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.234
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.94        18.77
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     527.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        74.37
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.65 (ii)   20.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.44         1.94          4.687 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        33.44          46.62
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.46           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.9630      1.4050
                         0.1780     1.0280   |   1.4870      1.5525
                         0.4300     1.0400   |   1.9900      1.7000
                         0.8150     1.0500   |   2.3900      1.7100
                         0.8990     1.2275   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700     4.687      6.00      46.62
     OUTFLOW: ID= 1 (5132)     41.700     0.874      7.00      46.59

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.65
                    TIME SHIFT OF PEAK FLOW          (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1770

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-------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1322):   249.10   3.873     7.00    28.23
      + ID2= 2 (5132):    41.70   0.874     7.00    46.59
        ================================================
        ID = 3 (8090):   290.80   4.747     7.00    30.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW       (cms)=   2.237 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  21.547
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0134):   155.95   2.237     6.75    21.55
      + ID2= 2 (8090):   290.80   4.747     7.00    30.87
        ================================================
        ID = 3 (8092):   446.75   6.943     7.00    27.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                  <------ DATA FOR SECTION (1361.0) ------>
                 Distance      Elevation       Manning
                    0.00        262.81        0.0400
                   37.23        260.54        0.0400
                   79.12        256.98        0.0400
                  111.70        254.74        0.0400
                  172.20        252.76        0.0400
                  251.32        248.82        0.0400
                  255.97        248.75        0.0400
                  260.43        248.76        0.0400
                  265.43        248.49        0.0400
                  268.68        248.18    0.0400 /0.0300  Main Channel
                  269.93        247.71        0.0300      Main Channel
                  271.18        247.71        0.0300      Main Channel
                  272.93        247.99        0.0300      Main Channel
                  277.93        248.40    0.0300 /0.0400  Main Channel
                  283.90        248.88        0.0400
                  307.17        249.60        0.0400
                  321.13        251.59        0.0400
                  363.01        257.08        0.0400
                  400.25        257.58        0.0400
                  460.75        261.91        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.47    248.18    .881E+04        1.3          0.76      114.66
       1.19    248.90    .742E+05       17.3          1.22       71.44
       1.92    249.63    .278E+06       78.3          1.48       59.26
       2.64    250.35    .589E+06      210.3          1.87       46.69
       3.36    251.07    .974E+06      414.3          2.23       39.19
       4.08    251.79    .143E+07      696.2          2.55       34.32
       4.81    252.52    .197E+07     1063.0          2.83       30.86
       5.53    253.24    .259E+07     1505.7          3.06       28.62
       6.25    253.96    .331E+07     2051.3          3.26       26.85
       6.97    254.68    .413E+07     2720.9          3.46       25.30
       7.70    255.41    .504E+07     3584.5          3.73       23.43
       8.42    256.13    .601E+07     4580.9          4.00       21.87
       9.14    256.85    .704E+07     5707.9          4.25       20.57
       9.86    257.57    .818E+07     6636.1          4.26       20.53
      10.59    258.30    .945E+07     8115.0          4.50       19.42
      11.31    259.02    .108E+08     9759.2          4.74       18.45
      12.03    259.74    .122E+08    11569.5          4.96       17.61
      12.75    260.46    .137E+08    13550.6          5.18       16.87
      13.48    261.19    .153E+08    15636.4          5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)       (m/s)
     INFLOW : ID= 2 (8092)  446.75     6.94    7.00  27.61      0.73      0.88
     OUTFLOW: ID= 1 (1366)  446.75     4.76    8.50  27.61      0.63      0.83

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-------------------
| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      86.12       323.98
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1653.48        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        26.08
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.17 (ii)   35.49 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.29        13.31         16.114 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10        24.80         29.90
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.34          0.41

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 102.30
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|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.27         46.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     825.83         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         78.92
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.32 (ii)    23.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.01          4.80          9.073 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         31.77          42.39
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.43           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  65.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000    0.0000    |   2.4000      3.2690
                         0.1600    1.6363    |   2.6450      3.8640
                         0.9600    1.7470    |   2.8900      4.4590
                         1.8400    1.9320    |   3.2900      4.4690
                         2.1200    2.6005    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300      9.073      6.00      42.39
     OUTFLOW: ID= 1 (5136)    102.300      2.051      7.00      42.36

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.61
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.4388

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-------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   410.10  16.114     6.50    29.90
       + ID2= 2 (5136):   102.30   2.051     7.00    42.36
         ================================================
         ID = 3 (8096):   512.40  18.075     6.50    32.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.75   4.761     8.50    27.61
       + ID2= 2 (8096):   512.40  18.075     6.50    32.39
         ================================================
         ID = 3 (8094):   959.15  19.838     6.50    30.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.10  61.215     8.75    21.75
       + ID2= 2 (8094):   959.15  19.838     6.50    30.16
         ================================================
         ID = 3 (8098): 10065.25  70.815     8.50    22.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   3.169 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  21.200
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   0.772 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.283
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.072

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06        120.52
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1028.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         10.19
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.92 (ii)    39.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.91          1.85          7.642 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10         11.11          23.70
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.15           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  41.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   414.79   0.772     8.00     5.28
       + ID2= 2 (0140):   158.58   7.642     6.00    23.70
         ================================================
         ID = 3 (8102):   573.37   7.991     6.00    10.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1421.0) ------>
                Distance      Elevation       Manning
                    0.00         295.50        0.0400
                    7.25         295.36        0.0400
                   14.50         295.22        0.0400
                   21.75         295.22        0.0400
                   29.00         294.23        0.0400
                   52.56         286.45        0.0400
                   67.06         281.44        0.0400
                   77.94         278.28        0.0400
                   82.81         277.20    0.0400 /0.0300  Main Channel
                   83.21         276.80        0.0300      Main Channel
                   88.81         276.80        0.0300      Main Channel
                   96.41         276.80        0.0300      Main Channel
                   96.81         277.20    0.0300 /0.0400  Main Channel
                  103.31         278.96        0.0400
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              108.75        280.16        0.0400
              117.81        282.73        0.0400
              135.94        290.30        0.0400
              159.50        292.14        0.0400
              174.00        293.07        0.0400
              179.44        293.37        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.40   277.20    .238E+05        6.9         1.27      57.28
        1.25   278.05    .889E+05       50.9         2.50      29.13
        2.10   278.90    .179E+06      133.4         3.26      22.36
        2.95   279.75    .293E+06      256.7         3.83      19.03
        3.80   280.60    .432E+06      426.0         4.31      16.90
        4.66   281.46    .593E+06      644.3         4.75      15.35
        5.51   282.31    .776E+06      915.3         5.16      14.12
        6.36   283.16    .978E+06     1242.2         5.55      13.12
        7.21   284.01    .120E+07     1626.2         5.94      12.27
        8.06   284.86    .143E+07     2065.6         6.30      11.57
        8.91   285.71    .169E+07     2562.4         6.64      10.97
        9.76   286.56    .196E+07     3118.0         6.97      10.46
       10.61   287.41    .224E+07     3733.3         7.28      10.02
       11.46   288.26    .255E+07     4411.9         7.57       9.62
       12.31   289.11    .287E+07     5155.6         7.86       9.27
       13.17   289.97    .321E+07     5966.6         8.14       8.96
       14.02   290.82    .357E+07     6705.0         8.22       8.87
       14.87   291.67    .398E+07     7494.3         8.24       8.85
       15.72   292.52    .444E+07     8405.3         8.28       8.80

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.37     7.99    6.00  10.38      0.42      1.29
     OUTFLOW: ID= 1 (6142)  573.37     3.38    6.75  10.38      0.20      1.27


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| ADD HYD   (8104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0142):   396.54   3.169     8.00    21.20
       + ID2= 2 (6142):   573.37   3.379     6.75    10.38
         ==========================================
         ID = 3 (8104):   969.91   6.204     7.00    14.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0144) |   Area     (ha)= 135.69   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.240

     PEAK FLOW       (cms)=   2.441 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  28.980
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0144):   135.69   2.441     6.75    28.98
       + ID2= 2 (8104):   969.91   6.204     7.00    14.80
         ==========================================
         ID = 3 (8106):  1105.60   8.629     7.00    16.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1461.0) ------>
              Distance      Elevation       Manning
                 0.00        262.00        0.0350
                39.58        257.13        0.0350
               123.69        257.51        0.0350
               183.07        256.83        0.0350
               202.86        255.73        0.0350
               212.75        254.73        0.0350
               222.65        252.86        0.0350
               232.44        250.70    0.0350 /0.0300  Main Channel
               236.44        250.20        0.0300      Main Channel
               236.84        249.80        0.0300      Main Channel
               242.44        249.80        0.0300      Main Channel
               250.04        249.80        0.0300      Main Channel
               250.44        250.20        0.0300      Main Channel
               252.33        250.57    0.0300 /0.0350  Main Channel
               286.97        253.52        0.0350
               331.50        255.80        0.0350
               380.98        255.55        0.0350
               445.30        258.40        0.0350
               455.19        259.82        0.0350
               489.83        262.22        0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        0.39   250.19    .169E+05        5.4         1.04      52.00
        0.77   250.57    .373E+05       16.6         1.44      37.46
        1.44   251.24    .911E+05       60.3         2.14      25.19
        2.11   251.91    .169E+06      136.3         2.61      20.64
        2.79   252.59    .270E+06      249.7         2.99      18.05
        3.46   253.26    .396E+06      405.4         3.31      16.28
        4.13   253.93    .549E+06      603.3         3.56      15.15
        4.80   254.60    .737E+06      857.8         3.77      14.31
        5.48   255.28    .963E+06     1174.6         3.95      13.67
        6.15   255.95    .128E+07     1449.5         3.66      14.74
        6.82   256.62    .173E+07     2046.4         3.83      14.07
        7.49   257.29    .227E+07     2665.2         3.81      14.17
        8.17   257.97    .310E+07     3705.2         3.87      13.93
        8.84   258.64    .400E+07     5127.4         4.15      12.99
        9.51   259.31    .492E+07     6858.6         4.51      11.95
       10.18   259.98    .587E+07     8815.5         4.86      11.09
       10.86   260.66    .684E+07    10954.6         5.18      10.41
       11.53   261.33    .785E+07    13324.3         5.49       9.82
       12.20   262.00    .890E+07    15923.2         5.79       9.31

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.60     8.63    7.00  16.54      0.50      1.13
     OUTFLOW: ID= 1 (6146) 1105.60     7.53    8.00  16.54      0.46      1.10


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| CALIB            |
| STANDHYD  (1462) |   Area     (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.25         88.75
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     912.87         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         63.03
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.03 (ii)    24.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.19          7.11          8.419 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10         32.93         37.51
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.45          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (1461) |   Area     (ha)=  70.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  15.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.38         45.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     685.57         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         70.42
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.13 (ii)    22.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
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     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.38         4.25          5.118 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        34.32         39.84
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.47          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.0640     2.2344
                          0.2390     0.7085   |   9.9830     2.6409
                          2.2880     0.8391   |  11.7350     3.0631
                          4.3270     1.4661   |  12.1350     3.0731
                          6.1170     1.8197   |   0.0000     0.0000

                              AREA      QPEAK      TPEAK       R.V.
                               (ha)     (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (1461)     70.500      5.118      6.00       39.84
     OUTFLOW: ID= 1 (5146)     70.500      2.974      6.50       39.83

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.10
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.0679

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| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00   8.419     6.25    37.51
       + ID2= 2 (5146):    70.50   2.974     6.50    39.83
         ================================================
         ID = 3 (8099):   195.50  10.960     6.25    38.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60   7.529     8.00    16.54
       + ID2= 2 (8099):   195.50  10.960     6.25    38.35
         ================================================
         ID = 3 (8108):  1301.10  13.629     6.25    19.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  70.815     8.50    22.55
       + ID2= 2 (8108):  1301.10  13.629     6.25    19.82
         ================================================
         ID = 3 (8100): 11366.35  79.640     8.25    22.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                  0.00         245.48        0.0400
                 29.68         242.80        0.0400
                 74.20         240.39        0.0400
                155.81         237.12        0.0400
                200.33         234.48        0.0400
                244.85         234.67        0.0400
                259.69         233.96        0.0400
                274.53         233.84        0.0400
                281.68         233.40        0.0400
                285.78         232.40    0.0400 /0.0300  Main Channel
                286.78         231.40        0.0300      Main Channel
                296.78         231.40        0.0300      Main Channel
                299.78         232.40    0.0300 /0.0400  Main Channel
                311.62         233.74        0.0400
                333.88         234.34        0.0400
                497.11         235.32        0.0400
                571.31         237.32        0.0400
                675.18         239.10        0.0400
                704.86         242.71        0.0400
                734.54         242.62        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   231.90    .221E+05       4.7         0.85      78.67
      1.00   232.40    .482E+05      15.3         1.28      52.40
      1.60   233.00    .913E+05      38.3         1.68      39.77
      2.20   233.60    .154E+06      72.9         1.90      35.24
      2.80   234.20    .278E+06     124.2         1.79      37.30
      3.40   234.80    .599E+06     214.3         1.44      46.59
      4.01   235.41    .125E+07     445.0         1.43      46.90
      4.61   236.01    .205E+07     838.4         1.64      40.81
      5.21   236.61    .293E+07    1361.6         1.86      35.89
      5.81   237.21    .389E+07    2011.2         2.08      32.23
      6.41   237.81    .494E+07    2753.5         2.24      29.91
      7.01   238.41    .612E+07    3635.0         2.39      28.04
      7.61   239.01    .741E+07    4672.5         2.53      26.43
      8.21   239.61    .880E+07    5999.3         2.74      24.44
      8.82   240.22    .102E+08    7510.0         2.94      22.72
      9.42   240.82    .117E+08    9201.9         3.15      21.23
     10.02   241.42    .132E+08   11059.7         3.35      19.95
     10.62   242.02    .148E+08   13073.4         3.54      18.87
     11.22   242.62    .164E+08   15242.1         3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    79.64    8.25  22.24      2.28      1.88
     OUTFLOW: ID= 1 (6202) *******    77.03    9.00  22.24      2.25      1.89

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| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35  77.028     9.00    22.24
       + ID2= 2 (8110):   468.50  34.598     6.00    46.59
         ================================================
         ID = 3 (8112): 11834.85  80.595     8.75    23.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                              AREA      QPEAK      TPEAK       R.V.
                               (ha)     (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********     80.595      8.75      23.20
     OUTFLOW: ID= 1 (5555)  ********     79.480      9.25      23.20

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.62
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 12.3389

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| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.85  79.480     9.25    23.20
       + ID2= 2 (8136):  2288.40  24.489     6.50    22.52
         ================================================
         ID = 3 (8114): 14123.25  94.228     9.00    23.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.25         1.75
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    408.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49       506.03
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      7.42 (ii)   13.01 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.66         1.88          5.539 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=     71.10        59.93          66.63
     TOTAL RAINFALL   (mm)=     73.10        73.10          73.10
     RUNOFF COEFFICIENT   =      0.97         0.82           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8990      1.7295
                          0.0850     0.5280   |   2.1560      1.9661
                          0.8990     0.8577   |   2.3740      2.2023
                          1.3460     1.1601   |   2.7740      2.2123
                          1.6060     1.4451   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000     5.539      6.00      66.63
     OUTFLOW: ID= 1 (5206)     25.000     1.094      6.50      66.57

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.75
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9902

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--------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    155.31        95.19
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1292.28        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        99.14
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.81 (ii)   25.55 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     19.17        11.95         26.964 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     71.10        39.91          52.07
     TOTAL RAINFALL   (mm)=     73.10        73.10          73.10
     RUNOFF COEFFICIENT   =      0.97         0.55           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   250.50  26.964     6.00    52.07
       + ID2= 2 (5206):    25.00   1.094     6.50    66.57
         ================================================
         ID = 3 (8144):   275.50  27.462     6.00    53.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     72.54       128.96
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1159.02        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        45.46
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.88 (ii)   28.54 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.13         6.89         12.393 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     71.10        23.99          33.41
     TOTAL RAINFALL   (mm)=     73.10        73.10          73.10
     RUNOFF COEFFICIENT   =      0.97         0.33           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4660      4.9468
                          0.5050     1.9141   |  15.4770      5.3726
                          2.8390     2.2056   |  18.2610      6.4806
                          5.2410     3.6606   |  18.6610      6.4906
                          7.9920     4.3236   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500    12.393      6.00      33.41
     OUTFLOW: ID= 1 (5204)    201.500     4.334      7.00      33.41

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.97
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.1377

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     73.74        49.16
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    905.17        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        75.13
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.96 (ii)   23.96 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.65         4.78         11.688 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     71.10        29.43          43.18
     TOTAL RAINFALL   (mm)=     73.10        73.10          73.10
     RUNOFF COEFFICIENT   =      0.97         0.40           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| ADD HYD   (8140) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   122.90  11.688     6.00    43.18
       + ID2= 2 (5204):   201.50   4.334     7.00    33.41
         ================================================
         ID = 3 (8140):   324.40  12.093     6.00    37.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2061.0) ------>
            Distance      Elevation       Manning
               0.00         253.07        0.0350
              13.98         252.89        0.0350
              27.95         251.99        0.0350
              34.94         252.18        0.0350
              41.93         252.02        0.0350
              73.38         250.35        0.0350
              94.34         247.09        0.0350
             111.81         244.79        0.0350
             115.31         244.24        0.0350
             117.55         244.20    0.0350 /0.0300  Main Channel
             118.80         243.60       0.0300       Main Channel
             122.30         243.60       0.0300       Main Channel
             122.55         244.60    0.0300 /0.0350  Main Channel
             146.76         244.74        0.0350
             164.23         247.26        0.0350
             213.15         248.92        0.0350
             241.10         249.51        0.0350
             272.55         250.87        0.0350
             300.50         252.26        0.0350
             345.93         253.67        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.30   243.90    .310E+04         1.4        1.23      36.25
       0.60   244.20    .676E+04         4.6        1.81      24.64
       1.12   244.72    .221E+05        17.1        2.07      21.60
       1.64   245.24    .754E+05        64.1        2.28      19.60
       2.17   245.77    .139E+06       149.8        2.88      15.50
       2.69   246.29    .214E+06       273.3        3.43      13.04
       3.21   246.81    .299E+06       436.1        3.91      11.43
       3.73   247.33    .395E+06       632.6        4.30      10.40
       4.25   247.85    .511E+06       836.4        4.39      10.18
       4.77   248.37    .653E+06      1114.9        4.58       9.76
       5.30   248.90    .822E+06      1472.1        4.81       9.30
       5.82   249.42    .102E+07      1872.2        4.91       9.10
       6.34   249.94    .126E+07      2444.6        5.22       8.56
       6.86   250.46    .151E+07      3113.1        5.52       8.09
       7.38   250.98    .180E+07      3843.5        5.74       7.79
       7.90   251.50    .211E+07      4717.8        6.00       7.45
       8.43   252.03    .245E+07      5701.4        6.24       7.16
       8.95   252.55    .284E+07      6727.5        6.36       7.03
       9.47   253.07    .326E+07      7885.3        6.48       6.90

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8140)  324.40    12.09    6.00  37.11      0.91      1.96
    OUTFLOW: ID= 1 (6206)  324.40     9.60    6.50  37.11      0.81      1.91
```

```
| ADD HYD   (8142) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.40   9.600     6.50    37.11
       + ID2= 2 (8144):   275.50  27.462     6.00    53.39
         ================================================
         ID = 3 (8142):   599.90  32.262     6.00    44.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (8138) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.25  94.228     9.00    23.09
       + ID2= 2 (8142):   599.90  32.262     6.00    44.59
         ================================================
         ID = 3 (8138): 14723.15  99.850     8.50    23.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2081.0) ------>
            Distance      Elevation       Manning
               0.00         249.19        0.1000
              73.11         244.13        0.1000
             121.86         243.39        0.1000
             243.71         240.01        0.1000
             353.38         238.75        0.1000
             450.87         235.40        0.1000
             499.61         231.40        0.1000
             511.80         230.96        0.1000
             523.98         230.12        0.1000
             534.50         227.80    0.1000 /0.0500  Main Channel
             536.50         226.70       0.0500       Main Channel
             546.50         226.70       0.0500       Main Channel
             548.50         227.80    0.0500 /0.1000  Main Channel
             572.72         230.25        0.1000
             682.40         230.50        0.1000
             804.25         233.95        0.1000
             926.11         235.83        0.1000
            1047.96         240.70        0.1000
            1145.45         243.26        0.1000
            1206.38         247.03        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.55   227.25    .111E+05         2.0        0.33      92.44
       1.10   227.80    .242E+05         6.5        0.50      61.56
       2.23   228.93    .700E+05        26.0        0.68      44.91
       3.36   230.06    .150E+06        60.8        0.74      41.04
       4.49   231.19    .446E+06       130.8        0.54      56.83
       5.62   232.32    .925E+06       287.4        0.57      53.66
       6.76   233.46    .152E+07       522.9        0.63      48.32
       7.89   234.59    .223E+07       827.2        0.68      44.91
       9.02   235.72    .312E+07      1219.5        0.72      42.61
      10.15   236.85    .418E+07      1780.6        0.78      39.11
      11.28   237.98    .537E+07      2479.2        0.85      36.07
      12.41   239.11    .669E+07      3282.9        0.90      33.95
      13.54   240.24    .824E+07      4228.6        0.94      32.47
      14.67   241.37    .997E+07      5384.6        0.99      30.87
      15.81   242.51    .119E+08      6698.4        1.03      29.56
      16.94   243.64    .140E+08      8235.2        1.08      28.25
      18.07   244.77    .162E+08     10104.2        1.14      26.73
      19.20   245.90    .185E+08     12251.5        1.21      25.21
      20.33   247.03    .209E+08     14597.0        1.28      23.89

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8138) *******    99.85    8.50  23.97      3.99      0.61
    OUTFLOW: ID= 1 (6208) *******    94.31    9.75  23.97      3.90      0.63
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-------------------
| CALIB             |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       100.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      17.38 (ii)   28.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      28.85        18.58      40.830 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10        37.25      49.78
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.97         0.51       0.68


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB             |
| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       93.00         172.71
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=     1330.91          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       96.49          57.25
               over (min)         15.00          30.00
     Storage Coeff.  (min)=       15.08 (ii)     28.45 (ii)
     Unit Hyd. Tpeak (min)=       15.00          30.00
     Unit Hyd. peak  (cms)=        0.07           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       10.35          11.70          17.708 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.25           6.00
     RUNOFF VOLUME    (mm)=       71.10          30.26          38.43
     TOTAL RAINFALL   (mm)=       73.10          73.10          73.10
     RUNOFF COEFFICIENT   =        0.97           0.41           0.53

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      6.3371
                          0.8360     2.7353   |  21.1630      7.3975
                          4.7810     3.1070   |  25.1140      8.4406
                          8.9050     4.2484   |  25.5140      8.4506
                         12.6070     5.1796   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2081)    265.700     17.708      6.00      38.43
     OUTFLOW: ID= 1 (5208)    265.700      8.764      6.75      38.43

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.49
                TIME SHIFT OF PEAK FLOW          (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.2273

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| ADD HYD   (8148) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2082):   426.60  40.830     6.00    49.78
       + ID2= 2 (5208):   265.70   8.764     6.75    38.43
         ================================================
         ID = 3 (8148):   692.30  41.488     6.00    45.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8146) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.15  94.307     9.75    23.97
       + ID2= 2 (8148):   692.30  41.488     6.00    45.42
         ================================================
         ID = 3 (8146): 15415.45  98.384     9.75    24.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2101.0) ------>
              Distance      Elevation       Manning
                 0.00         241.81        0.0800
                28.43         241.78        0.0800
                85.30         237.04        0.0800
               149.27         231.32        0.0800
               170.60         230.10        0.0800
               255.89         229.37        0.0800
               277.22         228.68        0.0800
               284.33         228.42        0.0800
               291.43         228.16        0.0800
               297.76         227.00    0.0800 /0.0350  Main Channel
               298.76         225.00        0.0350      Main Channel
               312.76         225.00        0.0350      Main Channel
               313.76         227.00    0.0350 /0.0800  Main Channel
               326.97         229.50        0.0800
               348.30         230.29        0.0800
               376.73         229.76        0.0800
               490.46         235.75        0.0800
               568.65         236.24        0.0800
               661.06         241.85        0.0800
               703.71         246.04        0.0800

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.67   225.67   .141E+05        6.6         0.69      35.86
       1.33   226.33   .289E+05       20.4         1.04      23.65
       2.00   227.00   .443E+05       39.3         1.31      18.81
       2.93   227.93   .730E+05       77.8         1.57      15.64
       3.85   228.85   .123E+06      131.1         1.57      15.65
       4.78   229.78   .228E+06      205.6         1.33      18.51
       5.70   230.70   .503E+06      356.7         1.05      23.49
       6.63   231.63   .846E+06      608.7         1.06      23.17
       7.55   232.55   .123E+07      946.4         1.14      21.65
       8.48   233.48   .165E+07     1367.0         1.22      20.13
       9.41   234.41   .211E+07     1871.8         1.31      18.80
      10.33   235.33   .261E+07     2463.2         1.40      17.65
      11.26   236.26   .317E+07     2999.4         1.40      17.63
      12.18   237.18   .384E+07     3848.3         1.48      16.63
      13.11   238.11   .454E+07     4806.0         1.56      15.75
      14.03   239.03   .528E+07     5876.9         1.64      14.97
      14.96   239.96   .605E+07     7062.7         1.72      14.29
      15.88   240.88   .687E+07     8365.0         1.80      13.68
      16.81   241.81   .771E+07     9506.9         1.82      13.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    98.38    9.75  24.93     3.28      1.57
     OUTFLOW: ID= 1 (6210) *******    98.27   10.00  24.93     3.27      1.57

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-------------------
| CALIB             |
| NASHYD    (0210) |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   3.436 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  34.919
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0210):   218.27   3.436     7.25    34.92
       + ID2= 2 (6210): 15415.45  98.271    10.00    24.93
         ================================================
         ID = 3 (8150): 15633.72 100.715    10.00    25.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0218) |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   2.161 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.085
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0216) |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   3.476 (i)
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     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  29.548
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.404

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2121) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.08         3.92
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope    (%)=        0.50         0.50
     Length           (m)=     611.01        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       269.87
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.45 (ii)   16.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.66         1.63    10.787 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25     6.00
     RUNOFF VOLUME    (mm)=      71.10        49.60    65.72
     TOTAL RAINFALL   (mm)=      73.10        73.10    73.10
     RUNOFF COEFFICIENT   =       0.97         0.68     0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000    0.0000    |   3.7460      1.9720
                         0.1900    1.1850    |   4.7040      2.0838
                         1.0850    1.4413    |   5.4760      2.1940
                         2.0210    1.5949    |   5.8760      2.2040
                         2.8030    1.7848    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2121)     56.000     10.787      6.00      65.72
     OUTFLOW: ID= 1 (5212)     56.000      3.632      6.50      65.70

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.67
                  TIME SHIFT OF PEAK FLOW       (min)= 30.00
                  MAXIMUM  STORAGE   USED      (ha.m.)=  1.9869

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-------------------
| CALIB             |
| STANDHYD  (2122) |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.00       193.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope    (%)=        0.50         0.50
     Length           (m)=    1347.59        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.85
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.19 (ii)   29.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.17         9.93    18.332 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25     6.00
     RUNOFF VOLUME    (mm)=      71.10        27.00    37.15
     TOTAL RAINFALL   (mm)=      73.10        73.10    73.10
     RUNOFF COEFFICIENT   =       0.97         0.37     0.51


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2122):   272.40  18.332     6.00    37.15
        + ID2= 2 (5212):    56.00   3.632     6.50    65.70
          ================================================
          ID = 3 (8152):   328.40  19.430     6.25    42.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (2141.0) ------>
               Distance      Elevation        Manning
                  0.00         259.29         0.0500
                 15.33         258.91         0.0500
                 38.33         258.57         0.0500
                 65.16         257.93         0.0500
                 95.82         253.44         0.0500
                111.15         251.21         0.0500
                130.32         249.67         0.0500
                149.48         248.51         0.0500
                150.66         248.50    0.0500 /0.0370  Main Channel
                150.81         247.50         0.0370     Main Channel
                154.66         247.50         0.0370     Main Channel
                155.66         248.50    0.0370 /0.0500  Main Channel
                160.98         248.50         0.0500
                187.81         249.78         0.0500
                199.31         252.13         0.0500
                245.30         254.04         0.0500
                264.46         253.99         0.0500
                298.96         255.23         0.0500
                329.62         257.02         0.0500
                379.45         258.82         0.0500

            <---------- TRAVEL TIME TABLE ---------->
             DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
              (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
             0.50   248.00    .648E+04        2.1         1.00       52.30
             1.00   248.50    .139E+05        6.4         1.44       36.35
             1.61   249.11    .570E+05       22.6         1.24       42.01
             2.21   249.71    .143E+06       63.6         1.39       37.61
             2.82   250.32    .263E+06      142.9         1.70       30.69
             3.43   250.93    .403E+06      257.2         2.00       26.11
             4.04   251.54    .562E+06      410.4         2.29       22.82
             4.64   252.14    .735E+06      601.3         2.56       20.37
             5.25   252.75    .933E+06      791.0         2.66       19.67
             5.86   253.36    .117E+07     1038.0         2.79       18.74
             6.46   253.96    .144E+07     1344.4         2.93       17.82
             7.07   254.57    .178E+07     1664.1         2.93       17.83
             7.68   255.18    .217E+07     2140.2         3.10       16.87
             8.28   255.78    .259E+07     2722.9         3.30       15.83
             8.89   256.39    .304E+07     3387.1         3.50       14.94
             9.50   257.00    .351E+07     4132.7         3.69       14.16
            10.11   257.61    .402E+07     4913.0         3.83       13.64
            10.71   258.21    .458E+07     5648.3         3.87       13.50
            11.32   258.82    .521E+07     6343.1         3.82       13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8152)  328.40    19.43    6.25   42.01      1.49      1.28
     OUTFLOW: ID= 1 (6214)  328.40    12.82    6.75   42.01      1.24      1.35

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| CALIB             |
| STANDHYD  (0214) |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.24       237.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope    (%)=        0.50         0.50
     Length           (m)=    1453.62        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.40
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.90 (ii)   30.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.43        10.96    12.670 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50     6.50
     RUNOFF VOLUME    (mm)=      71.10        24.12    28.35
     TOTAL RAINFALL   (mm)=      73.10        73.10    73.10
     RUNOFF COEFFICIENT   =       0.97         0.33     0.39

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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            YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8154) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0214):   316.95  12.670     6.50    28.35
      + ID2= 2 (6214):   328.40  12.815     6.75    42.01
        ================================================
        ID = 3 (8154):   645.35  25.308     6.50    35.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8156) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0216):   145.77   3.476     6.50    29.55
      + ID2= 2 (8154):   645.35  25.308     6.50    35.30
        ================================================
        ID = 3 (8156):   791.12  28.784     6.50    34.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (2181.0) ------>
            Distance      Elevation       Manning
               0.00         256.38        0.0450
               7.70         254.85        0.0450
              15.40         253.20        0.0450
              19.25         252.29        0.0450
              23.10         251.17        0.0450
              78.94         236.16        0.0450
              80.87         235.80        0.0450
              82.79         235.45        0.0450
              84.57         234.60    0.0450 /0.0300  Main Channel
              85.07         233.60        0.0300      Main Channel
              88.57         233.60        0.0300      Main Channel
              93.57         233.60        0.0300      Main Channel
              94.07         234.60    0.0300 /0.0450  Main Channel
              96.27         235.13        0.0450
              98.19         235.20        0.0450
             100.12         235.32        0.0450
             138.63         239.95        0.0450
             180.98         244.80        0.0450
             188.69         245.00        0.0450
             190.61         256.00        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.00   234.60    .181E+05       6.0         0.66       50.64
       2.13   235.73    .518E+05      23.8         0.93       36.27
       3.25   236.85    .119E+06      60.0         1.02       33.03
       4.38   237.98    .217E+06     120.6         1.12       29.99
       5.51   239.11    .346E+06     210.5         1.23       27.39
       6.63   240.23    .506E+06     334.1         1.33       25.22
       7.76   241.36    .697E+06     495.6         1.43       23.44
       8.88   242.48    .920E+06     699.8         1.53       21.91
      10.01   243.61    .117E+07     950.8         1.63       20.59
      11.14   244.74    .146E+07    1252.5         1.73       19.45
      12.26   245.86    .178E+07    1619.6         1.83       18.37
      13.39   246.99    .212E+07    2078.5         1.97       17.01
      14.52   248.12    .247E+07    2589.0         2.11       15.88
      15.64   249.24    .282E+07    3149.7         2.25       14.94
      16.77   250.37    .319E+07    3759.8         2.37       14.14
      17.89   251.49    .356E+07    4419.5         2.50       13.44
      19.02   252.62    .395E+07    5126.4         2.61       12.84
      20.15   253.75    .435E+07    5871.6         2.72       12.34
      21.27   254.87    .476E+07    6663.2         2.82       11.89

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8156)  791.12    28.78    6.50  34.24      2.28      0.94
    OUTFLOW: ID= 1 (6218)  791.12    21.19    6.75  34.24      1.96      0.87


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| ADD HYD   (8158) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0218):   152.25   2.161     7.00    25.88
      + ID2= 2 (6218):   791.12  21.195     6.75    34.24
        ================================================
        ID = 3 (8158):   943.37  23.336     6.75    32.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8151) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (8150): 15633.72 100.715    10.00    25.07
      + ID2= 2 (8158):   943.37  23.336     6.75    32.76
        ================================================
        ID = 3 (8151): 16577.09 114.696     7.00    25.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  33.0100     0.6700
                          2.6400     0.0500   |  37.4800     0.7800
                          4.8300     0.0900   |  47.5400     1.0100
                          7.4100     0.1300   |  60.2300     1.2800
                         10.3300     0.1900   |  71.9530     1.5258
                         13.5300     0.2500   |  *******     3.0529
                         16.9900     0.3200   |  *******     5.3299
                         20.6800     0.3900   |  *******     8.4148
                         24.6000     0.4800   |  *******    11.7637
                         28.7100     0.5700   |  *******    11.7737

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8151)   ********    114.696      7.00      25.51
    OUTFLOW: ID= 1 (5504)   ********    114.638      7.00      25.51

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.95
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.4340

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-------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (2201.0) ------>
            Distance      Elevation       Manning
               0.00         245.59        0.0600
               5.76         245.45        0.0600
              23.03         242.27        0.0600
              57.58         232.35        0.0600
              86.37         226.18        0.0600
             109.41         224.31        0.0600
             115.17         223.86        0.0600
             120.92         222.78        0.0600
             126.68         221.93        0.0600
             128.06         221.50    0.0600 /0.0300  Main Channel
             129.56         220.00        0.0300      Main Channel
             141.56         220.00        0.0300      Main Channel
             143.06         221.50    0.0300 /0.0600  Main Channel
             149.72         223.77        0.0600
             155.47         225.09        0.0600
             253.36         229.21        0.0600
             333.98         227.50        0.0600
             454.90         229.25        0.0600
             500.97         233.11        0.0600
             570.07         237.42        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.75   220.75    .262E+05       5.5         0.57       79.44
       1.50   221.50    .555E+05      17.5         0.86       52.89
       2.44   222.44    .103E+06      42.7         1.14       40.03
       3.37   223.37    .171E+06      79.4         1.27       35.98
       4.31   224.31    .263E+06     128.1         1.33       34.22
       5.25   225.25    .393E+06     191.7         1.34       34.19
       6.18   226.18    .594E+06     276.7         1.28       35.77
       7.12   227.12    .872E+06     399.9         1.26       36.33
       8.06   228.06    .127E+07     542.7         1.17       38.92
       8.99   228.99    .199E+07     770.0         1.06       43.01
       9.93   229.93    .297E+07    1151.8         1.06       42.95
      10.86   230.86    .400E+07    1652.9         1.13       40.33
      11.80   231.80    .507E+07    2251.8         1.22       37.53
      12.74   232.74    .618E+07    2946.5         1.31       34.97
      13.67   233.67    .733E+07    3726.8         1.39       32.79
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  14.61   234.61    .853E+07    4591.0          1.48      30.96
  15.55   235.55    .977E+07    5544.1          1.55      29.37
  16.48   236.48    .111E+08    6586.7          1.63      27.99
  17.42   237.42    .124E+08    7719.2          1.71      26.77

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (5504) *******   114.64    7.00  25.51      4.05      1.32
OUTFLOW: ID= 1 (6220) *******   108.56    9.25  25.51      3.94      1.31


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--------------------
| CALIB            |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   1.657 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.460
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0220):   169.10   1.657     8.00    28.46
       + ID2= 2 (6220): 16577.09 108.563     9.25    25.51
         ================================================
         ID = 3 (8160): 16746.19 110.133     9.25    25.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW       (cms)=   3.250 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.071
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.411

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27        92.93
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        68.91
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.58 (ii)   24.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.78         8.14         10.996 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        35.15          41.98
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.48           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  6.6430     3.7677
                          0.4620     2.0014   |  8.2830     4.2576
                          2.0160     2.2850   | 14.1970     4.6909
                          3.6250     2.7987   | 14.5970     4.7009
                          5.0230     3.2496   |  0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200    10.996      6.00      41.98
     OUTFLOW: ID= 1 (5222)    145.200     4.189      7.00      41.97

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.10
               TIME SHIFT OF PEAK FLOW          (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.0140

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--------------------
| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95        16.35
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     703.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       202.58
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.29 (ii)   18.35 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.83         4.91         10.202 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        49.36          58.27
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.68           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    74.30  10.202     6.00    58.27
       + ID2= 2 (5222):   145.20   4.189     7.00    41.97
         ================================================
         ID = 3 (8164):   219.50  10.509     6.00    47.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (8224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75        92.70
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     967.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        63.88
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.45 (ii)   25.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.68         7.49         12.486 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        36.56          45.54
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.50           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8166)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0224):		140.45	12.486	6.00	45.54
+ ID2= 2 (8164):		219.50	10.509	6.00	47.49
ID = 3 (8166):		359.95	22.994	6.00	46.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6226)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2261.0) ------>

Distance	Elevation	Manning	
0.00	245.35	0.0600	
8.27	242.72	0.0600	
16.54	240.01	0.0600	
31.02	235.31	0.0600	
41.36	233.14	0.0600	
90.99	227.73	0.0600	
93.06	227.50	0.0600	
95.13	227.27	0.0600	
95.83	227.00	0.0600	
100.83	226.50	0.0600 /0.0350	Main Channel
101.33	225.50	0.0350	Main Channel
101.83	226.50	0.0350 /0.0600	Main Channel
105.83	227.00	0.0600	
107.54	227.39	0.0600	
109.60	227.62	0.0600	
111.67	227.86	0.0600	
146.83	231.76	0.0600	
173.71	234.77	0.0600	
186.12	238.23	0.0600	
202.67	238.35	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	226.00	.403E+03	0.0	0.16	330.59
1.00	226.50	.161E+04	0.1	0.26	208.26
1.70	227.20	.173E+05	1.5	0.27	195.72
2.39	227.89	.541E+05	5.9	0.35	152.27
3.09	228.59	.119E+06	16.0	0.43	124.08
3.79	229.29	.212E+06	33.8	0.51	104.65
4.49	229.99	.334E+06	61.2	0.59	90.97
5.18	230.68	.484E+06	99.7	0.66	80.88
5.88	231.38	.663E+06	151.0	0.73	73.13
6.58	232.08	.870E+06	216.5	0.80	66.95
7.27	232.77	.111E+07	297.5	0.87	61.91
7.97	233.47	.137E+07	398.1	0.94	57.29
8.67	234.17	.165E+07	518.9	1.01	53.12
9.36	234.86	.196E+07	658.9	1.08	49.59
10.06	235.56	.228E+07	827.0	1.17	46.02
10.76	236.26	.262E+07	1015.4	1.25	42.96
11.46	236.96	.296E+07	1221.2	1.33	40.41
12.15	237.65	.332E+07	1444.6	1.40	38.26
12.85	238.35	.368E+07	1598.2	1.40	38.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8166)	359.95	22.99	6.00	46.73	3.37	0.46
OUTFLOW: ID= 1 (6226)	359.95	7.25	6.75	46.73	2.49	0.36

ADD HYD (8168)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0226):		237.58	3.250	7.25	30.07
+ ID2= 2 (6226):		359.95	7.253	6.75	46.73
ID = 3 (8168):		597.53	10.343	6.75	40.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8162)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8160):		16746.19	110.133	9.25	25.54
+ ID2= 2 (8168):		597.53	10.343	6.75	40.10
ID = 3 (8162):		17343.72	118.043	8.50	26.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6228)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2281.0) ------>

Distance	Elevation	Manning	
0.00	245.00	0.0600	
18.60	244.74	0.0600	
37.20	242.47	0.0600	
93.01	233.71	0.0600	
125.57	226.95	0.0600	
213.93	221.63	0.0600	
218.58	221.15	0.0600	
223.23	220.45	0.0600	
225.03	220.55	0.0600 /0.0300	Main Channel
225.53	218.05	0.0300	Main Channel
232.53	218.05	0.0300	Main Channel
240.03	218.05	0.0300	Main Channel
241.03	220.55	0.0300 /0.0600	Main Channel
246.48	221.00	0.0600	
251.13	221.27	0.0600	
255.78	221.22	0.0600	
325.54	225.25	0.0600	
367.40	228.91	0.0600	
404.60	231.75	0.0600	
460.41	245.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.25	219.30	.338E+05	16.0	0.86	35.15
2.50	220.55	.696E+05	48.3	1.26	24.02
3.94	221.99	.168E+06	116.0	1.26	24.14
5.38	223.43	.392E+06	247.5	1.15	26.37
6.81	224.86	.743E+06	472.6	1.16	26.20
8.25	226.30	.122E+07	821.6	1.23	24.67
9.69	227.74	.179E+07	1320.1	1.34	22.59
11.13	229.18	.243E+07	1965.7	1.47	20.58
12.57	230.62	.313E+07	2744.2	1.59	19.02
14.01	232.06	.390E+07	3683.4	1.72	17.66
15.44	233.49	.472E+07	4824.1	1.86	16.30
16.88	234.93	.557E+07	6092.4	1.99	15.23
18.32	236.37	.646E+07	7503.3	2.11	14.35
19.76	237.81	.739E+07	9061.2	2.23	13.59
21.20	239.25	.836E+07	10767.6	2.34	12.94
22.64	240.69	.937E+07	12624.8	2.45	12.37
24.07	242.12	.104E+08	14634.9	2.56	11.87
25.51	243.56	.115E+08	16762.8	2.65	11.45
26.95	245.00	.127E+08	18699.9	2.69	11.28

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8162)	*******	118.04	8.50	26.04	3.96	1.25
OUTFLOW: ID= 1 (6228)	*******	116.13	9.75	26.04	3.93	1.26

CALIB	
NASHYD (0228)	Area (ha)= 310.54 Curve Number (CN)= 61.0
ID= 1 DT=15.00 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.12

Unit Hyd Qpeak (cms)= 4.751

PEAK FLOW (cms)= 2.635 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 19.946
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.273

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8170)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0228):		310.54	2.635	7.50	19.95
+ ID2= 2 (6228):		17343.72	116.125	9.75	26.04
ID = 3 (8170):		17654.26	118.234	9.50	25.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2302) |   Area    (ha)= 126.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     29.14         97.56
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    919.06         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     96.49         51.97
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     12.07 (ii)    25.97 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.42          6.28          7.277 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=     71.10         28.67          32.49
     TOTAL RAINFALL   (mm)=     73.10         73.10          73.10
     RUNOFF COEFFICIENT   =      0.97          0.39           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     39.40         39.40
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    724.80         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     96.49         86.99
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     10.47 (ii)    21.78 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.34          4.66          6.353 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=     71.10         34.90          41.78
     TOTAL RAINFALL   (mm)=     73.10         73.10          73.10
     RUNOFF COEFFICIENT   =      0.97          0.48           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.6350      1.5914
                         0.3160     0.7624   |   6.9200      1.8001
                         1.7040     0.8931   |   7.9010      2.0070
                         3.5140     1.1218   |   8.3010      2.0170
                         4.5020     1.3405   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800     6.353     6.00      41.78
     OUTFLOW: ID= 1 (5230)     78.800     3.939     6.50      41.77

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.00
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2213

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| ADD HYD   (8172) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2302):   126.70   7.277     6.25    32.49
      + ID2= 2 (5230):    78.80   3.939     6.50    41.77
        ==========================================================
        ID = 3 (8172):   205.50  10.709     6.25    36.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

    Unit Hyd Qpeak  (cms)=   5.391

    PEAK FLOW      (cms)=   2.653 (i)
    TIME TO PEAK   (hrs)=   7.250
    RUNOFF VOLUME   (mm)=  18.212
    TOTAL RAINFALL  (mm)=  73.100
    RUNOFF COEFFICIENT  =   0.249

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0232):   314.80   2.653     7.25    18.21
      + ID2= 2 (8172):   205.50  10.709     6.25    36.05
        ==========================================================
        ID = 3 (8173):   520.30  12.711     6.25    25.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8174) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8170): 17654.26 118.234     9.50    25.93
      + ID2= 2 (8173):   520.30  12.711     6.25    25.26
        ==========================================================
        ID = 3 (8174): 18174.56 121.348     9.50    25.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2341.0) ------>
              Distance      Elevation        Manning
                 0.00         228.00         0.0550
                42.86         223.21         0.0550
                85.72         219.56         0.0550
               107.15         219.42         0.0550
               128.58         219.39         0.0550
               214.30         219.30         0.0550
               225.02         219.26         0.0550
               235.73         219.24         0.0550
               255.16         219.20    0.0550 /0.0350  Main Channel
               257.16         217.20         0.0350      Main Channel
               303.16         217.20         0.0350      Main Channel
               305.16         219.20    0.0350 /0.0550  Main Channel
               310.74         219.28         0.0550
               321.45         219.27         0.0550
               332.17         219.26         0.0550
               396.46         219.29         0.0550
               782.20         222.91         0.0550
               878.64         227.43         0.0550
               964.36         227.80         0.0550
              1060.79         228.00         0.0550

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   217.70    .887E+05       7.2          0.31      206.54
      1.00   218.20    .179E+06      22.7          0.48      131.74
      1.50   218.70    .272E+06      44.5          0.62      101.75
      2.00   219.20    .366E+06      71.8          0.75       84.97
      2.59   219.79    .993E+06     136.1          0.52      121.59
      3.17   220.37    .189E+07     258.6          0.52      121.80
      3.76   220.96    .294E+07     434.7          0.56      112.82
      4.35   221.55    .415E+07     665.9          0.61      103.88
      4.93   222.13    .551E+07     955.0          0.66       96.22
      5.52   222.72    .703E+07    1305.1          0.71       89.80
      6.11   223.31    .868E+07    1744.9          0.77       82.91
      6.69   223.89    .104E+08    2261.4          0.83       76.46
      7.28   224.48    .121E+08    2838.0          0.89       71.12
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  7.87   225.07    .139E+08    3472.9          0.95      66.63
  8.45   225.65    .157E+08    4165.0          1.01      62.82
  9.04   226.24    .176E+08    4913.5          1.07      59.54
  9.63   226.83    .194E+08    5717.7          1.12      56.68
 10.21   227.41    .214E+08    6577.1          1.17      54.18
 10.80   228.00    .235E+08    6919.5          1.12      56.61

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8174) *******   121.35    9.50  25.91      2.45      0.56
OUTFLOW: ID= 1 (6234) *******   106.85   12.00  25.91      2.32      0.61


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| CALIB            |
| STANDHYD  (0234) |   Area    (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.78       208.38
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1334.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        12.21
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.10 (ii)   39.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.16         3.81          5.688 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10        11.69         16.44
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.16          0.22

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  39.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0234):   267.16   5.688     6.00    16.44
       + ID2= 2 (6234): 18174.56 106.845    12.00    25.91
         ================================================
         ID = 3 (8176): 18441.72 107.257    12.00    25.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0238) |   Area    (ha)= 311.70   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   1.603 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  15.726
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0236) |   Area    (ha)= 494.49   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=   3.138 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.181
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2381.0) ------>
             Distance      Elevation       Manning
                0.00         241.54        0.0380
              602.55         227.00        0.0380
             1702.00         224.50        0.0380
             1721.25         223.00        0.0380
             1725.10         222.60        0.0380
             1780.94         222.50        0.0380
             1782.87         222.45        0.0380
             1784.79         222.40    0.0300 /0.0300  Main Channel
             1786.57         221.75        0.0300      Main Channel
             1787.07         220.75        0.0300      Main Channel
             1787.57         220.75        0.0300      Main Channel
             1791.57         220.75        0.0300      Main Channel
             1794.07         221.75        0.0300      Main Channel
             1798.27         222.00        0.0300      Main Channel
             1800.19         222.35    0.0300 /0.0380  Main Channel
             1802.12         222.47        0.0380
             1840.63         223.00        0.0380
             1900.00         225.00        0.0380
             1950.00         226.00        0.0380
             2242.61         240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.80   221.55    .101E+05        5.2         1.14       32.36
      1.60   222.35    .296E+05       18.7         1.40       26.36
      2.64   223.39    .249E+06      151.8         1.35       27.33
      3.68   224.43    .613E+06      512.2         1.85       19.94
      4.71   225.46    .152E+07     1066.8         1.55       23.80
      5.75   226.50    .359E+07     2824.9         1.75       21.16
      6.79   227.54    .663E+07     6528.0         2.18       16.93
      7.83   228.58    .994E+07    12158.6         2.71       13.62
      8.87   229.62    .134E+08    19268.8         3.19       11.58
      9.91   230.66    .170E+08    27785.3         3.63       10.19
     10.94   231.69    .207E+08    37667.1         4.03        9.18
     11.98   232.73    .246E+08    48891.7         4.40        8.40
     13.02   233.77    .287E+08    61448.0         4.75        7.78
     14.06   234.81    .329E+08    75332.7         5.08        7.28
     15.10   235.85    .372E+08    90547.8         5.39        6.85
     16.14   236.89    .417E+08    *******         5.69        6.49
     17.17   237.92    .464E+08    *******         5.98        6.18
     18.21   238.96    .512E+08    *******         6.25        5.91
     19.25   240.00    .561E+08    *******         6.52        5.67

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0236)  494.49     3.14    8.00  16.18      0.48      1.14
OUTFLOW: ID= 1 (6238)  494.49     3.04    8.50  16.18      0.46      1.14


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--------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0238):   311.70   1.603     8.25    15.73
       + ID2= 2 (6238):   494.49   3.041     8.50    16.18
         ================================================
         ID = 3 (8180):   806.19   4.640     8.50    16.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8178) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18441.72 107.257    12.00    25.77
       + ID2= 2 (8180):   806.19   4.640     8.50    16.01
         ================================================
         ID = 3 (8178): 19247.91 110.592    11.75    25.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2401.0) ------>
             Distance      Elevation       Manning
                0.00         222.00        0.0450
               11.46         221.00        0.0450
              208.98         221.00        0.0450
              404.04         220.97        0.0450
```

808.08	220.83	0.0450	
905.60	220.17	0.0450	
919.53	219.43	0.0450	
933.47	219.22	0.0450	
945.26	219.21	0.0450 /0.0300	Main Channel
946.26	217.81	0.0300	Main Channel
975.26	217.81	0.0300	Main Channel
1003.26	217.81	0.0300	Main Channel
1005.26	219.21	0.0300 /0.0450	Main Channel
1017.06	219.28	0.0450	
1030.99	219.26	0.0450	
1044.92	219.23	0.0450	
1058.86	219.23	0.0450	
1253.91	219.22	0.0450	
1323.57	221.05	0.0450	
1379.30	222.00	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	218.01	.307E+05	2.2	0.20	227.52
0.40	218.21	.617E+05	7.1	0.31	143.95
0.60	218.41	.928E+05	14.0	0.41	110.33
0.80	218.61	.124E+06	22.6	0.49	91.46
1.00	218.81	.156E+06	32.8	0.57	79.15
1.20	219.01	.188E+06	44.5	0.64	70.38
1.40	219.21	.220E+06	57.5	0.70	63.77
1.63	219.44	.413E+06	82.5	0.54	83.52
1.87	219.68	.632E+06	120.9	0.51	87.03
2.10	219.91	.858E+06	170.0	0.53	84.11
2.33	220.14	.109E+07	228.7	0.56	79.62
2.56	220.37	.134E+07	294.4	0.59	76.03
2.80	220.61	.162E+07	371.1	0.61	72.75
3.03	220.84	.192E+07	456.8	0.64	70.18
3.26	221.07	.251E+07	552.1	0.59	75.74
3.49	221.30	.333E+07	711.8	0.57	78.07
3.73	221.54	.417E+07	907.0	0.58	76.62
3.96	221.77	.502E+07	1134.1	0.61	73.70
4.19	222.00	.587E+07	1390.9	0.64	70.34

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8178) *******	110.59	11.75	25.37		1.80	0.52
OUTFLOW: ID= 1 (6240) *******	103.56	13.25	25.37		1.76	0.52

CALIB			
NASHYD (0240)	Area (ha)= 434.37	Curve Number (CN)= 46.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 3.60		

Unit Hyd Qpeak (cms)= 2.058

PEAK FLOW (cms)= 0.942 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 12.642
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.173

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8182)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0240):	434.37	0.942	12.00	12.64
+ ID2= 2 (6240):	19247.91	103.562	13.25	25.37
ID = 3 (8182):	19682.28	104.464	13.25	25.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0242)	Area (ha)= 657.88	Curve Number (CN)= 52.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 5.37		

Unit Hyd Qpeak (cms)= 2.090

PEAK FLOW (cms)= 1.221 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 15.315
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.210

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8184)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	657.88	1.221	12.75	15.32
+ ID2= 2 (8182):	19682.28	104.464	13.25	25.08
ID = 3 (8184):	20340.16	105.684	13.25	24.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6244)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2441.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0450	
2.50	220.10	0.0450	
3.00	220.06	0.0450	
3.64	220.07	0.0450	
7.28	220.08	0.0450	
10.91	220.09	0.0450	
14.55	219.81	0.0450	
18.19	219.29	0.0450	
24.13	219.21	0.0450 /0.0300	Main Channel
24.63	217.81	0.0300	Main Channel
69.13	217.81	0.0300	Main Channel
114.13	217.81	0.0300	Main Channel
115.13	219.21	0.0300 /0.0450	Main Channel
120.06	219.25	0.0450	
123.70	219.32	0.0450	
127.34	219.77	0.0450	
130.98	219.88	0.0450	
134.61	219.99	0.0450	
350.00	220.18	0.0450	
360.18	225.00	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	218.16	.108E+06	9.0	0.29	200.52
0.70	218.51	.216E+06	28.4	0.45	126.89
1.05	218.86	.325E+06	55.7	0.59	97.27
1.40	219.21	.434E+06	89.7	0.71	80.65
1.79	219.60	.574E+06	135.9	0.81	70.36
2.17	219.98	.726E+06	190.8	0.90	63.38
2.56	220.37	.111E+07	264.3	0.82	69.82
2.94	220.75	.157E+07	371.7	0.81	70.36
3.33	221.14	.203E+07	503.4	0.85	67.30
3.72	221.53	.250E+07	656.6	0.90	63.40
4.10	221.91	.296E+07	829.6	0.96	59.54
4.49	222.30	.343E+07	1021.1	1.02	56.00
4.87	222.68	.390E+07	1230.2	1.08	52.83
5.26	223.07	.437E+07	1456.2	1.14	50.01
5.65	223.46	.484E+07	1698.4	1.20	47.51
6.03	223.84	.531E+07	1956.3	1.26	45.28
6.42	224.23	.579E+07	2229.3	1.32	43.28
6.80	224.61	.626E+07	2517.0	1.38	41.48
7.19	225.00	.674E+07	2819.2	1.44	39.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8184) *******	105.68	13.25	24.77		1.53	0.74
OUTFLOW: ID= 1 (6244) *******	101.74	14.25	24.77		1.50	0.73

CALIB			
NASHYD (0244)	Area (ha)=1908.71	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.20		

Unit Hyd Qpeak (cms)= 14.812

PEAK FLOW (cms)= 9.643 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 20.057
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.274

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8186)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0244):	1908.71	9.643	9.75	20.06
+ ID2= 2 (6244):	20340.16	101.742	14.25	24.77

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        ================================================
        ID = 3 (8186): 22248.87 108.424    13.75    24.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK      (hrs)=  12.25
-------------------   VOLUME     (mm)=  23.69
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
  Comments:

        HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
        ACTUAL PEAK FLOW: PEAK ( 144.56) + BASE (   0.00) =  144.56  (cms).
```

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	0.000	64.00	1.855	128.00	0.308	192.00	0.047	256.00	0.007
0.25	0.000	64.25	1.842	128.25	0.306	192.25	0.047	256.25	0.007
0.50	0.000	64.50	1.829	128.50	0.303	192.50	0.046	256.50	0.007
0.75	0.000	64.75	1.816	128.75	0.301	192.75	0.046	256.75	0.007
1.00	0.000	65.00	1.803	129.00	0.299	193.00	0.046	257.00	0.007
1.25	0.085	65.25	1.791	129.25	0.297	193.25	0.045	257.25	0.007
1.50	0.208	65.50	1.778	129.50	0.295	193.50	0.045	257.50	0.006
1.75	0.313	65.75	1.766	129.75	0.293	193.75	0.045	257.75	0.006
2.00	0.400	66.00	1.753	130.00	0.291	194.00	0.044	258.00	0.006
2.25	0.498	66.25	1.741	130.25	0.289	194.25	0.044	258.25	0.006
2.50	0.580	66.50	1.729	130.50	0.286	194.50	0.044	258.50	0.006
2.75	0.650	66.75	1.717	130.75	0.284	194.75	0.043	258.75	0.006
3.00	0.716	67.00	1.705	131.00	0.282	195.00	0.043	259.00	0.006
3.25	0.839	67.25	1.693	131.25	0.280	195.25	0.043	259.25	0.006
3.50	0.964	67.50	1.681	131.50	0.278	195.50	0.042	259.50	0.006
3.75	1.100	67.75	1.669	131.75	0.276	195.75	0.042	259.75	0.006
4.00	1.249	68.00	1.658	132.00	0.274	196.00	0.042	260.00	0.006
4.25	1.544	68.25	1.646	132.25	0.272	196.25	0.041	260.25	0.006
4.50	1.872	68.50	1.635	132.50	0.270	196.50	0.041	260.50	0.006
4.75	2.387	68.75	1.623	132.75	0.268	196.75	0.041	260.75	0.006
5.00	2.976	69.00	1.612	133.00	0.267	197.00	0.040	261.00	0.006
5.25	3.963	69.25	1.601	133.25	0.265	197.25	0.040	261.25	0.006
5.50	5.126	69.50	1.590	133.50	0.263	197.50	0.040	261.50	0.006
5.75	9.707	69.75	1.579	133.75	0.261	197.75	0.040	261.75	0.006
6.00	25.792	70.00	1.568	134.00	0.259	198.00	0.039	262.00	0.006
6.25	36.164	70.25	1.557	134.25	0.257	198.25	0.039	262.25	0.006
6.50	49.238	70.50	1.546	134.50	0.255	198.50	0.039	262.50	0.006
6.75	58.367	70.75	1.536	134.75	0.253	198.75	0.038	262.75	0.006
7.00	66.108	71.00	1.525	135.00	0.252	199.00	0.038	263.00	0.005
7.25	72.855	71.25	1.515	135.25	0.250	199.25	0.038	263.25	0.005
7.50	79.285	71.50	1.504	135.50	0.248	199.50	0.038	263.50	0.005
7.75	85.557	71.75	1.494	135.75	0.246	199.75	0.037	263.75	0.005
8.00	91.823	72.00	1.483	136.00	0.244	200.00	0.037	264.00	0.005
8.25	97.744	72.25	1.473	136.25	0.243	200.25	0.037	264.25	0.005
8.50	103.461	72.50	1.463	136.50	0.241	200.50	0.036	264.50	0.005
8.75	108.922	72.75	1.453	136.75	0.239	200.75	0.036	264.75	0.005
9.00	114.168	73.00	1.443	137.00	0.237	201.00	0.036	265.00	0.005
9.25	119.183	73.25	1.433	137.25	0.236	201.25	0.036	265.25	0.005
9.50	123.942	73.50	1.423	137.50	0.234	201.50	0.035	265.50	0.005
9.75	127.622	73.75	1.414	137.75	0.232	201.75	0.035	265.75	0.005
10.00	130.315	74.00	1.404	138.00	0.231	202.00	0.035	266.00	0.005
10.25	132.789	74.25	1.394	138.25	0.229	202.25	0.035	266.25	0.005
10.50	135.115	74.50	1.385	138.50	0.227	202.50	0.034	266.50	0.005
10.75	137.263	74.75	1.375	138.75	0.226	202.75	0.034	266.75	0.005
11.00	139.232	75.00	1.366	139.00	0.224	203.00	0.034	267.00	0.005
11.25	140.972	75.25	1.356	139.25	0.222	203.25	0.034	267.25	0.005
11.50	142.403	75.50	1.347	139.50	0.221	203.50	0.033	267.50	0.005
11.75	143.503	75.75	1.338	139.75	0.219	203.75	0.033	267.75	0.005
12.00	144.303	76.00	1.328	140.00	0.218	204.00	0.033	268.00	0.005
12.25	144.560	76.25	1.319	140.25	0.216	204.25	0.033	268.25	0.005
12.50	144.453	76.50	1.310	140.50	0.214	204.50	0.032	268.50	0.005
12.75	143.971	76.75	1.301	140.75	0.213	204.75	0.032	268.75	0.005
13.00	143.192	77.00	1.292	141.00	0.211	205.00	0.032	269.00	0.005
13.25	142.159	77.25	1.283	141.25	0.210	205.25	0.032	269.25	0.005
13.50	140.873	77.50	1.275	141.50	0.208	205.50	0.031	269.50	0.005
13.75	139.388	77.75	1.266	141.75	0.207	205.75	0.031	269.75	0.004
14.00	137.717	78.00	1.257	142.00	0.205	206.00	0.031	270.00	0.004
14.25	135.883	78.25	1.248	142.25	0.204	206.25	0.031	270.25	0.004
14.50	133.898	78.50	1.240	142.50	0.202	206.50	0.030	270.50	0.004
14.75	131.766	78.75	1.231	142.75	0.201	206.75	0.030	270.75	0.004
15.00	129.504	79.00	1.223	143.00	0.199	207.00	0.030	271.00	0.004
15.25	127.137	79.25	1.214	143.25	0.198	207.25	0.030	271.25	0.004
15.50	124.689	79.50	1.206	143.50	0.196	207.50	0.030	271.50	0.004
15.75	122.186	79.75	1.198	143.75	0.195	207.75	0.029	271.75	0.004
16.00	119.651	80.00	1.189	144.00	0.193	208.00	0.029	272.00	0.004
16.25	117.098	80.25	1.181	144.25	0.192	208.25	0.029	272.25	0.004
16.50	114.537	80.50	1.173	144.50	0.191	208.50	0.029	272.50	0.004
16.75	111.977	80.75	1.165	144.75	0.189	208.75	0.028	272.75	0.004
17.00	109.426	81.00	1.157	145.00	0.188	209.00	0.028	273.00	0.004
17.25	106.891	81.25	1.149	145.25	0.187	209.25	0.028	273.25	0.004
17.50	104.379	81.50	1.141	145.50	0.185	209.50	0.028	273.50	0.004
17.75	101.896	81.75	1.133	145.75	0.184	209.75	0.028	273.75	0.004
18.00	99.434	82.00	1.126	146.00	0.183	210.00	0.027	274.00	0.004
18.25	96.977	82.25	1.118	146.25	0.181	210.25	0.027	274.25	0.004
18.50	94.529	82.50	1.110	146.50	0.180	210.50	0.027	274.50	0.004
18.75	91.995	82.75	1.103	146.75	0.179	210.75	0.027	274.75	0.004
19.00	88.472	83.00	1.095	147.00	0.177	211.00	0.027	275.00	0.004
19.25	85.313	83.25	1.088	147.25	0.176	211.25	0.026	275.25	0.004
19.50	82.445	83.50	1.080	147.50	0.175	211.50	0.026	275.50	0.004
19.75	79.807	83.75	1.073	147.75	0.173	211.75	0.026	275.75	0.004
20.00	77.233	84.00	1.065	148.00	0.172	212.00	0.026	276.00	0.004
20.25	74.604	84.25	1.058	148.25	0.171	212.25	0.026	276.25	0.004
20.50	71.958	84.50	1.051	148.50	0.170	212.50	0.025	276.50	0.004
20.75	69.328	84.75	1.043	148.75	0.168	212.75	0.025	276.75	0.004
21.00	66.740	85.00	1.036	149.00	0.167	213.00	0.025	277.00	0.004
21.25	64.210	85.25	1.029	149.25	0.166	213.25	0.025	277.25	0.004
21.50	61.750	85.50	1.022	149.50	0.165	213.50	0.025	277.50	0.004
21.75	59.364	85.75	1.015	149.75	0.164	213.75	0.024	277.75	0.003
22.00	57.058	86.00	1.008	150.00	0.162	214.00	0.024	278.00	0.003
22.25	54.831	86.25	1.001	150.25	0.161	214.25	0.024	278.25	0.003
22.50	52.684	86.50	0.994	150.50	0.160	214.50	0.024	278.50	0.003
22.75	50.616	86.75	0.987	150.75	0.159	214.75	0.024	278.75	0.003
23.00	48.624	87.00	0.980	151.00	0.158	215.00	0.024	279.00	0.003
23.25	46.709	87.25	0.974	151.25	0.157	215.25	0.023	279.25	0.003
23.50	44.870	87.50	0.967	151.50	0.155	215.50	0.023	279.50	0.003
23.75	43.104	87.75	0.960	151.75	0.154	215.75	0.023	279.75	0.003
24.00	41.409	88.00	0.954	152.00	0.153	216.00	0.023	280.00	0.003
24.25	39.785	88.25	0.947	152.25	0.152	216.25	0.023	280.25	0.003
24.50	38.226	88.50	0.940	152.50	0.151	216.50	0.023	280.50	0.003
24.75	36.733	88.75	0.934	152.75	0.150	216.75	0.022	280.75	0.003
25.00	35.301	89.00	0.928	153.00	0.149	217.00	0.022	281.00	0.003
25.25	33.929	89.25	0.921	153.25	0.148	217.25	0.022	281.25	0.003
25.50	32.614	89.50	0.915	153.50	0.147	217.50	0.022	281.50	0.003
25.75	31.356	89.75	0.908	153.75	0.146	217.75	0.022	281.75	0.003
26.00	30.155	90.00	0.902	154.00	0.144	218.00	0.022	282.00	0.003
26.25	29.009	90.25	0.896	154.25	0.143	218.25	0.021	282.25	0.003
26.50	27.915	90.50	0.890	154.50	0.142	218.50	0.021	282.50	0.003
26.75	26.868	90.75	0.884	154.75	0.141	218.75	0.021	282.75	0.003
27.00	25.867	91.00	0.877	155.00	0.140	219.00	0.021	283.00	0.003
27.25	24.908	91.25	0.871	155.25	0.139	219.25	0.021	283.25	0.003
27.50	23.990	91.50	0.865	155.50	0.138	219.50	0.021	283.50	0.003
27.75	23.110	91.75	0.859	155.75	0.137	219.75	0.020	283.75	0.003
28.00	22.267	92.00	0.853	156.00	0.136	220.00	0.020	284.00	0.003
28.25	21.459	92.25	0.847	156.25	0.135	220.25	0.020	284.25	0.003
28.50	20.685	92.50	0.842	156.50	0.134	220.50	0.020	284.50	0.003
28.75	19.943	92.75	0.836	156.75	0.133	220.75	0.020	284.75	0.003
29.00	19.232	93.00	0.830	157.00	0.132	221.00	0.020	285.00	0.003
29.25	18.550	93.25	0.824	157.25	0.131	221.25	0.020	285.25	0.003
29.50	17.897	93.50	0.818	157.50	0.130	221.50	0.019	285.50	0.003
29.75	17.271	93.75	0.813	157.75	0.129	221.75	0.019	285.75	0.003
30.00	16.671	94.00	0.807	158.00	0.129	222.00	0.019	286.00	0.003
30.25	16.096	94.25	0.801	158.25	0.128	222.25	0.019	286.25	0.003
30.50	15.545	94.50	0.796	158.50	0.127	222.50	0.019	286.50	0.003
30.75	15.016	94.75	0.790	158.75	0.126	222.75	0.019	286.75	0.003
31.00	14.509	95.00	0.785	159.00	0.125	223.00	0.019	287.00	0.003
31.25	14.023	95.25	0.779	159.25	0.124	223.25	0.018	287.25	0.003
31.50	13.557	95.50	0.774	159.50	0.123	223.50	0.018	287.50	0.003
31.75	13.110	95.75	0.769	159.75	0.122	223.75	0.018	287.75	0.003
32.00	12.682	96.00	0.763	160.00	0.121	224.00	0.018	288.00	0.003
32.25	12.272	96.25	0.758	160.25	0.120	224.25	0.018	288.25	0.003
32.50	11.878	96.50	0.753	160.50	0.119	224.50	0.018	288.50	0.003
32.75	11.501	96.75	0.747	160.75	0.119	224.75	0.018	288.75	0.002
33.00	11.139	97.00	0.742	161.00	0.118	225.00	0.017	289.00	0.002
33.25	10.793	97.25	0.737	161.25	0.117	225.25	0.017	289.25	0.002
33.50	10.461	97.50	0.732	161.50	0.116	225.50	0.017	289.50	0.002
33.75	10.143	97.75	0.727	161.75	0.115	225.75	0.017	289.75	0.002
34.00	9.838	98.00	0.722	162.00	0.114	226.00	0.017	290.00	0.002
34.25	9.546	98.25	0.717	162.25	0.113	226.25	0.017	290.25	0.002
34.50	9.266	98.50	0.712	162.50	0.113	226.50	0.017	290.50	0.002
34.75	8.998	98.75	0.707	162.75	0.112	226.75	0.017	290.75	0.002
35.00	8.742	99.00	0.702	163.00	0.111	227.00	0.016	291.00	0.002
35.25	8.496	99.25	0.697	163.25	0.110	227.25	0.016	291.25	0.002
35.50	8.260	99.50	0.692	163.50	0.109	227.50	0.016	291.50	0.002
35.75	8.035	99.75	0.687	163.75	0.109	227.75	0.016	291.75	0.002
36.00	7.819	100.00	0.682	164.00	0.108	228.00	0.016	292.00	0.002
36.25	7.611	100.25	0.678	164.25	0.107	228.25	0.016	292.25	0.002
36.50	7.413	100.50	0.673	164.50	0.106	228.50	0.016	292.50	0.002
36.75	7.222	100.75	0.668	164.75	0.105	228.75	0.016	292.75	0.002
37.00	7.040	101.00	0.663	165.00	0.105	229.00	0.015	293.00	0.002
37.25	6.865	101.25	0.659	165.25	0.104	229.25	0.015	293.25	0.002
37.50	6.696	101.50	0.654	165.50	0.103	229.50	0.015	293.50	0.002
37.75	6.535	101.75	0.650	165.75	0.102	229.75	0.015	293.75	0.002
38.00	6.380	102.00	0.645	166.00	0.102	230.00	0.015	294.00	0.002
38.25	6.232	102.25	0.641	166.25	0.101	230.25	0.015	294.25	0.002
38.50	6.089	102.50	0.636	166.50	0.100	230.50	0.015	294.50	0.002
38.75	5.951	102.75	0.632	166.75	0.099	230.75	0.015	294.75	0.002
39.00	5.820	103.00	0.627	167.00	0.099	231.00	0.015	295.00	0.002
39.25	5.693	103.25	0.623	167.25	0.098	231.25	0.014	295.25	0.002
39.50	5.571	103.50	0.618	167.50	0.097	231.50	0.014	295.50	0.002
39.75	5.454	103.75	0.614	167.75	0.096	231.75	0.014	295.75	0.002
40.00	5.341	104.00	0.610	168.00	0.096	232.00	0.014	296.00	0.002
40.25	5.232	104.25	0.605	168.25	0.095	232.25	0.014	296.25	0.002
40.50	5.128	104.50	0.601	168.50	0.094	232.50	0.014	296.50	0.002
40.75	5.027	104.75	0.597	168.75	0.094	232.75	0.014	296.75	0.002
41.00	4.930	105.00	0.593	169.00	0.093	233.00	0.014	297.00	0.002
41.25	4.837	105.25	0.589	169.25	0.092	233.25	0.014	297.25	0.002
41.50	4.747	105.50	0.585	169.50	0.092	233.50	0.013	297.50	0.002
41.75	4.660	105.75	0.580	169.75	0.091	233.75	0.013	297.75	0.002
42.00	4.576	106.00	0.576	170.00	0.090	234.00	0.013	298.00	0.002
42.25	4.496	106.25	0.572	170.25	0.090	234.25	0.013	298.25	0.002
42.50	4.418	106.50	0.568	170.50	0.089	234.50	0.013	298.50	0.002
42.75	4.343	106.75	0.564	170.75	0.088	234.75	0.013	298.75	0.002
43.00	4.270	107.00	0.560	171.00	0.088	235.00	0.013	299.00	0.002

43.25	4.200	107.25	0.556	171.25	0.087	235.25	0.013	299.25	0.002
43.50	4.132	107.50	0.552	171.50	0.086	235.50	0.013	299.50	0.002
43.75	4.067	107.75	0.549	171.75	0.086	235.75	0.013	299.75	0.002
44.00	4.004	108.00	0.545	172.00	0.085	236.00	0.012	300.00	0.002
44.25	3.943	108.25	0.541	172.25	0.084	236.25	0.012	300.25	0.002
44.50	3.883	108.50	0.537	172.50	0.084	236.50	0.012	300.50	0.002
44.75	3.826	108.75	0.533	172.75	0.083	236.75	0.012	300.75	0.002
45.00	3.771	109.00	0.529	173.00	0.083	237.00	0.012	301.00	0.002
45.25	3.717	109.25	0.526	173.25	0.082	237.25	0.012	301.25	0.002
45.50	3.665	109.50	0.522	173.50	0.081	237.50	0.012	301.50	0.002
45.75	3.614	109.75	0.518	173.75	0.081	237.75	0.012	301.75	0.002
46.00	3.566	110.00	0.515	174.00	0.080	238.00	0.012	302.00	0.002
46.25	3.518	110.25	0.511	174.25	0.080	238.25	0.012	302.25	0.002
46.50	3.472	110.50	0.507	174.50	0.079	238.50	0.012	302.50	0.002
46.75	3.428	110.75	0.504	174.75	0.078	238.75	0.011	302.75	0.002
47.00	3.384	111.00	0.500	175.00	0.078	239.00	0.011	303.00	0.002
47.25	3.342	111.25	0.497	175.25	0.077	239.25	0.011	303.25	0.002
47.50	3.301	111.50	0.493	175.50	0.077	239.50	0.011	303.50	0.002
47.75	3.261	111.75	0.490	175.75	0.076	239.75	0.011	303.75	0.002
48.00	3.223	112.00	0.486	176.00	0.076	240.00	0.011	304.00	0.002
48.25	3.185	112.25	0.483	176.25	0.075	240.25	0.011	304.25	0.002
48.50	3.148	112.50	0.479	176.50	0.074	240.50	0.011	304.50	0.002
48.75	3.113	112.75	0.476	176.75	0.074	240.75	0.011	304.75	0.002
49.00	3.078	113.00	0.473	177.00	0.073	241.00	0.011	305.00	0.002
49.25	3.044	113.25	0.469	177.25	0.073	241.25	0.011	305.25	0.001
49.50	3.011	113.50	0.466	177.50	0.072	241.50	0.011	305.50	0.001
49.75	2.979	113.75	0.463	177.75	0.072	241.75	0.010	305.75	0.001
50.00	2.947	114.00	0.459	178.00	0.071	242.00	0.010	306.00	0.001
50.25	2.917	114.25	0.456	178.25	0.071	242.25	0.010	306.25	0.001
50.50	2.887	114.50	0.453	178.50	0.070	242.50	0.010	306.50	0.001
50.75	2.857	114.75	0.450	178.75	0.070	242.75	0.010	306.75	0.001
51.00	2.829	115.00	0.447	179.00	0.069	243.00	0.010	307.00	0.001
51.25	2.801	115.25	0.443	179.25	0.069	243.25	0.010	307.25	0.001
51.50	2.774	115.50	0.440	179.50	0.068	243.50	0.010	307.50	0.001
51.75	2.747	115.75	0.437	179.75	0.068	243.75	0.010	307.75	0.001
52.00	2.721	116.00	0.434	180.00	0.067	244.00	0.010	308.00	0.001
52.25	2.695	116.25	0.431	180.25	0.067	244.25	0.010	308.25	0.001
52.50	2.670	116.50	0.428	180.50	0.066	244.50	0.010	308.50	0.001
52.75	2.645	116.75	0.425	180.75	0.066	244.75	0.010	308.75	0.001
53.00	2.621	117.00	0.422	181.00	0.065	245.00	0.010	309.00	0.001
53.25	2.597	117.25	0.419	181.25	0.065	245.25	0.009	309.25	0.001
53.50	2.574	117.50	0.416	181.50	0.064	245.50	0.009	309.50	0.001
53.75	2.551	117.75	0.413	181.75	0.064	245.75	0.009	309.75	0.001
54.00	2.529	118.00	0.410	182.00	0.063	246.00	0.009	310.00	0.001
54.25	2.507	118.25	0.407	182.25	0.063	246.25	0.009	310.25	0.001
54.50	2.485	118.50	0.404	182.50	0.062	246.50	0.009	310.50	0.001
54.75	2.464	118.75	0.401	182.75	0.062	246.75	0.009	310.75	0.001
55.00	2.443	119.00	0.398	183.00	0.061	247.00	0.009	311.00	0.001
55.25	2.423	119.25	0.396	183.25	0.061	247.25	0.009	311.25	0.001
55.50	2.403	119.50	0.393	183.50	0.061	247.50	0.009	311.50	0.001
55.75	2.383	119.75	0.390	183.75	0.060	247.75	0.009	311.75	0.001
56.00	2.363	120.00	0.387	184.00	0.060	248.00	0.009	312.00	0.001
56.25	2.344	120.25	0.384	184.25	0.059	248.25	0.009	312.25	0.001
56.50	2.325	120.50	0.382	184.50	0.059	248.50	0.009	312.50	0.001
56.75	2.306	120.75	0.379	184.75	0.058	248.75	0.008	312.75	0.001
57.00	2.288	121.00	0.376	185.00	0.058	249.00	0.008	313.00	0.001
57.25	2.270	121.25	0.374	185.25	0.057	249.25	0.008	313.25	0.001
57.50	2.252	121.50	0.371	185.50	0.057	249.50	0.008	313.50	0.001
57.75	2.234	121.75	0.368	185.75	0.057	249.75	0.008	313.75	0.001
58.00	2.217	122.00	0.366	186.00	0.056	250.00	0.008	314.00	0.001
58.25	2.200	122.25	0.363	186.25	0.056	250.25	0.008	314.25	0.001
58.50	2.183	122.50	0.360	186.50	0.055	250.50	0.008	314.50	0.001
58.75	2.166	122.75	0.358	186.75	0.055	250.75	0.008	314.75	0.001
59.00	2.149	123.00	0.355	187.00	0.055	251.00	0.008	315.00	0.001
59.25	2.133	123.25	0.353	187.25	0.054	251.25	0.008	315.25	0.001
59.50	2.117	123.50	0.350	187.50	0.054	251.50	0.008	315.50	0.001
59.75	2.101	123.75	0.348	187.75	0.053	251.75	0.008	315.75	0.001
60.00	2.085	124.00	0.345	188.00	0.053	252.00	0.008	316.00	0.001
60.25	2.070	124.25	0.343	188.25	0.053	252.25	0.008	316.25	0.001
60.50	2.054	124.50	0.340	188.50	0.052	252.50	0.008	316.50	0.001
60.75	2.039	124.75	0.338	188.75	0.052	252.75	0.008	316.75	0.001
61.00	2.024	125.00	0.336	189.00	0.051	253.00	0.007	317.00	0.001
61.25	2.009	125.25	0.333	189.25	0.051	253.25	0.007	317.25	0.001
61.50	1.995	125.50	0.331	189.50	0.051	253.50	0.007	317.50	0.001
61.75	1.980	125.75	0.328	189.75	0.050	253.75	0.007	317.75	0.001
62.00	1.966	126.00	0.326	190.00	0.050	254.00	0.007	318.00	0.001
62.25	1.951	126.25	0.324	190.25	0.049	254.25	0.007	318.25	0.001
62.50	1.937	126.50	0.321	190.50	0.049	254.50	0.007	318.50	0.001
62.75	1.923	126.75	0.319	190.75	0.049	254.75	0.007		
63.00	1.910	127.00	0.317	191.00	0.048	255.00	0.007		
63.25	1.896	127.25	0.315	191.25	0.048	255.25	0.007		
63.50	1.882	127.50	0.312	191.50	0.048	255.50	0.007		
63.75	1.869	127.75	0.310	191.75	0.047	255.75	0.007		

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| ADD HYD   (8188) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8186): 22248.87 108.424    13.75    24.36
      + ID2= 2 (8190):  1908.71   9.643     9.75    20.06
        ================================================
        ID = 3 (8188): 24157.57 115.488    13.50    24.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB             |
| NASHYD    (4462) |   Area     (ha)=1366.10   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   4.22

     Unit Hyd Qpeak  (cms)=   5.524

     PEAK FLOW       (cms)=   4.134 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  20.096
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (4461) |   Area     (ha)= 108.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       54.45         54.45
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      852.06         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         55.43
           over (min)            15.00         30.00
     Storage Coeff.  (min)=      11.54 (ii)    25.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.06          3.80          9.444 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         26.06         39.57
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.36          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  61.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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```
-------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.6700     2.9494
                         0.3690     1.4413   |   1.8200     3.3343
                         0.5700     1.6830   |   1.9700     3.7111
                         1.0600     2.1139   |   2.3700     3.7211
                         1.3800     2.4971   |   0.0000     0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4461)    108.900      9.444      6.00      39.57
    OUTFLOW: ID= 1 (5446)    108.900      1.448      7.25      39.56

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.34
               TIME SHIFT OF PEAK FLOW         (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.6062
```

```
-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4462):  1366.10   4.134    12.00    20.10
      + ID2= 2 (5446):   108.90   1.448     7.25    39.56
        ================================================
        ID = 3 (8192):  1475.00   4.932    10.25    21.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8188): 24157.57 115.488    13.50    24.02
      + ID2= 2 (8192):  1475.00   4.932    10.25    21.53
        ================================================
        ID = 3 (8194): 25632.58 119.935    13.50    23.88
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0442)	Area	(ha)=	117.26	Curve Number (CN)=	43.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.17		

Unit Hyd Qpeak (cms)= 1.705

PEAK FLOW (cms)= 0.538 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 11.364
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.155

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0440)	Area	(ha)=	226.35	Curve Number (CN)=	60.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.11		

Unit Hyd Qpeak (cms)= 3.481

PEAK FLOW (cms)= 1.870 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 19.362
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.265

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0438)	Area	(ha)=	130.70	Curve Number (CN)=	51.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.60		

Unit Hyd Qpeak (cms)= 3.738

PEAK FLOW (cms)= 1.306 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 14.532
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.199

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0436)	Area	(ha)=	187.51	Curve Number (CN)=	55.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.73		

Unit Hyd Qpeak (cms)= 4.391

PEAK FLOW (cms)= 1.830 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 16.534
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.226

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0434)	Area	(ha)=	56.64	Curve Number (CN)=	46.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.52		

Unit Hyd Qpeak (cms)= 1.867

PEAK FLOW (cms)= 0.537 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 12.320
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.169

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8206)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0434):	56.64	0.537	6.50	12.32	
+ ID2= 2 (0436):	187.51	1.830	7.00	16.53	
ID = 3 (8206):	244.15	2.351	6.75	15.56	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6438)		
IN= 2---> OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (4381.0) ------>

Distance	Elevation	Manning	
0.00	256.00	0.0600	
9.23	255.50	0.0600	
27.69	255.00	0.0600	
50.77	254.90	0.0600	
64.62	254.85	0.0600	
78.47	252.26	0.0600	
96.93	249.44	0.0600	
129.24	245.94	0.0600	
145.40	245.76	0.0600	
146.20	245.80	0.0600 /0.0350	Main Channel
146.70	245.30	0.0350	Main Channel
147.70	245.30	0.0350	Main Channel
148.20	245.80	0.0350 /0.0600	Main Channel
150.01	245.78	0.0600	
152.32	245.79	0.0600	
163.86	246.72	0.0600	
175.40	249.07	0.0600	
186.94	253.15	0.0600	
196.17	255.38	0.0600	
228.48	255.55	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.221E+04	0.9	1.02	40.44
1.01	246.31	.352E+05	14.0	0.99	41.77
1.53	246.83	.841E+05	47.3	1.39	29.61
2.04	247.34	.144E+06	102.0	1.76	23.49
2.55	247.85	.213E+06	177.3	2.07	19.99
3.07	248.37	.291E+06	274.4	2.34	17.66
3.58	248.88	.378E+06	394.6	2.58	15.97
4.09	249.39	.474E+06	541.4	2.83	14.60
4.61	249.91	.578E+06	719.9	3.08	13.38
5.12	250.42	.688E+06	923.8	3.33	12.40
5.63	250.93	.803E+06	1153.3	3.56	11.61
6.14	251.44	.925E+06	1408.6	3.77	10.95
6.66	251.96	.105E+07	1690.6	3.98	10.38
7.17	252.47	.119E+07	2002.3	4.18	9.88
7.68	252.98	.133E+07	2345.4	4.38	9.43
8.20	253.50	.147E+07	2710.1	4.56	9.05
8.71	254.01	.162E+07	3101.0	4.73	8.72
9.22	254.52	.178E+07	3521.8	4.90	8.43
9.74	255.04	.195E+07	3467.6	4.39	9.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8206)	244.15	2.35	6.75	15.56	0.56	1.02
OUTFLOW: ID= 1 (6438)	244.15	2.06	7.75	15.56	0.54	1.02

ADD HYD (8208)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0438):	130.70	1.306	6.75	14.53	
+ ID2= 2 (6438):	244.15	2.063	7.75	15.56	
ID = 3 (8208):	374.85	3.183	7.25	15.20	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8210)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0440):	226.35	1.870	7.50	19.36	
+ ID2= 2 (8208):	374.85	3.183	7.25	15.20	
ID = 3 (8210):	601.20	5.052	7.50	16.77	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0432)	Area	(ha)=	114.21	Curve Number (CN)=	53.0
ID= 1 DT=15.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	1.50

```
--------------------  U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.714 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.687
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   1.425 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.354
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.582 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.436
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   2.322 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  19.908
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------  U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   0.900 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  18.121
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   0.900     6.50    18.12
       + ID2= 2 (0426):   247.17   2.322     7.25    19.91
         ================================================
         ID = 3 (8198):   296.74   3.036     6.75    19.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (4281.0) ------>
               Distance      Elevation        Manning
                  0.00         246.54         0.0900
                  8.80         246.29         0.0900
                 30.78         246.03         0.0900
                 41.78         243.97         0.0900
                 63.77         237.16         0.0900
                 85.76         232.53         0.0900
                 96.75         230.16         0.0900
                109.94         228.40         0.0900
                112.14         228.28    0.0900 /0.0450  Main Channel
                112.84         228.00         0.0450      Main Channel
                113.34         227.50         0.0450      Main Channel
                114.34         227.50         0.0450      Main Channel
                114.84         228.00         0.0450      Main Channel
                116.54         228.29    0.0450 /0.0900  Main Channel
                118.74         228.40         0.0900
                120.94         228.52         0.0900
                149.52         229.51         0.0900
                169.31         230.69         0.0900
                186.00         234.27         0.0900
                217.69         243.56         0.0900

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
      0.78   228.28    .205E+04        1.6          0.97      21.60
      1.58   229.08    .202E+05       16.6          1.02      20.37
      2.39   229.89    .665E+05       64.8          1.22      17.11
      3.19   230.69    .133E+06      158.1          1.49      14.05
      4.00   231.50    .213E+06      308.6          1.82      11.48
      4.80   232.30    .299E+06      504.9          2.11       9.89
      5.61   233.11    .394E+06      746.6          2.37       8.79
      6.41   233.91    .496E+06     1034.5          2.61       7.99
      7.21   234.71    .605E+06     1373.3          2.84       7.35
      8.02   235.52    .722E+06     1763.3          3.06       6.82
      8.82   236.32    .844E+06     2202.0          3.27       6.39
      9.63   237.13    .974E+06     2690.5          3.46       6.03
     10.43   237.93    .111E+07     3239.5          3.66       5.71
     11.23   238.73    .125E+07     3839.0          3.84       5.43
     12.04   239.54    .140E+07     4489.1          4.03       5.18
     12.84   240.34    .155E+07     5190.5          4.20       4.97
     13.65   241.15    .170E+07     5943.8          4.36       4.78
     14.45   241.95    .187E+07     6749.8          4.53       4.61
     15.26   242.76    .204E+07     7609.4          4.68       4.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8198)  296.74     3.04    6.75  19.61      0.86      0.97
    OUTFLOW: ID= 1 (6428)  296.74     2.92    7.25  19.61      0.85      0.97

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--------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.582     6.50    14.44
       + ID2= 2 (6428):   296.74   2.916     7.25    19.61
         ================================================
         ID = 3 (8200):   347.27   3.410     7.25    18.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   1.425     6.50    16.35
       + ID2= 2 (8200):   347.27   3.410     7.25    18.86
         ================================================
         ID = 3 (8202):   458.91   4.703     7.00    18.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (4321.0) ------>
               Distance      Elevation        Manning
                  0.00         221.00         0.0600
                 15.29         219.85         0.0600
                 45.86         219.86         0.0600
                 76.44         219.96         0.0600
                110.84         220.23         0.0600
                112.00         220.15         0.0600
```

```
              114.66        220.09        0.0600
              118.48        219.73        0.0600
              120.80        219.70    0.0600 /0.0350  Main Channel
              121.30        219.20        0.0350      Main Channel
              122.30        219.20        0.0350      Main Channel
              122.80        219.70    0.0350 /0.0600  Main Channel
              129.95        220.11        0.0600
              175.81        220.24        0.0600
              214.03        220.55        0.0600
              252.25        220.61        0.0600
              290.47        220.70        0.0600
              328.69        221.04        0.0600
              347.80        221.08        0.0600
              378.37        221.04        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.08   219.28    .185E+03        0.0          0.23     149.38
       0.17   219.37    .399E+03        0.1          0.34     100.62
       0.25   219.45    .641E+03        0.1          0.42      80.98
       0.33   219.53    .911E+03        0.2          0.49      69.79
       0.42   219.62    .121E+04        0.3          0.55      62.35
       0.50   219.70    .154E+04        0.5          0.60      56.91
       0.61   219.81    .267E+04        0.7          0.56      61.28
       0.71   219.91    .901E+04        1.3          0.30     112.96
       0.82   220.02    .249E+05        3.4          0.28     122.71
       0.92   220.12    .452E+05        6.8          0.31     109.98
       1.03   220.23    .747E+05       12.2          0.33     102.05
       1.14   220.34    .112E+06       21.3          0.39      87.59
       1.24   220.44    .153E+06       33.0          0.44      77.01
       1.35   220.55    .196E+06       47.2          0.49      69.22
       1.46   220.66    .248E+06       62.3          0.51      66.48
       1.56   220.76    .310E+06       83.4          0.55      62.06
       1.67   220.87    .376E+06      108.8          0.59      57.56
       1.77   220.97    .444E+06      137.7          0.64      53.77
       1.88   221.08    .517E+06      163.6          0.65      52.70

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91    4.70    7.00  18.25      0.86      0.29
     OUTFLOW: ID= 1 (6432)  458.91    3.07    9.25  18.25      0.80      0.28


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0432):   114.21   0.714     8.00    15.69
      + ID2= 2 (6432):   458.91   3.071     9.25    18.25
        ================================================
        ID = 3 (8204):   573.12   3.717     9.00    17.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8204):   573.12   3.717     9.00    17.74
      + ID2= 2 (8210):   601.20   5.052     7.50    16.77
        ================================================
        ID = 3 (8212):  1174.32   8.390     8.00    17.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation      Manning
                 0.00         221.00        0.0350
                26.73         220.80        0.0350
                53.47         220.60        0.0350
                66.83         220.40        0.0350
                80.20         220.20        0.0350
               347.52         220.00        0.0350
               354.21         219.59        0.0350
               360.89         219.50        0.0350
               367.57         219.08        0.0350
               368.76         219.00    0.0350 /0.0300  Main Channel
               369.26         218.50        0.0300      Main Channel
               374.26         218.50        0.0300      Main Channel
               374.76         219.00    0.0300 /0.0350  Main Channel
               380.94         220.33        0.0350
               387.62         219.62        0.0350
               394.31         219.23        0.0350
               454.45         219.07        0.0350
               514.60         219.09        0.0350
               660.00         219.19        0.0350
               661.63         221.00        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.12   218.62    .100E+04        0.2          0.28     92.89
       0.25   218.75    .205E+04        0.6          0.43     60.09
       0.37   218.87    .315E+04        1.1          0.55     46.99
       0.50   219.00    .430E+04        1.8          0.66     39.67
       0.63   219.13    .141E+05        3.4          0.37     69.99
       0.77   219.27    .652E+05       13.7          0.33     79.14
       0.90   219.40    .124E+06       35.5          0.45     58.02
       1.03   219.53    .183E+06       65.7          0.56     46.45
       1.17   219.67    .245E+06      103.8          0.66     39.30
       1.30   219.80    .307E+06      149.3          0.76     34.30
       1.43   219.93    .371E+06      201.6          0.85     30.65
       1.57   220.07    .440E+06      256.5          0.91     28.56
       1.70   220.20    .541E+06      325.7          0.94     27.70
       1.83   220.33    .663E+06      415.2          0.98     26.62
       1.97   220.47    .787E+06      520.3          1.03     25.21
       2.10   220.60    .913E+06      638.5          1.09     23.82
       2.23   220.73    .104E+07      767.2          1.15     22.62
       2.37   220.87    .117E+07      908.0          1.21     21.54
       2.50   221.00    .131E+07     1060.7          1.27     20.57

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32    8.39    8.00  17.24      0.70      0.35
     OUTFLOW: ID= 1 (6442) 1174.32    7.28    9.50  17.24      0.68      0.35


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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0442):   117.26   0.538     8.00    11.36
      + ID2= 2 (6442):  1174.32   7.285     9.50    17.24
        ================================================
        ID = 3 (8214):  1291.58   7.748     9.50    16.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8194): 25632.58 119.935    13.50    23.88
      + ID2= 2 (8214):  1291.58   7.748     9.50    16.71
        ================================================
        ID = 3 (8196): 26924.15 124.675    13.50    23.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0444) |   Area     (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   1.705 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.158
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0444):   221.65   1.705     7.50    17.16
      + ID2= 2 (8196): 26924.15 124.675    13.50    23.54
        ================================================
        ID = 3 (8216): 27145.80 125.177    13.50    23.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
================================================================================================================
```

EXISTING
EAST HOLLAND RIVER 50-YEAR STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial
```


***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\ed93b362-511c-49a6-addd-43ba8075dbf0\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\ed93b362-511c-49a6-addd-43ba8075dbf0\Scenario.sum

DATE: 08/22/2012                          TIME: 01:28:33

USER:


COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              ed93b362-511c-49a6-addd-43ba8075dbf0\5b314efd
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
                0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
                0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
                1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
                1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
                1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
                1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
                2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
                2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
                2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
                2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
                3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

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-------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     91.70        66.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1026.65        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66       116.05
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    12.40 (ii)   22.48 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=    11.04        10.39        17.879 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    78.80        45.11        55.22
     TOTAL RAINFALL   (mm)=    80.80        80.80        80.80
     RUNOFF COEFFICIENT   =     0.98         0.56         0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    110.64       165.96
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1357.94        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        81.32
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    14.66 (ii)   26.28 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=    12.66        16.77        23.436 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    78.80        39.97        48.12
     TOTAL RAINFALL   (mm)=    80.80        80.80        80.80
     RUNOFF COEFFICIENT   =     0.98         0.49         0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.0870     6.1196
                         0.3730     3.2753   |   7.7230     7.0042
                         1.3370     3.4678   |   9.3080     7.8876
                         2.9800     4.4433   |   9.7080     7.8976
                         4.4520     5.2716   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1661)    276.600     23.436      6.00      48.12
    OUTFLOW: ID= 1 (5166)    276.600      7.630      7.00      48.11

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.56
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED        (ha.m.)=  6.9542

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| ADD HYD   (8134) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10  17.879     6.00    55.22
        + ID2= 2 (5166):   276.60   7.630     7.00    48.11
          ================================================
          ID = 3 (8134):   434.70  18.852     6.25    50.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.50       106.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    939.86        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        56.08
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    11.76 (ii)   25.24 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     4.72         7.49         9.449 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    78.80        34.25        40.93
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     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.42           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19        30.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length             (m)=     823.41        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       106.84
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.86 (ii)   21.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      12.89         4.50         15.841 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        43.28         61.75
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.54          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.6100     4.1638
                          0.3440     1.7056   |   8.2090     4.5053
                          3.1340     1.9730   |   8.8070     4.8468
                          4.1310     3.0607   |   9.2070     4.8568
                          5.1070     3.7142   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700     15.841      6.00      61.75
     OUTFLOW: ID= 1 (5164)    101.700      4.257      6.75      61.74

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.87
                TIME SHIFT OF PEAK FLOW       (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.1814

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--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1642):   132.50   9.449     6.00     40.93
       + ID2= 2 (5164):   101.70   4.257     6.75     61.74
         ================================================
         ID = 3 (8132):   234.20  13.271     6.25     49.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   2.781 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.895
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   2.679 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.980
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.297

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.418 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.498
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   1.194 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.136
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.088

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.310 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   4.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.053

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0148):   417.89   1.194     8.00      7.14
       + ID2= 2 (0150):   105.88   0.310     6.75      4.27
         ================================================
         ID = 3 (8116):   523.77   1.451     7.50      6.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (1521.0) ------>
              Distance      Elevation        Manning
                 0.00         290.00         0.0500
                15.34         286.87         0.0500
                46.03         284.84         0.0500
                88.22         283.07         0.0500
               126.57         282.11         0.0500
```

```
              153.42        280.34        0.0500
              157.26        280.07        0.0500
              161.09        279.72        0.0500
              167.76        278.94    0.0500 /0.0300  Main Channel
              168.01        278.60        0.0300      Main Channel
              168.76        278.60        0.0300      Main Channel
              169.51        278.60        0.0300      Main Channel
              169.76        278.90    0.0300 /0.0500  Main Channel
              173.76        279.40        0.0500
              180.27        279.69        0.0500
              184.11        279.93        0.0500
              218.62        281.86        0.0500
              260.82        283.20        0.0500
              360.54        289.25        0.0500
              379.72        289.80        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   278.90    .114E+04        0.4         0.80       45.70
        0.87   279.47    .932E+04        4.2         0.98       37.22
        1.45   280.05    .353E+05       17.5         1.09       33.68
        2.02   280.62    .831E+05       47.8         1.26       29.01
        2.59   281.19    .155E+06      102.9         1.46       25.06
        3.17   281.77    .250E+06      189.3         1.66       22.03
        3.74   282.34    .375E+06      298.5         1.75       20.01
        4.32   282.92    .547E+06      456.5         1.83       19.98
        4.89   283.49    .767E+06      705.7         2.02       18.12
        5.46   284.06    .102E+07     1038.0         2.24       16.34
        6.04   284.64    .130E+07     1444.1         2.45       14.98
        6.61   285.21    .161E+07     1940.1         2.66       13.79
        7.18   285.78    .194E+07     2522.6         2.86       12.80
        7.76   286.36    .229E+07     3187.4         3.06       11.98
        8.33   286.93    .267E+07     3942.3         3.25       11.28
        8.91   287.51    .306E+07     4824.9         3.46       10.58
        9.48   288.08    .347E+07     5795.7         3.67        9.99
       10.05   288.65    .390E+07     6855.4         3.86        9.48
       10.63   289.23    .434E+07     8005.0         4.05        9.04

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     1.45    7.50   6.56      0.46      0.84
     OUTFLOW: ID= 1 (6152)  523.77     1.36    8.50   6.56      0.44      0.84


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-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0152):   124.37   1.418     7.00     22.50
      + ID2= 2 (6152):   523.77   1.363     8.50      6.56
        ================================================
        ID = 3 (8122):   648.14   2.671     8.00      9.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0158) |   Area     (ha)= 178.59   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   2.076 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  23.854
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0156) |   Area     (ha)=  83.49   Curve Number    (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.812 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  14.566
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0154) |   Area     (ha)= 200.32   Curve Number    (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.044 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.183
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0154):   200.32   1.044     7.25     11.18
      + ID2= 2 (0156):    83.49   0.812     6.75     14.57
        ================================================
        ID = 3 (8118):   283.81   1.829     7.00     12.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1581.0) ------>
               Distance      Elevation        Manning
                  0.00         290.00         0.0400
                 19.20         288.88         0.0400
                 48.00         288.26         0.0400
                119.99         283.68         0.0400
                167.99         282.07         0.0400
                196.79         281.32         0.0400
                210.79         280.90         0.0400
                219.79         280.38    0.0400 /0.0300  Main Channel
                220.04         279.65         0.0300      Main Channel
                220.79         279.65         0.0300      Main Channel
                221.54         279.65         0.0300      Main Channel
                221.79         280.39    0.0300 /0.0400  Main Channel
                225.79         280.59         0.0400
                235.19         280.88         0.0400
                254.39         281.50         0.0400
                273.58         282.56         0.0400
                302.38         283.42         0.0400
                359.98         284.03         0.0400
                436.77         289.37         0.0400
                475.17         290.37         0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.37   280.01    .973E+03        0.5         0.86       31.78
        0.73   280.38    .210E+04        1.5         1.18       23.16
        1.30   280.95    .149E+05        8.6         0.95       28.91
        1.86   281.51    .579E+05       40.0         1.13       24.12
        2.43   282.08    .133E+06      118.5         1.46       18.75
        2.99   282.64    .236E+06      254.6         1.77       15.46
        3.56   283.21    .369E+06      450.3         2.00       13.67
        4.13   283.78    .542E+06      702.7         2.13       12.86
        4.69   284.34    .767E+06     1125.2         2.41       11.36
        5.26   284.91    .101E+07     1697.1         2.75        9.93
        5.82   285.47    .127E+07     2379.1         3.07        8.91
        6.39   286.04    .155E+07     3171.4         3.36        8.14
        6.95   286.60    .184E+07     4075.5         3.64        7.53
        7.52   287.17    .215E+07     5093.1         3.89        7.03
        8.09   287.74    .247E+07     6226.5         4.13        6.62
        8.65   288.30    .281E+07     7461.2         4.36        6.28
        9.22   288.87    .318E+07     8635.1         4.46        6.13
        9.78   289.43    .357E+07    10143.6         4.67        5.86
       10.35   290.00    .398E+07    11608.8         4.79        5.71

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     1.83    7.00  12.18      0.76      1.17
     OUTFLOW: ID= 1 (6158)  283.81     1.77    7.50  12.18      0.75      1.17


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| ADD HYD   (8120) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0158):   178.59   2.076     7.25     23.85
      + ID2= 2 (6158):   283.81   1.766     7.50     12.18
        ================================================
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```
          ID = 3 (8120):   462.40   3.829     7.25    16.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8124) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8120):   462.40   3.829     7.25    16.69
        + ID2= 2 (8122):   648.14   2.671     8.00     9.61
          ================================================
          ID = 3 (8124):  1110.54   6.455     7.50    12.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1601.0) ------>
             Distance      Elevation        Manning
                0.00         261.02         0.0400
               29.89         254.30         0.0400
               40.75         252.58         0.0400
               62.49         251.30         0.0400
              114.11         250.94         0.0400
              130.41         248.58         0.0400
              141.28         247.50         0.0400
              154.86         246.87         0.0400
              155.20         246.70         0.0400
              160.20         246.30    0.0400 /0.0300  Main Channel
              160.30         245.30         0.0300      Main Channel
              165.20         245.30         0.0300      Main Channel
              165.30         246.30    0.0300 /0.0400  Main Channel
              168.45         246.96         0.0400
              195.62         249.20         0.0400
              203.77         250.82         0.0400
              225.50         256.78         0.0400
              244.52         261.14         0.0400
              255.39         261.95         0.0400
              268.97         261.92         0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   245.80    .120E+05        2.9         1.18      68.31
        1.00   246.30    .242E+05        8.5         1.70      47.47
        1.92   247.22    .825E+05       31.7         1.86      43.34
        2.84   248.14    .248E+06      102.5         2.00      40.39
        3.76   249.06    .506E+06      247.7         2.37      34.03
        4.68   249.98    .832E+06      486.8         2.83      28.49
        5.60   250.90    .121E+07      814.9         3.27      24.71
        6.52   251.82    .180E+07     1157.1         3.11      25.97
        7.44   252.74    .253E+07     1840.2         3.52      22.92
        8.36   253.66    .331E+07     2727.1         3.98      20.25
        9.29   254.59    .414E+07     3782.6         4.43      18.22
       10.21   255.51    .499E+07     5010.7         4.86      16.61
       11.13   256.43    .589E+07     6397.4         5.26      15.33
       12.05   257.35    .681E+07     7932.8         5.64      14.31
       12.97   258.27    .777E+07     9621.2         5.99      13.46
       13.89   259.19    .877E+07    11469.4         6.33      12.74
       14.81   260.11    .980E+07    13478.4         6.66      12.12
       15.73   261.03    .109E+08    15651.7         6.97      11.58
       16.65   261.95    .120E+08    17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     6.46    7.50  12.56     0.82      1.46
     OUTFLOW: ID= 1 (6160) 1110.54     5.81    8.50  12.56     0.76      1.40


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| ADD HYD   (8126) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0160):   318.82   2.679     8.00    23.98
        + ID2= 2 (6160):  1110.54   5.809     8.50    12.56
          ================================================
          ID = 3 (8126):  1429.36   8.460     8.50    15.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8128) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0162):   190.14   2.781     7.00    25.90

        + ID2= 2 (8126):  1429.36   8.460     8.50    15.11
          ================================================
          ID = 3 (8128):  1619.50  10.731     8.25    16.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8130) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8128):  1619.50  10.731     8.25    16.37
        + ID2= 2 (8132):   234.20  13.271     6.25    49.97
          ================================================
          ID = 3 (8130):  1853.70  18.397     6.25    20.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1661.0) ------>
             Distance      Elevation        Manning
                0.00         248.36         0.0500
               41.67         246.98         0.0500
               95.82         244.93         0.0500
              149.98         242.42         0.0500
              191.64         241.88         0.0500
              224.97         239.90         0.0500
              229.13         239.35         0.0500
              233.30         237.77         0.0500
              237.47         236.57         0.0500
              240.63         235.60    0.0500 /0.0300  Main Channel
              241.63         234.10         0.0300      Main Channel
              247.13         234.10         0.0300      Main Channel
              247.53         235.60    0.0300 /0.0500  Main Channel
              254.13         236.25         0.0500
              266.63         236.77         0.0500
              283.29         237.84         0.0500
              291.63         238.89         0.0500
              329.12         244.66         0.0500
              370.78         249.55         0.0500
              412.44         253.17         0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.75   234.85    .130E+05        6.0         1.36      36.45
        1.50   235.60    .276E+05       18.1         1.95      25.41
        2.25   236.35    .544E+05       40.0         2.18      22.69
        3.00   237.10    .117E+06       80.1         2.04      24.32
        3.75   237.85    .213E+06      148.9         2.07      23.89
        4.50   238.60    .334E+06      255.1         2.27      21.85
        5.25   239.35    .473E+06      395.8         2.49      19.90
        6.00   240.10    .631E+06      563.8         2.65      18.66
        6.75   240.85    .824E+06      773.2         2.79      17.77
        7.50   241.60    .106E+07     1037.9         2.92      16.97
        8.26   242.36    .135E+07     1326.7         2.92      16.94
        9.01   243.11    .173E+07     1758.5         3.01      16.44
        9.76   243.86    .217E+07     2285.9         3.13      15.81
       10.51   244.61    .265E+07     2909.5         3.26      15.17
       11.26   245.36    .318E+07     3610.1         3.37      14.67
       12.01   246.11    .377E+07     4417.4         3.48      14.21
       12.76   246.86    .441E+07     5348.0         3.60      13.75
       13.51   247.61    .512E+07     6394.0         3.71      13.34
       14.26   248.36    .589E+07     7580.3         3.82      12.95

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8130) 1853.70    18.40    6.25  20.62     1.51      1.95
     OUTFLOW: ID= 1 (6166) 1853.70    15.72    7.00  20.62     1.35      1.79


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-------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6166):  1853.70  15.721     7.00    20.62
        + ID2= 2 (8134):   434.70  18.852     6.25    50.70
          ================================================
          ID = 3 (8136):  2288.40  30.030     6.50    26.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
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```
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     36.48         54.72
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    779.74         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         76.55
           over (min)          15.00         30.00
     Storage Coeff.  (min)=    10.51 (ii)    22.41 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     5.39          5.62       9.016 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=    78.80         39.11       48.64
     TOTAL RAINFALL   (mm)=    80.80         80.80       80.80
     RUNOFF COEFFICIENT   =     0.98          0.48        0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0850      2.2999
                         0.3100     0.9668   |   5.0850      2.6924
                         1.2590     1.1373   |   5.9090      3.1012
                         2.2140     1.5358   |   6.3090      3.1112
                         3.0620     1.8918   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)     91.200     9.016      6.00      48.64
     OUTFLOW: ID= 1 (5202)     91.200     3.409      6.75      48.63

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.81
                    TIME SHIFT OF PEAK FLOW       (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.0375

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-------------------
| CALIB           |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    215.06        162.24
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1585.98         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         98.05
           over (min)          15.00         30.00
     Storage Coeff.  (min)=    16.09 (ii)    26.87 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=    26.85         19.59       39.504 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=    78.80         41.43       54.14
     TOTAL RAINFALL   (mm)=    80.80         80.80       80.80
     RUNOFF COEFFICIENT   =     0.98          0.51        0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   377.30  39.504     6.00    54.14
       + ID2= 2 (5202):    91.20   3.409     6.75    48.63
         ==========================================
         ID = 3 (8110):   468.50  40.315     6.00    53.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    107.18        358.82
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1762.57         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         20.93
           over (min)          15.00         45.00
     Storage Coeff.  (min)=    17.15 (ii)    37.14 (ii)
     Unit Hyd. Tpeak (min)=    15.00         45.00
     Unit Hyd. peak  (cms)=     0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     8.53         11.62       14.506 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.50        6.50
     RUNOFF VOLUME    (mm)=    78.80         19.53       24.86
     TOTAL RAINFALL   (mm)=    80.80         80.80       80.80
     RUNOFF COEFFICIENT   =     0.98          0.24        0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   2.384 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.530
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   2.384     9.25    12.53
       + ID2= 2 (0102):   466.00  14.506     6.50    24.86
         ==========================================
         ID = 3 (8000):  1159.84  16.049     6.50    17.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                 0.00         330.16        0.0450
                50.03         328.36        0.0450
                89.34         326.33        0.0450
               117.94         324.30        0.0450
               160.82         322.75        0.0450
               178.34         319.96        0.0450
               183.34         319.81        0.0450
               184.34         319.38    0.0450 /0.0300  Main Channel
               185.09         318.78        0.0300      Main Channel
               185.84         318.72        0.0300      Main Channel
               186.84         319.32    0.0300 /0.0450  Main Channel
               193.84         319.70        0.0450
               198.84         320.38        0.0450
               200.13         320.81        0.0450
               218.00         322.49        0.0450
               239.44         323.49        0.0450
               250.17         323.96        0.0450
               275.18         325.20        0.0450
               310.92         326.47        0.0450
               353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   319.02    .624E+03        0.1         0.45      73.00
```

```
  0.60   319.32    .181E+04       0.6          0.67      49.46
  1.23   319.95    .128E+05       4.9          0.77      43.38
  1.86   320.58    .396E+05      19.1          0.96      34.50
  2.48   321.20    .757E+05      43.5          1.15      28.98
  3.11   321.83    .125E+06      81.2          1.30      25.58
  3.74   322.46    .187E+06     135.9          1.45      22.92
  4.37   323.09    .269E+06     195.6          1.45      22.90
  5.00   323.72    .387E+06     287.8          1.48      22.44
  5.63   324.35    .545E+06     428.4          1.56      21.22
  6.25   324.97    .735E+06     630.5          1.71      19.42
  6.88   325.60    .952E+06     876.1          1.83      18.12
  7.51   326.23    .120E+07    1177.0          1.95      17.03
  8.14   326.86    .149E+07    1554.4          2.08      15.93
  8.77   327.49    .179E+07    2009.7          2.23      14.88
  9.40   328.12    .213E+07    2533.9          2.37      13.99
 10.02   328.74    .249E+07    3112.6          2.49      13.31
 10.65   329.37    .288E+07    3760.9          2.60      12.75
 11.28   330.00    .330E+07    4494.8          2.71      12.23
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8000) 1159.84    16.05    6.50  17.48      1.72      0.91
    OUTFLOW: ID= 1 (6104) 1159.84    11.71    6.75  17.48      1.53      0.85
```

```
--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0104)  |   Area     (ha)= 527.81   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.735

     PEAK FLOW       (cms)=   2.687 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.837
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8002)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):   527.81   2.687     8.00    13.84
       + ID2= 2 (6104):  1159.84  11.706     6.75    17.48
         ================================================
         ID = 3 (8002):  1687.65  14.008     6.75    16.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0106)  |   Area     (ha)= 259.52   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   3.614

     PEAK FLOW       (cms)=   2.065 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.106
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8004)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):   259.52   2.065     8.00    20.11
       + ID2= 2 (8002):  1687.65  14.008     6.75    16.34
         ================================================
         ID = 3 (8004):  1947.17  15.855     6.75    16.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6108)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1081.0) ------>
            Distance      Elevation       Manning
                0.00         326.06        0.0400
               12.06         325.74        0.0400
```

```
               30.15         324.28        0.0400
               59.27         320.35        0.0400
               72.37         317.60        0.0400
               87.45         314.52        0.0400
               93.48         313.91        0.0400
              105.54         313.55        0.0400
              106.17         313.40    0.0400 /0.0300  Main Channel
              110.62         313.04        0.0300      Main Channel
              110.82         312.97        0.0300      Main Channel
              111.57         313.08        0.0300      Main Channel
              111.67         313.48    0.0300 /0.0400  Main Channel
              129.66         316.62        0.0400
              150.77         318.95        0.0400
              180.92         319.61        0.0400
              205.04         321.23        0.0400
              232.18         322.09        0.0400
              268.37         322.31        0.0400
              298.52         326.00        0.0400
```

```
     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.43    313.40    .244E+04        0.7         0.59       58.83
       1.09    314.06    .214E+05       10.4         1.01       34.24
       1.76    314.73    .600E+05       40.2         1.39       24.89
       2.42    315.39    .109E+06       92.1         1.75       19.80
       3.08    316.05    .169E+06      166.5         2.05       16.88
       3.75    316.72    .237E+06      264.4         2.31       14.97
       4.41    317.38    .318E+06      386.3         2.52       13.72
       5.07    318.04    .411E+06      539.3         2.72       12.71
       5.74    318.71    .517E+06      725.5         2.91       11.88
       6.40    319.37    .642E+06      909.2         2.94       11.77
       7.06    320.03    .806E+06     1179.3         3.04       11.38
       7.72    320.69    .989E+06     1515.9         3.18       10.87
       8.39    321.36    .119E+07     1895.5         3.30       10.49
       9.05    322.02    .143E+07     2310.2         3.36       10.30
       9.71    322.68    .172E+07     2763.2         3.33       10.39
      10.38    323.35    .205E+07     3477.6         3.53        9.81
      11.04    324.01    .238E+07     4284.3         3.73        9.27
      11.70    324.67    .274E+07     5154.0         3.91        8.85
      12.37    325.34    .311E+07     6104.0         4.08        8.48
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8004) 1947.17    15.86    6.75  16.84      1.21      1.06
    OUTFLOW: ID= 1 (6108) 1947.17    14.33    7.50  16.84      1.18      1.05
```

```
--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0108)  |   Area     (ha)= 207.05   Curve Number   (CN)= 27.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.432

     PEAK FLOW       (cms)=   0.681 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.461
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8006)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0108):   207.05   0.681     7.50     7.46
       + ID2= 2 (6108):  1947.17  14.326     7.50    16.84
         ================================================
         ID = 3 (8006):  2154.22  15.008     7.50    15.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0110)  |   Area     (ha)= 323.92   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   4.087

     PEAK FLOW       (cms)=   2.188 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.398
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0110):    323.92   2.188     8.00    18.40
      + ID2= 2 (8006):   2154.22  15.008     7.50    15.94
        ==========================================
        ID = 3 (8008):   2478.14  17.144     7.50    16.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1121.0) ------>
             Distance      Elevation       Manning
                0.00         320.59        0.0400
               13.48         317.93        0.0400
               40.45         311.52        0.0400
               64.04         307.68        0.0400
               74.15         307.01        0.0400
               91.00         307.22        0.0400
              107.86         305.21        0.0400
              111.23         304.86        0.0400
              113.32         304.60    0.0400 /0.0300  Main Channel
              117.77         304.24        0.0300      Main Channel
              117.97         304.17        0.0300      Main Channel
              118.72         304.28        0.0300      Main Channel
              118.82         304.68    0.0300 /0.0400  Main Channel
              124.71         304.76        0.0400
              171.90         306.30        0.0400
              205.60         307.24        0.0400
              239.31         308.24        0.0400
              262.90         310.64        0.0400
              289.86         314.34        0.0400
              333.68         317.66        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.43   304.60    .372E+04         0.6         0.54      97.65
       1.12   305.29    .463E+05        12.5         0.85      61.89
       1.80   305.97    .149E+06        53.0         1.13      46.85
       2.49   306.66    .311E+06       134.2         1.37      38.62
       3.18   307.35    .554E+06       261.6         1.50      35.27
       3.87   308.04    .894E+06       490.7         1.74      30.37
       4.55   308.72    .129E+07       833.0         2.05      25.75
       5.24   309.41    .171E+07      1269.8         2.36      22.39
       5.93   310.10    .215E+07      1789.0         2.64      20.01
       6.62   310.79    .261E+07      2392.7         2.90      18.21
       7.30   311.47    .310E+07      3087.8         3.16      16.74
       7.99   312.16    .361E+07      3873.6         3.40      15.52
       8.68   312.85    .413E+07      4741.0         3.64      14.52
       9.37   313.54    .467E+07      5689.3         3.86      13.69
      10.05   314.22    .523E+07      6718.4         4.07      12.97
      10.74   314.91    .581E+07      7770.7         4.24      12.46
      11.43   315.60    .641E+07      8897.5         4.40      12.01
      12.12   316.29    .704E+07     10113.2         4.55      11.61
      12.80   316.97    .770E+07     11420.1         4.70      11.24

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8008) 2478.14    17.14    7.50  16.26      1.20      0.88
    OUTFLOW: ID= 1 (6112) 2478.14    14.69    8.75  16.26      1.15      0.87


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0112) |   Area    (ha)= 414.89   Curve Number   (CN)= 30.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   3.699

     PEAK FLOW      (cms)=   0.982 (i)
     TIME TO PEAK   (hrs)=   9.250
     RUNOFF VOLUME   (mm)=   8.562
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0112):    414.89   0.982     9.25     8.56
      + ID2= 2 (6112):   2478.14  14.688     8.75    16.26
        ==========================================
        ID = 3 (8010):   2893.03  15.668     8.75    15.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1141.0) ------>
             Distance      Elevation       Manning
                0.00         312.27        0.0500
               14.07         309.70        0.0500
               28.14         306.51        0.0500
               35.17         305.81        0.0500
               42.20         304.95        0.0500
               52.75         304.24        0.0500
               77.37         303.61        0.0500
               98.47         301.33        0.0500
              131.76         300.40    0.0500 /0.0300  Main Channel
              136.21         300.04        0.0300      Main Channel
              136.41         299.97        0.0300      Main Channel
              137.16         300.08        0.0300      Main Channel
              137.26         300.48    0.0300 /0.0500  Main Channel
              140.68         300.53        0.0500
              179.36         302.20        0.0500
              214.53         303.82        0.0500
              242.66         305.27        0.0500
              288.38         307.66        0.0500
              316.52         311.76        0.0500
              348.17         313.48        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.43   300.40    .366E+04         0.7         0.59      88.31
       1.05   301.02    .505E+05        12.1         0.75      69.49
       1.68   301.65    .165E+06        52.7         0.99      52.28
       2.30   302.27    .324E+06       130.3         1.26      41.40
       2.93   302.90    .520E+06       247.1         1.48      35.08
       3.55   303.52    .754E+06       406.8         1.68      30.91
       4.18   304.15    .104E+07       586.1         1.76      29.55
       4.80   304.77    .138E+07       856.0         1.93      26.96
       5.43   305.40    .177E+07      1201.1         2.12      24.56
       6.05   306.02    .219E+07      1612.2         2.30      22.63
       6.68   306.65    .264E+07      2090.6         2.47      21.07
       7.30   307.27    .313E+07      2653.0         2.64      19.65
       7.93   307.90    .364E+07      3303.9         2.83      18.36
       8.55   308.52    .417E+07      4053.9         3.03      17.14
       9.18   309.15    .471E+07      4871.9         3.22      16.12
       9.80   309.77    .527E+07      5756.2         3.41      15.25
      10.43   310.40    .584E+07      6699.8         3.58      14.52
      11.05   311.02    .642E+07      7710.5         3.74      13.89
      11.68   311.65    .702E+07      8788.5         3.90      13.32

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8010) 2893.03    15.67    8.75  15.16      1.11      0.76
    OUTFLOW: ID= 1 (6114) 2893.03    13.89   10.00  15.16      1.08      0.76


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0114) |   Area    (ha)= 287.65   Curve Number   (CN)= 49.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.389

     PEAK FLOW      (cms)=   2.028 (i)
     TIME TO PEAK   (hrs)=   7.750
     RUNOFF VOLUME   (mm)=  16.745
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.207

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0114):    287.65   2.028     7.75    16.74
      + ID2= 2 (6114):   2893.03  13.887    10.00    15.16
        ==========================================
        ID = 3 (8012):   3180.68  15.462     9.75    15.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   2.988 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.903
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0116):   206.43   2.988     7.00    25.90
      + ID2= 2 (8012):  3180.68  15.462     9.75    15.30
        ================================================
        ID = 3 (8014):  3387.11  17.202     9.75    15.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (1181.0) ------>

Distance	Elevation	Manning	
0.00	307.18	0.0450	
24.89	299.75	0.0450	
37.34	296.39	0.0450	
71.57	292.75	0.0450	
96.46	291.12	0.0450	
108.90	289.43	0.0450	
112.02	288.86	0.0450	
115.13	288.46	0.0450	
117.24	288.32	0.0450 /0.0350	Main Channel
117.40	288.15	0.0350	Main Channel
118.24	288.00	0.0350	Main Channel
118.99	288.20	0.0350	Main Channel
119.24	288.36	0.0350 /0.0450	Main Channel
121.35	288.40	0.0450	
149.35	289.36	0.0450	
171.14	290.47	0.0450	
208.47	293.14	0.0450	
236.48	295.17	0.0450	
280.04	299.48	0.0450	
308.04	307.00	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	288.32	.116E+04	0.2	0.62	81.92
1.30	289.30	.631E+05	22.2	1.07	47.43
2.29	290.29	.218E+06	117.5	1.64	30.95
3.27	291.27	.448E+06	314.6	2.15	23.72
4.25	292.25	.756E+06	625.6	2.53	20.13
5.24	293.24	.115E+07	1093.2	2.91	17.50
6.22	294.22	.161E+07	1731.6	3.28	15.50
7.20	295.20	.214E+07	2547.4	3.63	14.01
8.19	296.19	.274E+07	3584.9	4.00	12.72
9.17	297.17	.338E+07	4859.1	4.39	11.60
10.15	298.15	.407E+07	6341.5	4.76	10.70
11.13	299.13	.480E+07	8024.6	5.11	9.97
12.12	300.12	.556E+07	10006.6	5.49	9.27
13.10	301.10	.635E+07	12244.6	5.89	8.64
14.08	302.08	.716E+07	14681.7	6.26	8.13
15.07	303.07	.799E+07	17316.5	6.62	7.69
16.05	304.05	.884E+07	20148.1	6.96	7.31
17.03	305.03	.971E+07	23176.2	7.29	6.98
18.02	306.02	.106E+08	26400.8	7.61	6.69

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8014)	3387.11	17.20	9.75	15.95	1.08	0.92
OUTFLOW:	ID= 1 (6118)	3387.11	16.41	10.50	15.95	1.04	0.90

```
--------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

    Unit Hyd Qpeak  (cms)=   5.200

    PEAK FLOW       (cms)=   2.109 (i)
    TIME TO PEAK    (hrs)=   7.750
    RUNOFF VOLUME    (mm)=  14.747
    TOTAL RAINFALL   (mm)=  80.800
    RUNOFF COEFFICIENT   =   0.183

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0118):   340.53   2.109     7.75    14.75
      + ID2= 2 (6118):  3387.11  16.410    10.50    15.95
        ================================================
        ID = 3 (8016):  3727.64  17.957    10.25    15.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (1221.0) ------>

Distance	Elevation	Manning	
0.00	277.00	0.0500	
52.18	272.82	0.0500	
86.97	269.38	0.0500	
134.80	267.35	0.0500	
160.89	263.85	0.0500	
169.58	262.88	0.0500	
178.28	262.45	0.0500	
195.67	262.07	0.0500	
213.07	260.99	0.0500	
226.01	259.80	0.0500 /0.0300	Main Channel
226.11	259.30	0.0300	Main Channel
230.11	259.30	0.0300	Main Channel
230.21	259.80	0.0300 /0.0500	Main Channel
235.01	260.20	0.0500	
239.15	260.57	0.0500	
243.50	260.93	0.0500	
300.03	264.43	0.0500	
339.16	268.34	0.0500	
373.95	272.36	0.0500	
430.48	277.46	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	259.80	.626E+04	2.5	1.23	41.35
1.41	260.71	.462E+05	21.8	1.44	35.27
2.31	261.61	.149E+06	79.6	1.63	31.19
3.22	262.52	.340E+06	200.1	1.80	28.34
4.12	263.42	.636E+06	446.8	2.15	23.71
5.03	264.33	.995E+06	819.9	2.52	20.23
5.93	265.23	.141E+07	1337.0	2.90	17.56
6.84	266.14	.187E+07	1984.8	3.25	15.67
7.74	267.04	.237E+07	2766.0	3.57	14.26
8.65	267.95	.292E+07	3596.9	3.76	13.53
9.55	268.85	.355E+07	4575.4	3.93	12.95
10.46	269.76	.427E+07	5814.9	4.16	12.23
11.36	270.66	.503E+07	7319.0	4.44	11.46
12.27	271.57	.584E+07	9009.7	4.71	10.81
13.17	272.47	.670E+07	10886.3	4.96	10.26
14.08	273.38	.761E+07	12893.2	5.17	9.84
14.98	274.28	.858E+07	15098.1	5.37	9.48
15.89	275.19	.961E+07	17527.6	5.57	9.14
16.79	276.09	.107E+08	20190.3	5.76	8.83

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8016)	3727.64	17.96	10.25	15.84	1.22	1.39
OUTFLOW:	ID= 1 (6122)	3727.64	17.49	11.00	15.84	1.20	1.39

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--------------------
| CALIB            |
| STANDHYD  (1221) |   Area    (ha)=  17.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.37	11.33
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	343.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	14.75

```
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.43 (ii)   29.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.93         0.32          1.124 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        13.14          25.61
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.16           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  35.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1840      0.4294
                         0.0600     0.1855   |   1.4870      0.5014
                         0.3430     0.2103   |   1.7310      0.5718
                         0.6390     0.2878   |   2.1310      0.5818
                         0.8860     0.3509   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)     17.700     1.124      6.00       25.61
     OUTFLOW: ID= 1 (5122)     17.700     0.360      6.50       25.57

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.03
                    TIME SHIFT OF PEAK FLOW          (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2161

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (1222) |   Area     (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   1.491 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.949
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1222):   347.20   1.491     8.25     12.95
        + ID2= 2 (5122):    17.70   0.360     6.50     25.57
          ================================================
          ID = 3 (8018):   364.90   1.608     8.00     13.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6122):  3727.64  17.487    11.00     15.84
        + ID2= 2 (8018):   364.90   1.608     8.00     13.56
          ================================================
          ID = 3 (8020):  4092.54  18.784    10.75     15.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (1261) |   Area     (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       18.00         32.00
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      577.35        40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        19.45
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.78 (ii)   29.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.37         1.18          4.092 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        18.60          34.25
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.23           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3450      1.2129
                         0.1690     0.5421   |   4.2000      1.4164
                         0.9690     0.5941   |   4.8890      1.6153
                         1.8040     0.8130   |   5.2890      1.6253
                         2.5020     0.9912   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.000     4.092      6.00       34.25
     OUTFLOW: ID= 1 (5126)     50.000     1.573      6.50       34.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.45
                    TIME SHIFT OF PEAK FLOW          (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7544

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (1262) |   Area     (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   1.319 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.597
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1262):    83.50   1.319     6.50     21.60
        + ID2= 2 (5126):    50.00   1.573     6.50     34.23
          ================================================
          ID = 3 (8024):   133.50   2.892     6.50     26.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0124) |   Area     (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.279 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.547
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
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```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0124):   121.43   1.270     6.50    13.55
      + ID2= 2 (8024):   133.50   2.892     6.50    26.33
        ================================================
        ID = 3 (8026):   254.93   4.171     6.50    20.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                  0.00         270.58        0.0400
                  7.71         270.36        0.0400
                 15.43         269.48        0.0400
                 23.14         265.88        0.0400
                 42.43         261.83        0.0400
                 61.71         258.31        0.0400
                 75.21         256.62        0.0400
                 90.64         255.35        0.0400
                 92.49         255.00    0.0400 /0.0300  Main Channel
                 93.49         254.00        0.0300      Main Channel
                 94.49         253.90        0.0300      Main Channel
                 94.99         253.80        0.0300      Main Channel
                 95.49         253.70        0.0300      Main Channel
                 95.99         253.80        0.0300      Main Channel
                 98.49         255.00    0.0300 /0.0400  Main Channel
                100.28         255.44        0.0400
                134.99         257.45        0.0400
                148.49         259.67        0.0400
                167.77         263.42        0.0400
                190.92         270.00        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
        0.65   254.35    .439E+04         2.0          1.24       36.10
        1.30   255.00    .131E+05         9.4          1.92       23.39
        2.18   255.88    .433E+05        37.0          2.30       19.54
        3.06   256.76    .131E+06       113.3          2.34       19.20
        3.95   257.65    .273E+06       273.8          2.70       16.64
        4.83   258.53    .453E+06       538.5          3.21       14.01
        5.71   259.41    .658E+06       902.9          3.70       12.14
        6.59   260.29    .886E+06      1368.4          4.16       10.79
        7.48   261.18    .114E+07      1936.3          4.59        9.79
        8.36   262.06    .141E+07      2610.9          4.99        9.01
        9.24   262.94    .171E+07      3398.7          5.37        8.36
       10.12   263.82    .202E+07      4309.6          5.75        7.81
       11.01   264.71    .235E+07      5347.5          6.13        7.33
       11.89   265.59    .270E+07      6501.0          6.48        6.93
       12.77   266.47    .307E+07      7808.6          6.86        6.55
       13.65   267.35    .345E+07      9250.5          7.23        6.21
       14.54   268.24    .384E+07     10808.3          7.59        5.92
       15.42   269.12    .424E+07     12482.5          7.94        5.66
       16.30   270.00    .466E+07     14127.4          8.18        5.49

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8026)  254.93     4.17    6.50  20.24      0.84      1.39
    OUTFLOW: ID= 1 (6128)  254.93     3.44    7.25  20.24      0.78      1.34


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0128)  |   Area     (ha)= 240.24   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   2.761 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  24.567
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.304

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0128):   240.24   2.761     7.25    24.57
      + ID2= 2 (6128):   254.93   3.444     7.25    20.24
        ================================================
        ID = 3 (8028):   495.17   6.205     7.25    22.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8020):  4092.54  18.784    10.75    15.64
      + ID2= 2 (8028):   495.17   6.205     7.25    22.34
        ================================================
        ID = 3 (8022):  4587.71  21.488    10.50    16.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201)  |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         25.83
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.33 (ii)   28.71 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.98          2.72      4.657 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      78.80         21.08      29.16
     TOTAL RAINFALL   (mm)=      80.80         80.80      80.80
     RUNOFF COEFFICIENT   =       0.98          0.26       0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7530      2.0863
                          0.2910     0.9015   |   7.2230      2.4361
                          1.6660     1.0219   |   8.4090      2.7784
                          3.1030     1.3984   |   8.8090      2.7884
                          4.3040     1.7049   |   0.0000      0.0000

                              AREA      QPEAK      TPEAK        R.V.
                               (ha)      (cms)      (hrs)        (mm)
    INFLOW : ID= 2 (1201)     86.000      4.657      6.00        29.16
    OUTFLOW: ID= 1 (5120)     86.000      2.056      6.75        29.15

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.15
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.1304

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1202)  |   Area     (ha)= 161.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min  |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=   2.157 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  21.738
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1202):   161.00   2.157     6.75    21.74
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```
       + ID2= 2 (5120):    86.00   2.056     6.75    29.15
         ================================================
         ID = 3 (8030):   247.00   4.213     6.75    24.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8022):  4587.71  21.488    10.50    16.36
       + ID2= 2 (8030):   247.00   4.213     6.75    24.32
         ================================================
         ID = 3 (8032):  4834.71  22.672    10.50    16.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1301.0) ------>
             Distance      Elevation       Manning
                 0.00         257.18        0.0350
                62.45         254.70        0.0350
               109.29         252.74        0.0350
               150.92         251.55        0.0350
               192.56         248.96        0.0350
               239.39         247.16        0.0350
               291.84         246.00        0.0350
               296.84         245.00        0.0350
               298.84         245.00    0.0350 /0.0300  Main Channel
               299.24         244.60        0.0300      Main Channel
               301.84         244.60        0.0300      Main Channel
               303.44         244.60        0.0300      Main Channel
               303.84         245.00    0.0300 /0.0350  Main Channel
               306.84         245.00        0.0350
               309.84         246.00        0.0350
               317.46         247.22        0.0350
               348.68         254.83        0.0350
               359.09         256.70        0.0350
               452.76         258.23        0.0350
               515.22         258.33        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.40   245.00    .870E+04        1.2         0.64     124.12
       1.04   245.64    .468E+05        9.5         0.96      81.81
       1.68   246.28    .109E+06       25.6         1.11      70.86
       2.32   246.92    .257E+06       63.5         1.17      67.51
       2.96   247.56    .498E+06      142.7         1.36      58.18
       3.61   248.21    .800E+06      266.7         1.58      50.01
       4.25   248.85    .116E+07      437.4         1.78      44.24
       4.89   249.49    .157E+07      669.1         2.01      39.20
       5.53   250.13    .203E+07      954.9         2.23      35.36
       6.17   250.77    .252E+07     1294.4         2.43      32.42
       6.81   251.41    .305E+07     1689.6         2.62      30.07
       7.45   252.05    .363E+07     2090.7         2.73      28.93
       8.09   252.69    .429E+07     2553.1         2.82      27.98
       8.73   253.33    .501E+07     3138.4         2.96      26.60
       9.37   253.97    .579E+07     3803.8         3.11      25.36
      10.02   254.62    .662E+07     4549.3         3.25      24.25
      10.66   255.26    .751E+07     5364.9         3.38      23.32
      11.30   255.90    .845E+07     6265.7         3.51      22.49
      11.94   256.54    .946E+07     7260.1         3.63      21.72

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.71    22.67   10.50  16.77      1.57      1.08
     OUTFLOW: ID= 1 (6130) 4834.71    21.30   11.50  16.77      1.50      1.07
```

```
-------------------
| CALIB            |
| STANDHYD  (1301) |   Area    (ha)= 228.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    148.39        79.91
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1233.69        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66       103.05
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.84 (ii)   24.41 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
```

```
                                                          *TOTALS*
     PEAK FLOW      (cms)=      23.94        10.67         30.904 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME   (mm)=      78.80        44.02         60.37
     TOTAL RAINFALL  (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT  =       0.98         0.54          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4560      7.0142
                         0.8210     3.9074   |  14.9550      7.8554
                         4.8550     4.4209   |  22.4790      8.9550
                         7.0620     5.2214   |  22.8790      8.9650
                         9.5970     6.0904   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    228.300     30.904      6.00       60.37
     OUTFLOW: ID= 1 (5130)    228.300     11.302      6.75       60.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.57
                TIME SHIFT OF PEAK FLOW       (min)= 45.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  6.7529
```

```
-------------------
| CALIB            |
| NASHYD    (1302) |   Area     (ha)= 157.80   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.82

     Unit Hyd Qpeak  (cms)=   1.479

     PEAK FLOW       (cms)=   1.716 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  36.674
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.454

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (1302):   157.80   1.716     8.50    36.67
       + ID2= 2 (5130):   228.30  11.302     6.75    60.36
         ================================================
         ID = 3 (8036):   386.10  12.666     6.75    50.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6130):  4834.71  21.305    11.50    16.77
       + ID2= 2 (8036):   386.10  12.666     6.75    50.68
         ================================================
         ID = 3 (8034):  5220.81  23.758    11.25    19.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| STANDHYD  (0188) |   Area    (ha)= 308.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    126.50       182.03
     Dep. Storage     (mm)=      3.00         5.00
     Average Slope     (%)=      0.10         0.10
     Length            (m)=   1434.18        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     72.72        32.44
               over (min)       30.00        60.00
     Storage Coeff.  (min)=     28.62 (ii)   55.82 (ii)
```

```
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      10.45         6.83        14.249 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75          6.25
     RUNOFF VOLUME    (mm)=      77.80        27.39         39.99
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.96         0.34          0.49


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      72.72        30.11
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      29.77 (ii)   57.79 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      10.30         6.98        14.152 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75          6.25
     RUNOFF VOLUME    (mm)=      77.80        24.29         36.07
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.96         0.30          0.45


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8068) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0186):   351.79  14.152     6.25    36.07
      + ID2= 2 (0188):   308.53  14.249     6.25    39.99
        ================================================
        ID = 3 (8068):   660.32  28.401     6.25    37.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        50.21
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.17 (ii)   25.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.59         4.22         7.214 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        24.15         33.44
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.30          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  5.7800     2.5656
                         0.3790     1.0207   |  7.3720     3.0829
                         1.6240     1.1939   |  8.7710     3.5956
                         3.0930     1.6631   |  9.1710     3.6056
                         4.3530     2.1032   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     7.214      6.00       33.44
     OUTFLOW: ID= 1 (5182)    111.800     2.963      6.75       33.44

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.08
               TIME SHIFT OF PEAK FLOW          (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.6292

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW      (cms)=   0.529 (i)
     TIME TO PEAK   (hrs)=   7.000
     RUNOFF VOLUME   (mm)=  21.172
     TOTAL RAINFALL  (mm)=  80.800
     RUNOFF COEFFICIENT  =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1822):    44.40   0.529     7.00    21.17
      + ID2= 2 (5182):   111.80   2.963     6.75    33.44
        ================================================
        ID = 3 (8062):   156.20   3.486     6.75    29.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     981.16        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        69.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.06 (ii)   24.47 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.45         6.63         10.629 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        29.27         38.68
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.36          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                         0.0000     0.0000   |  5.8820     2.3298
                         0.2960     1.0006   |  7.4070     2.7386
```

```
                      1.6530     1.1680   |   8.6830      3.1418
                      3.0860     1.4687   |   9.0830      3.1518
                      4.3760     1.8752   |   0.0000      0.0000

                          AREA      QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1841)    144.400     10.629      6.00      38.68
    OUTFLOW: ID= 1 (5184)    144.400      5.190      6.75      38.67

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.83
                TIME SHIFT OF PEAK FLOW          (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.1635

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       49.60         68.50
    Dep. Storage     (mm)=        2.00          5.00
    Average Slope     (%)=        0.50          0.50
    Length            (m)=      887.32         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=      106.66         59.67
              over (min)        15.00         30.00
    Storage Coeff.  (min)=       11.36 (ii)   24.51 (ii)
    Unit Hyd. Tpeak (min)=       15.00         30.00
    Unit Hyd. peak  (cms)=        0.08          0.04
                                                        *TOTALS*
    PEAK FLOW       (cms)=        4.82          5.21          8.090 (iii)
    TIME TO PEAK    (hrs)=        6.00          6.25          6.00
    RUNOFF VOLUME    (mm)=       78.80         27.57         36.28
    TOTAL RAINFALL   (mm)=       80.80         80.80         80.80
    RUNOFF COEFFICIENT   =        0.98          0.34          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  56.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1842):   118.10   8.090     6.00    36.28
      + ID2= 2 (5184):   144.40   5.190     6.75    38.67
        ================================================
        ID = 3 (8060):   262.50  11.354     6.25    37.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8060):   262.50  11.354     6.25    37.59
      + ID2= 2 (8062):   156.20   3.486     6.75    29.95
        ================================================
        ID = 3 (8064):   418.70  13.866     6.25    34.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        7.00          7.00
    Dep. Storage     (mm)=        2.00          5.00
    Average Slope     (%)=        0.50          0.50
    Length            (m)=      305.51         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=      106.66         96.17
              over (min)        15.00         30.00
    Storage Coeff.  (min)=        5.99 (ii)   16.86 (ii)
    Unit Hyd. Tpeak (min)=       15.00         30.00
    Unit Hyd. peak  (cms)=        0.10          0.05
                                                        *TOTALS*
    PEAK FLOW       (cms)=        1.18          1.02          1.856 (iii)
    TIME TO PEAK    (hrs)=        6.00          6.25          6.00
    RUNOFF VOLUME    (mm)=       78.80         44.34         54.68
    TOTAL RAINFALL   (mm)=       80.80         80.80         80.80
    RUNOFF COEFFICIENT   =        0.98          0.55          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  0.9360      0.3780
                        0.0470     0.1841    |  1.1760      0.4277
                        0.2710     0.2148    |  1.3690      0.4763
                        0.5050     0.2704    |  1.7690      0.4863
                        0.7010     0.3197    |  0.0000      0.0000

                           AREA      QPEAK      TPEAK       R.V.
                           (ha)      (cms)      (hrs)       (mm)
    INFLOW : ID= 2 (1781)     14.000      1.856      6.00       54.68
    OUTFLOW: ID= 1 (5178)     14.000      0.779      6.50       54.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.99
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3396

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-------------------
| CALIB           |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.15

    Unit Hyd Qpeak  (cms)=   3.867

    PEAK FLOW       (cms)=   4.319 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  38.648
    TOTAL RAINFALL   (mm)=  80.800
    RUNOFF COEFFICIENT   =   0.478

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1782):   261.40   4.319     7.50    38.65
      + ID2= 2 (5178):    14.00   0.779     6.50    54.60
        ================================================
        ID = 3 (8046):   275.40   4.845     7.00    39.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

    Unit Hyd Qpeak  (cms)=   3.299

    PEAK FLOW       (cms)=   2.512 (i)
    TIME TO PEAK    (hrs)=   7.750
    RUNOFF VOLUME    (mm)=  26.812
    TOTAL RAINFALL   (mm)=  80.800
    RUNOFF COEFFICIENT   =   0.332

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0180):   226.65   2.512     7.75    26.81
      + ID2= 2 (8046):   275.40   4.845     7.00    39.46
        ================================================
        ID = 3 (8050):   502.05   7.297     7.25    33.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     19.70        36.60
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    612.64        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        59.79
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     9.09 (ii)   22.24 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.60         2.93          4.458 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        31.06          39.65
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.38           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   1.1370     1.3070
                          0.0580     0.5427   |   1.4280     1.5354
                          0.3290     0.6196   |   1.6620     1.7593
                          0.6130     0.8627   |   2.0620     1.7693
                          0.8510     1.0621   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300     4.458     6.00      39.65
     OUTFLOW: ID= 1 (5174)     56.300     1.050     7.00      39.61

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.55
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2370

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--------------------
| CALIB             |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.665 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  31.433
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1742):    82.80   1.665    6.75    31.43
       + ID2= 2 (5174):    56.30   1.050    7.00    39.61
         ================================================
         ID = 3 (8044):   139.10   2.696    7.00    34.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   4.110 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  38.497
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.476

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   2.601 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.230
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.489 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  26.647
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.330

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0168):   247.13   2.601    7.00    18.23
       + ID2= 2 (0170):   166.91   2.489    7.00    26.65
         ================================================
         ID = 3 (8040):   414.04   5.090    7.00    21.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0172):   202.23   4.110    7.00    38.50
       + ID2= 2 (8040):   414.04   5.090    7.00    21.62
         ================================================
         ID = 3 (8042):   616.27   9.200    7.00    27.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

                <------ DATA FOR SECTION (1741.0) ------>
               Distance      Elevation       Manning
                  0.00         296.00        0.0450
                 13.36         288.94        0.0450
                 26.71         288.64        0.0450
                 51.19         287.96        0.0450
                 73.45         287.32        0.0450
                 86.81         286.48        0.0450
                102.39         285.08        0.0450
                110.73         282.76        0.0450
                115.73         281.06    0.0450 /0.0350  Main Channel
                115.74         280.35        0.0350      Main Channel
                120.73         280.35        0.0350      Main Channel
                120.74         281.10    0.0350 /0.0450  Main Channel
                125.74         282.64        0.0450
                135.78         286.87        0.0450
                149.13         289.58        0.0450
                162.49         292.29        0.0450
                175.84         293.95        0.0450
                195.88         295.13        0.0450
                213.68         296.02        0.0450
                220.36         296.09        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	281.06	.136E+05	6.0	1.69	37.89
1.50	281.85	.358E+05	22.5	2.42	26.43
2.28	282.63	.726E+05	53.8	2.85	22.47
3.07	283.42	.124E+06	104.1	3.24	19.79
3.86	284.21	.189E+06	176.7	3.60	17.81
4.64	284.99	.268E+06	274.9	3.94	16.26
5.43	285.78	.369E+06	390.8	4.07	15.73
6.21	286.56	.501E+06	551.6	4.23	15.15
7.00	287.35	.674E+06	750.5	4.28	14.97
7.79	288.14	.920E+06	993.3	4.15	15.44
8.57	288.92	.126E+07	1361.5	4.14	15.47
9.36	289.71	.167E+07	1986.0	4.56	14.04
10.15	290.50	.210E+07	2739.7	5.02	12.76
10.93	291.28	.254E+07	3615.0	5.47	11.70
11.72	292.07	.300E+07	4608.8	5.91	10.83
12.50	292.85	.347E+07	5693.3	6.30	10.16
13.29	293.64	.397E+07	6892.9	6.67	9.60
14.08	294.43	.450E+07	8150.4	6.97	9.19
14.86	295.21	.506E+07	9525.0	7.23	8.86

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8042)	616.27	9.20	7.00	27.16	0.86	1.80
OUTFLOW:	ID= 1 (6174)	616.27	8.48	7.75	27.16	0.83	1.77

ADD HYD (8048)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6174):	616.27	8.476	7.75	27.16
	+ ID2= 2 (8044):	139.10	2.696	7.00	34.74
	ID = 3 (8048):	755.37	10.888	7.50	28.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8052)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8048):	755.37	10.888	7.50	28.56
	+ ID2= 2 (8050):	502.05	7.297	7.25	33.75
	ID = 3 (8052):	1257.42	18.135	7.50	30.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8058)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8052):	1257.42	18.135	7.50	30.63
	+ ID2= 2 (8064):	418.70	13.866	6.25	34.74
	ID = 3 (8058):	1676.12	28.104	6.75	31.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (1762)	ID= 1 DT=15.0 min	Area (ha)= 162.00	Total Imp(%)= 26.00	Dir. Conn.(%)= 11.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	42.12	119.88
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1039.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	47.86
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.49 (ii)	26.85 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	4.14	6.97	8.715 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.25
RUNOFF VOLUME	(mm)=	78.80	26.29	32.07
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.33	0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1761)	ID= 1 DT=15.0 min	Area (ha)= 48.80	Total Imp(%)= 50.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.40	24.40
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	570.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	76.51
over (min)		15.00	30.00
Storage Coeff. (min)	=	8.71 (ii)	20.62 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.09	0.05

		TOTALS
PEAK FLOW	(cms)=	2.66	2.59	4.318 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	31.83	41.69
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.39	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5176)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	3.2640	1.3175
			0.1650	0.6418	4.0090	1.4908
			0.9450	0.7489	4.7720	1.6604
			1.7610	0.9426	5.1720	1.6704
			2.4420	1.1144	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (1761)	48.800	4.318	6.00	41.69
OUTFLOW:	ID= 1 (5176)	48.800	1.734	6.75	41.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.15
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.9502

ADD HYD (8056)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1762):	162.00	8.715	6.25	32.07
	+ ID2= 2 (5176):	48.80	1.734	6.75	41.67
	ID = 3 (8056):	210.80	9.902	6.25	34.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8066)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8056):	210.80	9.902	6.25	34.29
	+ ID2= 2 (8058):	1676.12	28.104	6.75	31.66
	ID = 3 (8066):	1886.92	35.435	6.50	31.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8070)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8066):	1886.92	35.435	6.50	31.95

```
   + ID2= 2 (8068):   660.32  28.401     6.25    37.90
     ================================================
     ID = 3 (8070):  2547.24  63.398     6.25    33.49

 NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (1901.0) ------>			
Distance	Elevation	Manning	
0.00	261.34	0.0600	
19.76	261.64	0.0600	
59.28	261.29	0.0600	
79.04	261.09	0.0600	
103.74	255.99	0.0600	
153.13	253.42	0.0600	
192.65	252.78	0.0600	
212.29	249.80	0.0600	
217.29	249.50	0.0600 /0.0350	Main Channel
217.30	249.05	0.0350	Main Channel
222.29	249.05	0.0350	Main Channel
222.30	249.50	0.0350 /0.0600	Main Channel
227.30	249.80	0.0600	
232.17	252.31	0.0600	
276.63	253.53	0.0600	
326.03	256.97	0.0600	
355.67	257.30	0.0600	
400.12	260.08	0.0600	
469.28	261.25	0.0600	
489.04	262.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->					
DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	249.50	.436E+04	1.0	0.43	75.97
1.07	250.12	.205E+05	5.4	0.51	62.96
1.70	250.75	.451E+05	14.8	0.64	50.78
2.32	251.37	.762E+05	29.2	0.74	43.46
2.94	251.99	.114E+06	49.1	0.84	38.61
3.57	252.62	.161E+06	70.2	0.85	38.18
4.19	253.24	.248E+06	93.4	0.73	44.29
4.81	253.86	.398E+06	154.9	0.76	42.79
5.44	254.49	.576E+06	246.1	0.83	38.99
6.06	255.11	.779E+06	362.7	0.90	35.79
6.68	255.73	.101E+07	506.5	0.98	33.15
7.30	256.35	.126E+07	687.6	1.06	30.52
7.93	256.98	.153E+07	902.8	1.15	28.18
8.55	257.60	.183E+07	1114.3	1.18	27.39
9.17	258.22	.216E+07	1407.8	1.26	25.55
9.80	258.85	.250E+07	1735.4	1.35	24.03
10.42	259.47	.286E+07	2097.5	1.42	22.73
11.04	260.09	.324E+07	2492.3	1.49	21.63
11.67	260.72	.364E+07	2837.8	1.51	21.39

		<---- hydrograph ---->				<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8070)	2547.24	63.40	6.25	33.49	3.36	0.84
OUTFLOW:	ID= 1 (6190)	2547.24	48.78	7.00	33.49	2.92	0.83

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--------------------
| CALIB            |
| STANDHYD  (0190) |   Area    (ha)= 287.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	146.87	141.12
Dep. Storage	(mm)=	3.00	5.00
Average Slope	(%)=	0.10	0.10
Length	(m)=	1385.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		72.72	58.88
over (min)		30.00	60.00
Storage Coeff. (min)=		28.03 (ii)	49.46 (ii)
Unit Hyd. Tpeak (min)=		30.00	60.00
Unit Hyd. peak (cms)=		0.04	0.02

		TOTALS
PEAK FLOW	(cms)=	10.64	10.17	16.519 (iii)
TIME TO PEAK	(hrs)=	6.25	6.75	6.25
RUNOFF VOLUME	(mm)=	77.80	40.78	50.77
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.96	0.50	0.63

```
  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  71.0    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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```
--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0190):	287.99	16.519	6.25	50.77
+ ID2= 2 (6190):	2547.24	48.783	7.00	33.49
ID = 3 (8072):	2835.23	63.679	6.75	35.25

```
 NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (1921.0) ------>			
Distance	Elevation	Manning	
0.00	264.40	0.0500	
3.64	263.94	0.0500	
14.54	261.05	0.0500	
29.08	256.78	0.0500	
36.36	254.96	0.0500	
50.90	252.20	0.0500	
65.44	249.78	0.0500	
76.35	246.86	0.0500	
77.24	245.90	0.0500	
82.24	245.45	0.0500 /0.0350	Main Channel
82.25	244.90	0.0350	Main Channel
87.25	244.90	0.0350	Main Channel
87.26	245.45	0.0350 /0.0500	Main Channel
94.53	246.89	0.0500	
170.87	247.16	0.0500	
218.13	248.69	0.0500	
265.40	249.22	0.0500	
301.75	250.78	0.0500	
338.11	253.47	0.0500	
359.92	264.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->					
DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

		<---- hydrograph ---->				<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8072)	2835.23	63.68	6.75	35.25	2.57	0.88
OUTFLOW:	ID= 1 (6192)	2835.23	55.67	7.25	35.25	2.52	0.87

```
--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  30.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  24.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.74	15.96
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	452.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	58.58
over (min)		15.00	30.00
Storage Coeff. (min)=		7.58 (ii)	20.83 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.05

		TOTALS
PEAK FLOW	(cms)=	1.98	1.29	2.791 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	26.56	39.10
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80

```
     RUNOFF COEFFICIENT   =       0.98         0.33          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.0560     0.7051
                         0.1040     0.3429   |   2.5820     0.7960
                         0.5960     0.4035   |   3.2900     0.8880
                         1.1090     0.5056   |   3.6900     0.8980
                         1.5380     0.5974   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     30.700     2.791      6.00      39.10
     OUTFLOW: ID= 1 (5192)     30.700     1.201      6.50      39.07

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.03
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5259

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.29       157.61
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1199.72        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        24.32
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.61 (ii)   32.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.79         6.34          9.423 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      78.80        22.52         30.40
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.28          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1922):   215.90   9.423     6.00    30.40
        + ID2= 2 (5192):    30.70   1.201     6.50    39.07
          ================================================
          ID = 3 (8074):   246.60   9.524     6.00    31.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6192):  2835.23  55.672     7.25    35.25
        + ID2= 2 (8074):   246.60   9.524     6.00    31.48
          ================================================
          ID = 3 (8076):  3081.83  59.938     7.25    34.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.731 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  28.561
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.353

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0194) |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   4.910 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.704
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.368

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0194):   256.09   4.910     6.75    29.70
        + ID2= 2 (0196):    41.47   1.731     6.00    28.56
          ================================================
          ID = 3 (8078):   297.56   6.279     6.50    29.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation        Manning
                  0.00         267.15         0.0500
                 22.99         265.94         0.0500
                 51.73         261.39         0.0500
                 74.72         258.75         0.0500
                 94.83         257.79         0.0500
                114.95         254.36         0.0500
                126.44         254.06         0.0500
                132.19         253.68         0.0500
                135.06         253.35         0.0500
                137.94         252.93    0.0500 /0.0300  Main Channel
                140.81         252.41         0.0300      Main Channel
                143.69         251.89         0.0300      Main Channel
                146.56         252.51         0.0300      Main Channel
                149.43         253.36    0.0300 /0.0500  Main Channel
                158.05         255.89         0.0500
                172.42         256.25         0.0500
                204.03         259.15         0.0500
                229.90         260.36         0.0500
                252.89         260.46         0.0500
                284.50         260.45         0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
           0.35    252.24    .111E+04        0.6          0.97       31.07
           0.69    252.58    .442E+04        3.8          1.55       19.42
           1.04    252.93    .974E+04       11.1          2.06       14.65
           1.51    253.40    .203E+05       31.2          2.77       10.87
           1.98    253.87    .357E+05       65.0          3.30        9.14
           2.45    254.34    .596E+05      112.9          3.43        8.80
           2.92    254.81    .935E+05      186.8          3.62        8.34
           3.39    255.28    .131E+06      282.1          3.89        7.75
           3.86    255.75    .172E+06      398.2          4.18        7.22
           4.33    256.22    .221E+06      527.0          4.31        6.99
           4.80    256.69    .282E+06      697.3          4.47        6.75
           5.27    257.16    .350E+06      898.5          4.64        6.50
           5.74    257.63    .425E+06     1131.4          4.82        6.26
           6.21    258.10    .508E+06     1367.4          4.88        6.19
           6.68    258.57    .603E+06     1635.6          4.91        6.14
           7.15    259.04    .709E+06     1977.2          5.04        5.98
           7.62    259.51    .826E+06     2360.5          5.17        5.83
           8.09    259.98    .954E+06     2790.7          5.29        5.70
           8.56    260.45    .110E+07     3179.6          5.25        5.74
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                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078) 297.56    6.28    6.50  29.54     0.81      1.69
     OUTFLOW: ID= 1 (6198) 297.56    6.04    6.75  29.54     0.80      1.68


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-------------------
| CALIB           |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.07         58.63
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    835.46         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         62.82
               over (min)      15.00         30.00
     Storage Coeff.  (min)=    10.95 (ii)    23.84 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     5.09          4.77       8.091 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=    78.80         29.00      38.96
     TOTAL RAINFALL   (mm)=    80.80         80.80      80.80
     RUNOFF COEFFICIENT   =     0.98          0.36       0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------         (cms)     (ha.m.)   |   (cms)     (ha.m.)
                            0.0000     0.0000   |   7.9640      2.3173
                            0.2850     1.2270   |   9.5520      2.6039
                            1.7410     1.4052   |  10.9290      2.8853
                            3.5350     1.7675   |  11.3290      2.8953
                            5.6580     2.0183   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    104.700     8.091      6.00      38.96
     OUTFLOW: ID= 1 (5198)    104.700     3.668      6.75      38.95

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.33
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.8131

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   4.244 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  26.651
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.330

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   285.90   4.244     7.00    26.65
       + ID2= 2 (5198):   104.70   3.668     6.75    38.95
         ================================================
         ID = 3 (8080):   390.60   7.863     6.75    29.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   6.038     6.75    29.54
       + ID2= 2 (8080):   390.60   7.863     6.75    29.95
         ================================================
         ID = 3 (8082):   688.16  13.901     6.75    29.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.83  59.938     7.25    34.95
       + ID2= 2 (8082):   688.16  13.901     6.75    29.77
         ================================================
         ID = 3 (8084):  3769.99  73.128     7.00    34.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2001.0) ------>
             Distance      Elevation       Manning
                 0.00         252.47        0.0500
                10.38         252.29        0.0500
                20.76         252.28        0.0500
                41.52         247.66        0.0500
                62.28         247.47        0.0500
                80.45         247.34        0.0500
                90.83         246.85        0.0500
               103.81         245.51        0.0500
               106.00         244.50        0.0500
               108.99         244.05    0.0500 /0.0300  Main Channel
               109.00         243.50        0.0300      Main Channel
               114.00         243.50        0.0300      Main Channel
               114.01         244.05    0.0300 /0.0500  Main Channel
               118.99         244.50        0.0500
               132.36         245.09        0.0500
               150.52         245.83        0.0500
               199.83         249.24        0.0500
               207.62         250.16        0.0500
               236.16         253.11        0.0500
               256.92         253.83        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.28   243.77    .365E+04        0.7         0.54      81.42
      0.55   244.05    .730E+04        2.2         0.81      54.59
      1.05   244.55    .197E+05        7.2         0.97      45.51
      1.54   245.04    .463E+05       17.2         0.99      44.76
      2.04   245.54    .895E+05       34.8         1.03      42.81
      2.53   246.03    .152E+06       62.8         1.09      40.43
      3.03   246.53    .232E+06      104.7         1.20      36.91
      3.52   247.02    .328E+06      159.7         1.29      34.19
      4.02   247.52    .450E+06      223.4         1.32      33.56
      4.51   248.01    .627E+06      326.9         1.38      31.99
      5.01   248.51    .820E+06      463.0         1.50      29.52
      5.50   249.00    .103E+07      626.0         1.62      27.30
      6.00   249.50    .124E+07      820.1         1.75      25.24
      6.49   249.99    .147E+07     1044.4         1.89      23.42
      6.99   250.49    .170E+07     1292.6         2.01      21.95
      7.48   250.98    .195E+07     1565.6         2.13      20.71
      7.98   251.48    .220E+07     1864.5         2.25      19.65
      8.47   251.97    .246E+07     2189.4         2.36      18.73
      8.97   252.47    .274E+07     2427.5         2.35      18.80

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99   73.13    7.00  34.00     2.65      1.12
     OUTFLOW: ID= 1 (6200) 3769.99   63.66    7.75  34.00     2.54      1.09

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-------------------
| CALIB           |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.00          3.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    200.00         40.00
     Mannings n           =     0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=     106.66        89.58
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.65 (ii)   15.82 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.40         0.42          0.671 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        37.88         47.29
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.47          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4010     0.1620
                         0.0200     0.0789   |   0.5040     0.1833
                         0.1160     0.0921   |   0.5870     0.2041
                         0.2170     0.1159   |   0.9870     0.2141
                         0.3000     0.1370   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.671      6.00      47.29
     OUTFLOW: ID= 1 (5200)     6.000     0.278      6.50      47.12

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.43
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1321

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-------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05         85.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     853.62         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        55.85
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.10 (ii)   24.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.65         6.07          7.079 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        31.62         36.34
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.39          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (2002):   109.30   7.079     6.25    36.34
     + ID2= 2 (5200):     6.00   0.278     6.50    47.12
       ================================================
       ID = 3 (8086):   115.30   7.310     6.25    36.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8088) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6200):  3769.99  63.657     7.75    34.00
     + ID2= 2 (8086):   115.30   7.310     6.25    36.90
       ================================================
       ID = 3 (8088):  3885.29  64.979     7.75    34.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8034):  5220.81  23.758    11.25    19.27
     + ID2= 2 (8088):  3885.29  64.979     7.75    34.09
       ================================================
       ID = 3 (8038):  9106.10  84.675     7.75    25.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1362.0) ------>
                Distance      Elevation        Manning
                   0.00         252.00         0.0400
                   2.35         244.60         0.0400
                  39.94         243.14         0.0400
                  58.74         242.65         0.0400
                  91.63         242.03         0.0400
                 101.03         241.69         0.0400
                 103.38         241.66         0.0400
                 105.73         240.76         0.0400
                 105.93         240.59         0.0400
                 109.18         240.28    0.0400 /0.0300  Main Channel
                 110.43         239.81         0.0300      Main Channel
                 111.68         239.81         0.0300      Main Channel
                 113.43         240.09    0.0300 /0.0400  Main Channel
                 118.43         240.50         0.0400
                 138.62         241.68         0.0400
                 152.72         241.60         0.0400
                 166.82         242.68         0.0400
                 185.62         249.09         0.0400
                 197.36         251.00         0.0400
                 232.61         252.28         0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.28   240.09    .118E+04       0.1         0.20     142.09
       0.91   240.72    .114E+05       2.4         0.35      79.92
       1.53   241.34    .352E+05       9.4         0.45      62.17
       2.16   241.97    .831E+05      22.8         0.46      60.69
       2.79   242.60    .172E+06      54.2         0.53      52.74
       3.41   243.22    .297E+06     111.4         0.63      44.49
       4.04   243.85    .445E+06     194.1         0.74      38.22
       4.67   244.48    .612E+06     301.1         0.83      33.88
       5.29   245.10    .793E+06     443.0         0.94      29.82
       5.92   245.73    .976E+06     611.3         1.06      26.60
       6.55   246.36    .116E+07     802.0         1.17      24.12
       7.18   246.99    .135E+07    1014.0         1.27      22.16
       7.80   247.61    .154E+07    1246.2         1.37      20.56
       8.43   248.24    .173E+07    1498.0         1.46      19.24
       9.06   248.87    .192E+07    1768.8         1.55      18.12
       9.68   249.49    .212E+07    2049.6         1.63      17.24
      10.31   250.12    .232E+07    2344.7         1.71      16.49
      10.94   250.75    .252E+07    2658.5         1.78      15.83
      11.56   251.37    .274E+07    2931.2         1.81      15.56

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.10    84.67    7.75  25.60      3.12      0.58
     OUTFLOW: ID= 1 (1365) 9106.10    73.96    8.50  25.60      3.00      0.56

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-------------------
| CALIB            |
| NASHYD    (1322) |   Area    (ha)= 249.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130

     PEAK FLOW       (cms)=   4.604 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  33.393
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.413

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.94         18.77
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     527.26         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         87.15
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.31 (ii)   19.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.84          2.33          5.354 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         39.17         53.04
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.48          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.9630     1.4050
                         0.1780     1.0280   |   1.4870     1.5525
                         0.4300     1.0400   |   1.9900     1.7000
                         0.8150     1.0500   |   2.3900     1.7100
                         0.8990     1.2275   |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700     5.354     6.00      53.04
     OUTFLOW: ID= 1 (5132)     41.700     0.933     7.00      53.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.43
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3226

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| ADD HYD   (8090) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):   249.10   4.604     7.00    33.39
       + ID2= 2 (5132):    41.70   0.933     7.00    53.01
         ================================================
         ID = 3 (8090):   290.80   5.537     7.00    36.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW       (cms)=   2.687 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.755
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0134):   155.95   2.687     6.75    25.75
       + ID2= 2 (8090):   290.80   5.537     7.00    36.20
         ================================================
         ID = 3 (8092):   446.75   8.172     7.00    32.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                  0.00         262.81         0.0400
                 37.23         260.54         0.0400
                 79.12         256.98         0.0400
                111.70         254.74         0.0400
                172.20         252.76         0.0400
                251.32         248.82         0.0400
                255.97         248.75         0.0400
                260.43         248.76         0.0400
                265.43         248.49         0.0400
                268.68         248.18    0.0400 /0.0300  Main Channel
                269.93         247.71         0.0300      Main Channel
                271.18         247.71         0.0300      Main Channel
                272.93         247.99         0.0300      Main Channel
                277.93         248.40    0.0300 /0.0400  Main Channel
                283.90         248.88         0.0400
                307.17         249.60         0.0400
                321.13         251.59         0.0400
                363.01         257.08         0.0400
                400.25         257.58         0.0400
                460.75         261.91         0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.47   248.18    .881E+04         1.3          0.76     114.66
       1.19   248.90    .742E+05        17.3          1.22      71.44
       1.92   249.63    .278E+06        78.3          1.48      59.26
       2.64   250.35    .589E+06       210.3          1.87      46.69
       3.36   251.07    .974E+06       414.3          2.23      39.19
       4.08   251.79    .143E+07       696.2          2.55      34.32
       4.81   252.52    .197E+07      1063.0          2.83      30.86
       5.53   253.24    .259E+07      1505.7          3.06      28.62
       6.25   253.96    .331E+07      2051.3          3.26      26.85
       6.97   254.68    .413E+07      2720.9          3.46      25.30
       7.70   255.41    .504E+07      3584.5          3.73      23.43
       8.42   256.13    .601E+07      4580.9          4.00      21.87
       9.14   256.85    .704E+07      5707.9          4.25      20.57
       9.86   257.57    .818E+07      6636.1          4.26      20.53
      10.59   258.30    .945E+07      8115.0          4.50      19.42
      11.31   259.02    .108E+08      9759.2          4.74      18.45
      12.03   259.74    .122E+08     11569.5          4.96      17.61
      12.75   260.46    .137E+08     13550.6          5.18      16.87
      13.48   261.19    .153E+08     15636.4          5.37      16.29

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.75     8.17    7.00  32.56      0.78      0.91
     OUTFLOW: ID= 1 (1366)  446.75     5.81    8.75  32.56      0.67      0.85

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| CALIB             |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      86.12        323.98
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1653.48         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         50.66
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.50 (ii)   30.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       9.34         17.11         20.157 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      78.80         29.49         34.91
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.36          0.43

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     56.27         46.03
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    825.83         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         92.70
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.88 (ii)    21.91 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      6.73          5.78        10.460 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80         37.28        48.49
     TOTAL RAINFALL   (mm)=     80.80         80.80        80.80
     RUNOFF COEFFICIENT   =      0.98          0.46         0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.4000     3.2690
                          0.1600     1.6363   |   2.6450     3.8640
                          0.9600     1.7470   |   2.8900     4.4590
                          1.8400     1.9320   |   3.2900     4.4690
                          2.1200     2.6005   |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300    10.460     6.00      48.49
     OUTFLOW: ID= 1 (5136)    102.300     2.210     7.00      48.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.13
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.8226

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| ADD HYD   (8096) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1362):   410.10  20.157     6.50    34.91
      + ID2= 2 (5136):   102.30   2.210     7.00    48.46
        ================================================
        ID = 3 (8096):   512.40  22.254     6.50    37.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1366):   446.75   5.815     8.75    32.56
      + ID2= 2 (8096):   512.40  22.254     6.50    37.62
        ================================================
        ID = 3 (8094):   959.15  24.467     6.50    35.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1365):  9106.10  73.956     8.50    25.60
      + ID2= 2 (8094):   959.15  24.467     6.50    35.26
        ================================================
        ID = 3 (8098): 10065.25  85.129     8.50    26.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   3.803 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  25.366
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.314

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   0.949 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.487
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.080

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     38.06        120.52
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1028.20         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         12.46
               over (min)        15.00         45.00
     Storage Coeff.  (min)=     12.41 (ii)    37.02 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      7.75          2.34         8.690 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=     78.80         13.50        27.22
     TOTAL RAINFALL   (mm)=     80.80         80.80        80.80
     RUNOFF COEFFICIENT   =      0.98          0.17         0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  41.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0138):   414.79   0.949     8.00     6.49
      + ID2= 2 (0140):   158.58   8.690     6.00    27.22
        ================================================
        ID = 3 (8102):   573.37   9.123     6.00    12.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1421.0) ------>
             Distance      Elevation        Manning
                0.00         295.50         0.0400
                7.25         295.36         0.0400
               14.50         295.22         0.0400
               21.75         295.22         0.0400
               29.00         294.23         0.0400
               52.56         286.45         0.0400
               67.06         281.44         0.0400
               77.94         278.28         0.0400
               82.81         277.20    0.0400 /0.0300  Main Channel
               83.21         276.80         0.0300      Main Channel
               88.81         276.80         0.0300      Main Channel
```

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        96.41       276.80        0.0300      Main Channel
        96.81       277.20    0.0300 /0.0400  Main Channel
       103.31       278.96        0.0400
       108.75       280.16        0.0400
       117.81       282.73        0.0400
       135.94       290.30        0.0400
       159.50       292.14        0.0400
       174.00       293.07        0.0400
       179.44       293.37        0.0400

<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
 0.40   277.20    .238E+05       6.9          1.27       57.28
 1.25   278.05    .889E+05      50.9          2.50       29.13
 2.10   278.90    .179E+06     133.4          3.26       22.36
 2.95   279.75    .293E+06     256.7          3.83       19.03
 3.80   280.60    .432E+06     426.0          4.31       16.90
 4.66   281.46    .593E+06     644.3          4.75       15.35
 5.51   282.31    .776E+06     915.3          5.16       14.12
 6.36   283.16    .978E+06    1242.2          5.55       13.12
 7.21   284.01    .120E+07    1626.2          5.94       12.27
 8.06   284.86    .143E+07    2065.6          6.30       11.57
 8.91   285.71    .169E+07    2562.4          6.64       10.97
 9.76   286.56    .196E+07    3118.0          6.97       10.46
10.61   287.41    .224E+07    3733.3          7.28       10.02
11.46   288.26    .255E+07    4411.9          7.57        9.62
12.31   289.11    .287E+07    5155.6          7.86        9.27
13.17   289.97    .321E+07    5966.6          8.14        8.96
14.02   290.82    .357E+07    6705.0          8.22        8.87
14.87   291.67    .398E+07    7494.3          8.24        8.85
15.72   292.52    .444E+07    8405.3          8.28        8.80

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8102)  573.37     9.12    6.00  12.22      0.44      1.30
OUTFLOW: ID= 1 (6142)  573.37     3.92    6.75  12.22      0.23      1.27

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| ADD HYD   (8104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0142):   396.54   3.803     8.00     25.37
      + ID2= 2 (6142):   573.37   3.915     6.75     12.22
        ================================================
        ID = 3 (8104):   969.91   7.344     7.00     17.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0144) |   Area     (ha)= 135.69   Curve Number    (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.240

     PEAK FLOW       (cms)=   2.899 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  34.229
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0144):   135.69   2.899     6.75     34.23
      + ID2= 2 (8104):   969.91   7.344     7.00     17.59
        ================================================
        ID = 3 (8106):  1105.60  10.220     7.00     19.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1461.0) ------>
             Distance      Elevation      Manning
                0.00         262.00        0.0350
               39.58         257.13        0.0350
              123.69         257.51        0.0350
              183.07         256.83        0.0350
              202.86         255.73        0.0350
              212.75         254.73        0.0350
              222.65         252.86        0.0350
              232.44         250.70    0.0350 /0.0300  Main Channel
              236.44         250.20        0.0300      Main Channel
              236.84         249.80        0.0300      Main Channel
              242.44         249.80        0.0300      Main Channel
              250.04         249.80        0.0300      Main Channel
              250.44         250.20        0.0300      Main Channel
              252.33         250.57    0.0300 /0.0350  Main Channel
              286.97         253.52        0.0350
              331.50         255.80        0.0350
              380.98         255.55        0.0350
              445.30         258.40        0.0350
              455.19         259.82        0.0350
              489.83         262.22        0.0350

<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
 0.39   250.19    .169E+05       5.4          1.04       52.00
 0.77   250.57    .373E+05      16.6          1.44       37.46
 1.44   251.24    .911E+05      60.3          2.14       25.19
 2.11   251.91    .169E+06     136.3          2.61       20.64
 2.79   252.59    .270E+06     249.7          2.99       18.05
 3.46   253.26    .396E+06     405.4          3.31       16.28
 4.13   253.93    .549E+06     603.3          3.56       15.15
 4.80   254.60    .737E+06     857.8          3.77       14.31
 5.48   255.28    .963E+06    1174.6          3.95       13.67
 6.15   255.95    .128E+07    1449.5          3.66       14.74
 6.82   256.62    .173E+07    2046.4          3.83       14.07
 7.49   257.29    .227E+07    2665.2          3.81       14.17
 8.17   257.97    .310E+07    3705.2          3.87       13.93
 8.84   258.64    .400E+07    5127.4          4.15       12.99
 9.51   259.31    .492E+07    6858.6          4.51       11.95
10.18   259.98    .587E+07    8815.5          4.86       11.09
10.86   260.66    .684E+07   10954.6          5.18       10.41
11.53   261.33    .785E+07   13324.3          5.49        9.82
12.20   262.00    .890E+07   15923.2          5.79        9.31

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8106) 1105.60    10.22    7.00  19.64      0.55      1.18
OUTFLOW: ID= 1 (6146) 1105.60     9.01    8.00  19.64      0.51      1.14

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| CALIB           |
| STANDHYD  (1462) |   Area     (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     36.25         88.75
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    912.87         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         73.97
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.55 (ii)    23.62 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.58          8.58      10.003 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25        6.25
     RUNOFF VOLUME    (mm)=     78.80         38.63       43.45
     TOTAL RAINFALL   (mm)=     80.80         80.80       80.80
     RUNOFF COEFFICIENT   =      0.98          0.48        0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (1461) |   Area     (ha)=  70.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  15.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     25.38         45.12
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    685.57         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         82.42
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                over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.73 (ii)   21.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.67         5.11          6.018 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        40.16         45.96
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.50          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   8.0640      2.2344
                        0.2390     0.7085    |   9.9830      2.6409
                        2.2880     0.8391    |  11.7350      3.0631
                        4.3270     1.4661    |  12.1350      3.0731
                        6.1170     1.8197    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1461)     70.500     6.018     6.25      45.96
     OUTFLOW: ID= 1 (5146)     70.500     3.540     6.50      45.95

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.82
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED      (ha.m.)=  1.2403

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| ADD HYD   (8099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00  10.003     6.25    43.45
       + ID2= 2 (5146):    70.50   3.540     6.50    45.95
         ================================================
         ID = 3 (8099):   195.50  13.057     6.25    44.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60   9.006     8.00    19.64
       + ID2= 2 (8099):   195.50  13.057     6.25    44.35
         ================================================
         ID = 3 (8108):  1301.10  16.253     6.25    23.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  85.129     8.50    26.52
       + ID2= 2 (8108):  1301.10  16.253     6.25    23.35
         ================================================
         ID = 3 (8100): 11366.35  95.844     8.25    26.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2021.0) ------>
             Distance      Elevation       Manning
                0.00         245.48        0.0400
               29.68         242.80        0.0400
               74.20         240.39        0.0400
              155.81         237.12        0.0400
              200.33         234.48        0.0400
              244.85         234.67        0.0400
              259.69         233.96        0.0400
              274.53         233.84        0.0400
              281.68         233.40        0.0400
              285.78         232.40    0.0400 /0.0300  Main Channel
              286.78         231.40        0.0300      Main Channel
              296.78         231.40        0.0300      Main Channel
              299.78         232.40    0.0300 /0.0400  Main Channel
              311.62         233.74        0.0400
              333.88         234.34        0.0400
              497.11         235.32        0.0400
              571.31         237.32        0.0400
              675.18         239.10        0.0400
              704.86         242.71        0.0400
              734.54         242.62        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE      VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.50    231.90    .221E+05         4.7          0.85       78.67
      1.00    232.40    .482E+05        15.3          1.28       52.40
      1.60    233.00    .913E+05        38.3          1.68       39.77
      2.20    233.60    .154E+06        72.9          1.90       35.24
      2.80    234.20    .278E+06       124.2          1.79       37.30
      3.40    234.80    .599E+06       214.3          1.44       46.59
      4.01    235.41    .125E+07       445.0          1.43       46.90
      4.61    236.01    .205E+07       838.4          1.64       40.81
      5.21    236.61    .293E+07      1361.6          1.86       35.89
      5.81    237.21    .389E+07      2011.2          2.08       32.23
      6.41    237.81    .494E+07      2753.5          2.24       29.91
      7.01    238.41    .612E+07      3635.0          2.39       28.04
      7.61    239.01    .741E+07      4672.5          2.53       26.43
      8.21    239.61    .880E+07      5999.3          2.74       24.44
      8.82    240.22    .102E+08      7510.0          2.94       22.72
      9.42    240.82    .117E+08      9201.9          3.15       21.23
     10.02    241.42    .132E+08     11059.7          3.35       19.95
     10.62    242.02    .148E+08     13073.4          3.54       18.87
     11.22    242.62    .164E+08     15242.1          3.73       17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    95.84     8.25    26.15      2.47      1.85
     OUTFLOW: ID= 1 (6202) *******    91.98     9.00    26.15      2.42      1.86

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| ADD HYD   (8112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35  91.977     9.00    26.15
       + ID2= 2 (8110):   468.50  40.315     6.00    53.06
         ================================================
         ID = 3 (8112): 11834.85  96.040     9.00    27.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  *******     19.2100
                        2.8500     0.5200    |  *******     24.7300
                        8.1800     1.2600    |  *******     30.8600
                       15.0900     2.2100    |  *******     37.6100
                       23.2700     3.3900    |  *******     41.2200
                       32.5300     4.7800    |  *******     48.9000
                       36.5100     5.3900    |  *******     66.4700
                       42.7600     6.3700    |  *******    100.1200
                       53.8500     8.1300    |  *******    140.4100
                       91.7300    14.3200    |  *******    140.4200

                              AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8112)  ********    96.040     9.00      27.22
     OUTFLOW: ID= 1 (5555)  ********    94.779     9.50      27.22

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.69
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED      (ha.m.)= 14.8583

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| ADD HYD   (8114) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.85  94.779     9.50    27.22
       + ID2= 2 (8136):  2288.40  30.030     6.50    26.33
         ================================================
         ID = 3 (8114): 14123.25 112.204     9.00    27.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.25         1.75
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     408.25        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       566.17
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      7.13 (ii)   12.48 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.08         2.14          6.218 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=     78.80        67.43         74.25
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.83          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8990      1.7295
                         0.0850     0.5280   |   2.1560      1.9661
                         0.8990     0.8577   |   2.3740      2.2023
                         1.3460     1.1601   |   2.7740      2.2123
                         1.6060     1.4451   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000      6.218      6.00      74.25
     OUTFLOW: ID= 1 (5206)     25.000      1.244      6.50      74.19

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.01
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0930

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-------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     155.31        95.19
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1292.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       114.81
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.23 (ii)   24.35 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     21.55        14.21         30.895 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        46.27         58.96
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.57          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2062):   250.50  30.895     6.00    58.96
          + ID2= 2 (5206):    25.00   1.244     6.50    74.19
            ==========================================
            ID = 3 (8144):   275.50  31.597     6.00    60.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
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                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      72.54       128.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1159.02        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        54.18
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.33 (ii)   27.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.13         8.48         14.420 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        28.53         38.59
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.35          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4660      4.9468
                         0.5050     1.9141   |  15.4770      5.3726
                         2.8390     2.2056   |  18.2610      6.4806
                         5.2410     3.6606   |  18.6610      6.4906
                         7.9920     4.3236   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500     14.420      6.00      38.59
     OUTFLOW: ID= 1 (5204)    201.500      5.123      7.00      38.58

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.53
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.6272

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| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.74        49.16
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     905.17        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        88.58
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.49 (ii)   22.72 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.70         5.79         13.409 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        34.65         49.22
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.43          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8140) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2042):   122.90  13.409     6.00    49.22
       + ID2= 2 (5204):   201.50   5.123     7.00    38.58
         ================================================
         ID = 3 (8140):   324.40  13.879     6.00    42.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2061.0) ------>
             Distance      Elevation       Manning
                0.00         253.07        0.0350
               13.98         252.89        0.0350
               27.95         251.99        0.0350
               34.94         252.18        0.0350
               41.93         252.02        0.0350
               73.38         250.35        0.0350
               94.34         247.09        0.0350
              111.81         244.79        0.0350
              115.31         244.24        0.0350
              117.55         244.20    0.0350 /0.0300  Main Channel
              118.80         243.60        0.0300      Main Channel
              122.30         243.60        0.0300      Main Channel
              122.55         244.60    0.0300 /0.0350  Main Channel
              146.76         244.74        0.0350
              164.23         247.26        0.0350
              213.15         248.92        0.0350
              241.10         249.51        0.0350
              272.55         250.87        0.0350
              300.50         252.26        0.0350
              345.93         253.67        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   243.90    .310E+04       1.4         1.23      36.25
       0.60   244.20    .676E+04       4.6         1.81      24.64
       1.12   244.72    .221E+05      17.1         2.07      21.60
       1.64   245.24    .754E+05      64.1         2.28      19.60
       2.17   245.77    .139E+06     149.8         2.88      15.50
       2.69   246.29    .214E+06     273.3         3.43      13.04
       3.21   246.81    .299E+06     436.1         3.91      11.43
       3.73   247.33    .395E+06     632.6         4.30      10.40
       4.25   247.85    .511E+06     836.4         4.39      10.18
       4.77   248.37    .653E+06    1114.9         4.58       9.76
       5.30   248.90    .822E+06    1472.1         4.81       9.30
       5.82   249.42    .102E+07    1872.2         4.91       9.10
       6.34   249.94    .126E+07    2444.6         5.22       8.56
       6.86   250.46    .151E+07    3113.1         5.52       8.09
       7.38   250.98    .180E+07    3843.5         5.74       7.79
       7.90   251.50    .211E+07    4717.8         6.00       7.45
       8.43   252.03    .245E+07    5701.4         6.24       7.16
       8.95   252.55    .284E+07    6727.5         6.36       7.03
       9.47   253.07    .326E+07    7885.3         6.48       6.90

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8140)  324.40    13.88    6.00  42.61      0.99      2.00
    OUTFLOW: ID= 1 (6206)  324.40    11.19    6.50  42.61      0.87      1.94


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| ADD HYD   (8142) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6206):   324.40  11.189     6.50    42.61
       + ID2= 2 (8144):   275.50  31.597     6.00    60.34
         ================================================
         ID = 3 (8142):   599.90  37.223     6.00    50.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8138) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8114): 14123.25 112.204     9.00    27.08
       + ID2= 2 (8142):   599.90  37.223     6.00    50.75
         ================================================
         ID = 3 (8138): 14723.15 119.210     8.50    28.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2081.0) ------>
             Distance      Elevation       Manning
                0.00         249.19        0.1000
               73.11         244.13        0.1000
              121.86         243.39        0.1000
              243.71         240.01        0.1000
              353.38         238.75        0.1000
              450.87         235.40        0.1000
              499.61         231.40        0.1000
              511.80         230.96        0.1000
              523.98         230.12        0.1000
              534.50         227.80    0.1000 /0.0500  Main Channel
              536.50         226.70        0.0500      Main Channel
              546.50         226.70        0.0500      Main Channel
              548.50         227.80    0.0500 /0.1000  Main Channel
              572.72         230.25        0.1000
              682.40         230.50        0.1000
              804.25         233.95        0.1000
              926.11         235.83        0.1000
             1047.96         240.70        0.1000
             1145.45         243.26        0.1000
             1206.38         247.03        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55   227.25    .111E+05       2.0         0.33      92.44
       1.10   227.80    .242E+05       6.5         0.50      61.56
       2.23   228.93    .700E+05      26.0         0.68      44.91
       3.36   230.06    .150E+06      60.8         0.74      41.04
       4.49   231.19    .446E+06     130.8         0.54      56.83
       5.62   232.32    .925E+06     287.4         0.57      53.66
       6.76   233.46    .152E+07     522.9         0.63      48.32
       7.89   234.59    .223E+07     827.2         0.68      44.91
       9.02   235.72    .312E+07    1219.5         0.72      42.61
      10.15   236.85    .418E+07    1780.6         0.78      39.11
      11.28   237.98    .537E+07    2479.2         0.85      36.07
      12.41   239.11    .669E+07    3282.9         0.90      33.95
      13.54   240.24    .824E+07    4228.6         0.94      32.47
      14.67   241.37    .997E+07    5384.6         0.99      30.87
      15.81   242.51    .119E+08    6698.4         1.03      29.56
      16.94   243.64    .140E+08    8235.2         1.08      28.25
      18.07   244.77    .162E+08   10104.2         1.14      26.73
      19.20   245.90    .185E+08   12251.5         1.21      25.21
      20.33   247.03    .209E+08   14597.0         1.28      23.89

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8138) *******   119.21    8.50  28.04      4.31      0.56
    OUTFLOW: ID= 1 (6208) *******   110.93   10.00  28.04      4.18      0.58


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| CALIB            |
| STANDHYD  (2082) |   Area     (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       116.83
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.70 (ii)   26.75 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     32.49        22.21        46.933 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80        43.35        56.47
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.54         0.70

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      93.00       172.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1330.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        67.52
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.49 (ii)   27.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     11.64        14.22        20.662 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80        35.65        44.28
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.44         0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  70.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  16.8530     6.3371
                         0.8360     2.7353   |  21.1630     7.3975
                         4.7810     3.1070   |  25.1140     8.4406
                         8.9050     4.2484   |  25.5140     8.4506
                        12.6070     5.1796   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2081)    265.700     20.662      6.00      44.28
     OUTFLOW: ID= 1 (5208)    265.700     10.813      6.75      44.28

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.33
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  4.7832

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| ADD HYD   (8148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2082):   426.60  46.933     6.00    56.47
      + ID2= 2 (5208):   265.70  10.813     6.75    44.28
        ================================================
        ID = 3 (8148):   692.30  47.701     6.00    51.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8146) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6208): 14723.15 110.934    10.00    28.04
      + ID2= 2 (8148):   692.30  47.701     6.00    51.79
        ================================================
        ID = 3 (8146): 15415.45 115.482    10.00    29.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2101.0) ------>
            Distance      Elevation       Manning
                0.00         241.81        0.0800
               28.43         241.78        0.0800
               85.30         237.04        0.0800
              149.27         231.32        0.0800
              170.60         230.10        0.0800
              255.89         229.37        0.0800
              277.22         228.68        0.0800
              284.33         228.42        0.0800
              291.43         228.16        0.0800
              297.76         227.00    0.0800 /0.0350  Main Channel
              298.76         225.00        0.0350      Main Channel
              312.76         225.00        0.0350      Main Channel
              313.76         227.00    0.0350 /0.0800  Main Channel
              326.97         229.50        0.0800
              348.30         230.29        0.0800
              376.73         229.76        0.0800
              490.46         235.75        0.0800
              568.65         236.24        0.0800
              661.06         241.85        0.0800
              703.71         246.04        0.0800

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.67   225.67   .141E+05        6.6         0.69      35.86
       1.33   226.33   .289E+05       20.4         1.04      23.65
       2.00   227.00   .443E+05       39.3         1.31      18.81
       2.93   227.93   .730E+05       77.8         1.57      15.64
       3.85   228.85   .123E+06      131.1         1.57      15.65
       4.78   229.78   .228E+06      205.6         1.33      18.51
       5.70   230.70   .503E+06      356.7         1.05      23.49
       6.63   231.63   .846E+06      608.7         1.06      23.17
       7.55   232.55   .123E+07      946.4         1.14      21.65
       8.48   233.48   .165E+07     1367.0         1.22      20.13
       9.41   234.41   .211E+07     1871.8         1.31      18.80
      10.33   235.33   .261E+07     2463.2         1.40      17.65
      11.26   236.26   .317E+07     2999.4         1.40      17.63
      12.18   237.18   .384E+07     3848.3         1.48      16.63
      13.11   238.11   .454E+07     4806.0         1.56      15.75
      14.03   239.03   .528E+07     5876.9         1.64      14.97
      14.96   239.96   .605E+07     7062.7         1.72      14.29
      15.88   240.88   .687E+07     8365.0         1.80      13.68
      16.81   241.81   .771E+07     9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    115.48   10.00  29.11      3.58      1.57
     OUTFLOW: ID= 1 (6210) *******    115.39   10.00  29.11      3.56      1.57

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| CALIB             |
| NASHYD    (0210)  |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   4.041 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  40.871
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8150) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0210):   218.27   4.041     7.25    40.87
      + ID2= 2 (6210): 15415.45 115.393    10.00    29.11
        ================================================
        ID = 3 (8150): 15633.72 118.274     9.75    29.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0218)  |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   2.582 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  29.818
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0216)  |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52
```

```
     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   4.123 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  34.852
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.431

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2121)  |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     52.08         3.92
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    611.01        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66       307.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     9.08 (ii)   15.91 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=    10.80         1.89        12.113 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    78.80        56.62        73.25
     TOTAL RAINFALL   (mm)=    80.80        80.80        80.80
     RUNOFF COEFFICIENT   =     0.98         0.70         0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5212)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7460     1.9720
                         0.1900     1.1850   |   4.7040     2.0838
                         1.0850     1.4413   |   5.4760     2.1940
                         2.0210     1.5949   |   5.8760     2.2040
                         2.8030     1.7848   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2121)     56.000     12.113      6.00      73.25
     OUTFLOW: ID= 1 (5212)     56.000      4.586      6.25      73.23

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.86
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.1034

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2122)  |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min  |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     79.00       193.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1347.59        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        53.23
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     14.59 (ii)   28.36 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=    13.68        12.18        21.309 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    78.80        32.00        42.76
     TOTAL RAINFALL   (mm)=    80.80        80.80        80.80
     RUNOFF COEFFICIENT   =     0.98         0.40         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
-------------------           (ha)      (cms)     (hrs)      (mm)
          ID1= 1 (2122):   272.40  21.309     6.00     42.76
        + ID2= 2 (5212):    56.00   4.586     6.25     73.23
          ================================================
          ID = 3 (8152):   328.40  23.287     6.25     47.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6214)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
                        <----- DATA FOR SECTION (2141.0) ------>
                      Distance      Elevation        Manning
                         0.00        259.29         0.0500
                        15.33        258.91         0.0500
                        38.33        258.57         0.0500
                        65.16        257.93         0.0500
                        95.82        253.44         0.0500
                       111.15        251.21         0.0500
                       130.32        249.67         0.0500
                       149.48        248.51         0.0500
                       150.66        248.50    0.0500 /0.0370  Main Channel
                       150.81        247.50         0.0370      Main Channel
                       154.66        247.50         0.0370      Main Channel
                       155.66        248.50    0.0370 /0.0500  Main Channel
                       160.98        248.50         0.0500
                       187.81        249.78         0.0500
                       199.31        252.13         0.0500
                       245.30        254.04         0.0500
                       264.46        253.99         0.0500
                       298.96        255.23         0.0500
                       329.62        257.02         0.0500
                       379.45        258.82         0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50    248.00    .648E+04        2.1         1.00       52.30
      1.00    248.50    .139E+05        6.4         1.44       36.35
      1.61    249.11    .570E+05       22.6         1.24       42.01
      2.21    249.71    .143E+06       63.6         1.39       37.61
      2.82    250.32    .263E+06      142.9         1.70       30.69
      3.43    250.93    .403E+06      257.2         2.00       26.11
      4.04    251.54    .562E+06      410.4         2.29       22.82
      4.64    252.14    .735E+06      601.3         2.56       20.37
      5.25    252.75    .933E+06      791.0         2.66       19.67
      5.86    253.36    .117E+07     1038.0         2.79       18.74
      6.46    253.96    .144E+07     1344.4         2.93       17.82
      7.07    254.57    .178E+07     1664.1         2.93       17.83
      7.68    255.18    .217E+07     2140.2         3.10       16.87
      8.28    255.78    .259E+07     2722.9         3.30       15.83
      8.89    256.39    .304E+07     3387.1         3.50       14.94
      9.50    257.00    .351E+07     4132.7         3.69       14.16
     10.11    257.61    .402E+07     4913.0         3.83       13.64
     10.71    258.21    .458E+07     5648.3         3.87       13.50
     11.32    258.82    .521E+07     6343.1         3.82       13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.40    23.29     6.25    47.96      1.62      1.24
     OUTFLOW: ID= 1 (6214)  328.40    14.92     6.75    47.96      1.32      1.33

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-------------------
| CALIB             |
| STANDHYD  (0214)  |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min  |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     79.24       237.71
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1453.62        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        52.91
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     15.27 (ii)   29.07 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     6.11        14.66        17.672 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.25
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```
     RUNOFF VOLUME    (mm)=      78.80        28.68          33.19
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.35           0.41

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0214):   316.95  17.672     6.25    33.19
       + ID2= 2 (6214):   328.40  14.922     6.75    47.96
         ==========================================
         ID = 3 (8154):   645.35  30.007     6.25    40.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0216):   145.77   4.123     6.50    34.85
       + ID2= 2 (8154):   645.35  30.007     6.25    40.71
         ==========================================
         ID = 3 (8156):   791.12  33.881     6.25    39.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2181.0) ------>
              Distance      Elevation       Manning
                 0.00         256.38        0.0450
                 7.70         254.85        0.0450
                15.40         253.20        0.0450
                19.25         252.29        0.0450
                23.10         251.17        0.0450
                78.94         236.16        0.0450
                80.87         235.80        0.0450
                82.79         235.45        0.0450
                84.57         234.60    0.0450 /0.0300  Main Channel
                85.07         233.60        0.0300      Main Channel
                88.57         233.60        0.0300      Main Channel
                93.57         233.60        0.0300      Main Channel
                94.07         234.60    0.0300 /0.0450  Main Channel
                96.27         235.13        0.0450
                98.19         235.20        0.0450
               100.12         235.32        0.0450
               138.63         239.95        0.0450
               180.98         244.80        0.0450
               188.69         245.00        0.0450
               190.61         256.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       1.00   234.60    .181E+05         6.0          0.66      50.64
       2.13   235.73    .518E+05        23.8          0.93      36.27
       3.25   236.85    .119E+06        60.0          1.02      33.03
       4.38   237.98    .217E+06       120.6          1.12      29.99
       5.51   239.11    .346E+06       210.5          1.23      27.39
       6.63   240.23    .506E+06       334.1          1.33      25.22
       7.76   241.36    .697E+06       495.6          1.43      23.44
       8.88   242.48    .920E+06       699.8          1.53      21.91
      10.01   243.61    .117E+07       950.8          1.63      20.59
      11.14   244.74    .146E+07      1252.5          1.73      19.45
      12.26   245.86    .178E+07      1619.6          1.83      18.37
      13.39   246.99    .212E+07      2078.5          1.97      17.01
      14.52   248.12    .247E+07      2589.0          2.11      15.88
      15.64   249.24    .282E+07      3149.7          2.25      14.94
      16.77   250.37    .319E+07      3759.8          2.37      14.14
      17.89   251.49    .356E+07      4419.5          2.50      13.44
      19.02   252.62    .395E+07      5126.4          2.61      12.84
      20.15   253.75    .435E+07      5871.6          2.72      12.34
      21.27   254.87    .476E+07      6663.2          2.82      11.89

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.12   33.88     6.25  39.63      2.44      0.95
     OUTFLOW: ID= 1 (6218)  791.12   24.67     6.75  39.63      2.16      0.93
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-------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0218):   152.25   2.582     7.00    29.82
       + ID2= 2 (6218):   791.12  24.673     6.75    39.63
         ==========================================
         ID = 3 (8158):   943.37  27.234     6.75    38.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.72 118.274     9.75    29.27
       + ID2= 2 (8158):   943.37  27.234     6.75    38.04
         ==========================================
         ID = 3 (8151): 16577.09 132.759     7.00    29.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000   |  33.0100     0.6700
                          2.6400    0.0500   |  37.4800     0.7800
                          4.8300    0.0900   |  47.5400     1.0100
                          7.4100    0.1300   |  60.2300     1.2800
                         10.3300    0.1900   |  71.9530     1.5258
                         13.5300    0.2500   |  *******     3.0529
                         16.9900    0.3200   |  *******     5.3299
                         20.6800    0.3900   |  *******     8.4148
                         24.6000    0.4800   |  *******    11.7637
                         28.7100    0.5700   |  *******    11.7737

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********    132.759      7.00       29.77
     OUTFLOW: ID= 1 (5504)   ********    132.578      7.00       29.77

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.86
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.8201

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-------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2201.0) ------>
              Distance      Elevation       Manning
                 0.00         245.59        0.0600
                 5.76         245.45        0.0600
                23.03         242.27        0.0600
                57.58         232.35        0.0600
                86.37         226.18        0.0600
               109.41         224.31        0.0600
               115.17         223.86        0.0600
               120.92         222.78        0.0600
               126.68         221.93        0.0600
               128.06         221.50    0.0600 /0.0300  Main Channel
               129.56         220.00        0.0300      Main Channel
               141.56         220.00        0.0300      Main Channel
               143.06         221.50    0.0300 /0.0600  Main Channel
               149.72         223.77        0.0600
               155.47         225.09        0.0600
               253.36         229.21        0.0600
               333.98         227.50        0.0600
               454.90         229.25        0.0600
               500.97         233.11        0.0600
               570.07         237.42        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.75   220.75    .262E+05         5.5          0.57      79.44
       1.50   221.50    .555E+05        17.5          0.86      52.89
       2.44   222.44    .103E+06        42.7          1.14      40.03
       3.37   223.37    .171E+06        79.4          1.27      35.98
       4.31   224.31    .263E+06       128.1          1.33      34.22
       5.25   225.25    .393E+06       191.7          1.34      34.19
       6.18   226.18    .594E+06       276.7          1.28      35.77
       7.12   227.12    .872E+06       399.9          1.26      36.33
       8.06   228.06    .127E+07       542.7          1.17      38.92
       8.99   228.99    .199E+07       770.0          1.06      43.01
```

```
  9.93   229.93    .297E+07    1151.8          1.06      42.95
 10.86   230.86    .400E+07    1652.9          1.13      40.33
 11.80   231.80    .507E+07    2251.8          1.22      37.53
 12.74   232.74    .618E+07    2946.5          1.31      34.97
 13.67   233.67    .733E+07    3726.8          1.39      32.79
 14.61   234.61    .853E+07    4591.0          1.48      30.96
 15.55   235.55    .977E+07    5544.1          1.55      29.37
 16.48   236.48    .111E+08    6586.7          1.63      27.99
 17.42   237.42    .124E+08    7719.2          1.71      26.77

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (5504) *******   132.58    7.00  29.77      4.38      1.33
OUTFLOW: ID= 1 (6220) *******   127.03    9.75  29.77      4.29      1.33


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   1.967 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  33.660
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.417

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0220):   169.10   1.967    8.00     33.66
      + ID2= 2 (6220): 16577.09 127.031     9.75     29.77
        ================================================
        ID = 3 (8160): 16746.19 128.836     9.50     29.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW       (cms)=   3.852 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.467
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27         92.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         80.54
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.08 (ii)    23.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.48          9.78        12.813 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         41.09        48.25
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.51         0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   6.6430      3.7677
                         0.4620     2.0014    |   8.2830      4.2576
                         2.0160     2.2850    |  14.1970      4.6909
                         3.6250     2.7987    |  14.5970      4.7009
                         5.0230     3.2496    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200    12.813      6.00      48.25
     OUTFLOW: ID= 1 (5222)    145.200     5.253      6.75      48.24

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.00
               TIME SHIFT OF PEAK FLOW          (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.3405

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--------------------
| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95         16.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     703.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        230.59
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.88 (ii)   17.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.65          5.70        11.588 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         56.38        65.57
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.70         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2222):    74.30  11.588     6.00     65.57
      + ID2= 2 (5222):   145.20   5.253     6.75     48.24
        ================================================
        ID = 3 (8164):   219.50  11.946     6.00     54.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75         92.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     967.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         74.51
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.96 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.61          8.99        14.439 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         42.68        52.07
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.53         0.64
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0224):   140.45  14.439     6.00    52.07
     + ID2= 2 (8164):   219.50  11.946     6.00    54.11
       ================================================
       ID = 3 (8166):   359.95  26.385     6.00    53.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2261.0) ------>
            Distance      Elevation       Manning
               0.00         245.35        0.0600
               8.27         242.72        0.0600
              16.54         240.01        0.0600
              31.02         235.31        0.0600
              41.36         233.14        0.0600
              90.99         227.73        0.0600
              93.06         227.50        0.0600
              95.13         227.27        0.0600
              95.83         227.00        0.0600
             100.83         226.50    0.0600 /0.0350  Main Channel
             101.33         225.50       0.0350       Main Channel
             101.83         226.50    0.0350 /0.0600  Main Channel
             105.83         227.00        0.0600
             107.54         227.39        0.0600
             109.60         227.62        0.0600
             111.67         227.86        0.0600
             146.83         231.76        0.0600
             173.71         234.77        0.0600
             186.12         238.23        0.0600
             202.67         238.35        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   226.00    .403E+03        0.0        0.16     330.59
       1.00   226.50    .161E+04        0.1        0.26     208.26
       1.70   227.20    .173E+05        1.5        0.27     195.72
       2.39   227.89    .541E+05        5.9        0.35     152.27
       3.09   228.59    .119E+06       16.0        0.43     124.08
       3.79   229.29    .212E+06       33.8        0.51     104.65
       4.49   229.99    .334E+06       61.2        0.59      90.97
       5.18   230.68    .484E+06       99.7        0.66      80.88
       5.88   231.38    .663E+06      151.0        0.73      73.13
       6.58   232.08    .870E+06      216.5        0.80      66.95
       7.27   232.77    .111E+07      297.5        0.87      61.91
       7.97   233.47    .137E+07      398.1        0.94      57.29
       8.67   234.17    .165E+07      518.9        1.01      53.12
       9.36   234.86    .196E+07      658.9        1.08      49.59
      10.06   235.56    .228E+07      827.0        1.17      46.02
      10.76   236.26    .262E+07     1015.4        1.25      42.96
      11.46   236.96    .296E+07     1221.2        1.33      40.41
      12.15   237.65    .332E+07     1444.6        1.40      38.26
      12.85   238.35    .368E+07     1598.2        1.40      38.42

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.95    26.39    6.00  53.31      3.50      0.48
     OUTFLOW: ID= 1 (6226)  359.95     8.73    6.75  53.31      2.59      0.37

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| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0226):   237.58   3.852     7.25    35.47
     + ID2= 2 (6226):   359.95   8.734     6.75    53.31
       ================================================
       ID = 3 (8168):   597.53  12.407     6.75    46.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (8160): 16746.19 128.836     9.50    29.81
     + ID2= 2 (8168):   597.53  12.407     6.75    46.22
       ================================================
       ID = 3 (8162): 17343.72 137.689     8.50    30.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2281.0) ------>
            Distance      Elevation       Manning
               0.00         245.00        0.0600
              18.60         244.74        0.0600
              37.20         242.47        0.0600
              93.01         233.71        0.0600
             125.57         226.95        0.0600
             213.93         221.63        0.0600
             218.58         221.15        0.0600
             223.23         220.45        0.0600
             225.03         220.55    0.0600 /0.0300  Main Channel
             225.53         218.05       0.0300       Main Channel
             232.53         218.05       0.0300       Main Channel
             240.03         218.05       0.0300       Main Channel
             241.03         220.55    0.0300 /0.0600  Main Channel
             246.48         221.00        0.0600
             251.13         221.27        0.0600
             255.78         221.22        0.0600
             325.54         225.25        0.0600
             367.40         228.91        0.0600
             404.60         231.75        0.0600
             460.41         245.00        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.25   219.30    .338E+05       16.0        0.86      35.15
       2.50   220.55    .696E+05       48.3        1.26      24.02
       3.94   221.99    .168E+06      116.0        1.26      24.14
       5.38   223.43    .392E+06      247.5        1.15      26.37
       6.81   224.86    .743E+06      472.6        1.16      26.20
       8.25   226.30    .122E+07      821.6        1.23      24.67
       9.69   227.74    .179E+07     1320.1        1.34      22.59
      11.13   229.18    .243E+07     1965.7        1.47      20.58
      12.57   230.62    .313E+07     2744.2        1.59      19.02
      14.01   232.06    .390E+07     3683.4        1.72      17.66
      15.44   233.49    .472E+07     4824.1        1.86      16.30
      16.88   234.93    .557E+07     6092.4        1.99      15.23
      18.32   236.37    .646E+07     7503.3        2.11      14.35
      19.76   237.81    .739E+07     9061.2        2.23      13.59
      21.20   239.25    .836E+07    10767.6        2.34      12.94
      22.64   240.69    .937E+07    12624.8        2.45      12.37
      24.07   242.12    .104E+08    14634.9        2.56      11.87
      25.51   243.56    .115E+08    16762.8        2.65      11.45
      26.95   245.00    .127E+08    18699.9        2.69      11.28

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   137.69    8.50  30.37      4.18      1.24
     OUTFLOW: ID= 1 (6228) *******   135.70    9.50  30.37      4.16      1.24

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-------------------
| CALIB             |
| NASHYD    (0228) |   Area    (ha)= 310.54   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=   3.173 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.913
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0228):   310.54   3.173     7.50    23.91
     + ID2= 2 (6228): 17343.72 135.701     9.50    30.37
       ================================================
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         ID = 3 (8170): 17654.26 138.376     9.25    30.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2302) |   Area    (ha)= 126.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     29.14         97.56
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    919.06         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         61.47
               over (min)       15.00         30.00
     Storage Coeff.  (min)=    11.60 (ii)    24.60 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     2.72          7.66          8.736 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=    78.80         33.86         37.91
     TOTAL RAINFALL   (mm)=    80.80         80.80         80.80
     RUNOFF COEFFICIENT   =     0.98          0.42          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     39.40         39.40
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    724.80         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66        101.64
               over (min)       15.00         30.00
     Storage Coeff.  (min)=    10.06 (ii)    20.69 (ii)
     Unit Hyd. Tpeak (min)=    15.00         30.00
     Unit Hyd. peak  (cms)=     0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=     3.74          5.58          7.381 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=    78.80         40.76         47.99
     TOTAL RAINFALL   (mm)=    80.80         80.80         80.80
     RUNOFF COEFFICIENT   =     0.98          0.50          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.6350      1.5914
                         0.3160     0.7624   |   6.9200      1.8001
                         1.7040     0.8931   |   7.9010      2.0070
                         3.5140     1.1218   |   8.3010      2.0170
                         4.5020     1.3405   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800     7.381      6.00      47.99
     OUTFLOW: ID= 1 (5230)     78.800     4.586      6.50      47.98

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.13
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3679

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):   126.70   8.736     6.25    37.91
       + ID2= 2 (5230):    78.80   4.586     6.50    47.98
         ================================================
         ID = 3 (8172):   205.50  12.783     6.25    41.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=   3.203 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.895
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0232):   314.80   3.203     7.25    21.89
       + ID2= 2 (8172):   205.50  12.783     6.25    41.77
         ================================================
         ID = 3 (8173):   520.30  15.216     6.25    29.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17654.26 138.376     9.25    30.26
       + ID2= 2 (8173):   520.30  15.216     6.25    29.75
         ================================================
         ID = 3 (8174): 18174.56 142.190     9.25    30.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2341.0) ------>
              Distance      Elevation       Manning
                 0.00         228.00        0.0550
                42.86         223.21        0.0550
                85.72         219.56        0.0550
               107.15         219.42        0.0550
               128.58         219.39        0.0550
               214.30         219.30        0.0550
               225.02         219.26        0.0550
               235.73         219.24        0.0550
               255.16         219.20    0.0550 /0.0350  Main Channel
               257.16         217.20        0.0350      Main Channel
               303.16         217.20        0.0350      Main Channel
               305.16         219.20    0.0350 /0.0550  Main Channel
               310.74         219.28        0.0550
               321.45         219.27        0.0550
               332.17         219.26        0.0550
               396.46         219.29        0.0550
               782.20         222.91        0.0550
               878.64         227.43        0.0550
               964.36         227.80        0.0550
              1060.79         228.00        0.0550

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   217.70   .887E+05       7.2          0.31     206.54
      1.00   218.20   .179E+06      22.7          0.48     131.74
      1.50   218.70   .272E+06      44.5          0.62     101.75
      2.00   219.20   .366E+06      71.8          0.75      84.97
      2.59   219.79   .993E+06     136.1          0.52     121.59
      3.17   220.37   .189E+07     258.6          0.52     121.80
      3.76   220.96   .294E+07     434.7          0.56     112.82
      4.35   221.55   .415E+07     665.9          0.61     103.88
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      4.93   222.13    .551E+07     955.0          0.66      96.22
      5.52   222.72    .703E+07    1305.1          0.71      89.80
      6.11   223.31    .868E+07    1744.9          0.77      82.91
      6.69   223.89    .104E+08    2261.4          0.83      76.46
      7.28   224.48    .121E+08    2838.0          0.89      71.12
      7.87   225.07    .139E+08    3472.9          0.95      66.63
      8.45   225.65    .157E+08    4165.0          1.01      62.82
      9.04   226.24    .176E+08    4913.5          1.07      59.54
      9.63   226.83    .194E+08    5717.7          1.12      56.68
     10.21   227.41    .214E+08    6577.1          1.17      54.18
     10.80   228.00    .235E+08    6919.5          1.12      56.61

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
INFLOW : ID= 2 (8174) *******   142.19   9.25  30.25      2.62      0.52
OUTFLOW: ID= 1 (6234) *******   122.82  12.25  30.25      2.47      0.56


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-------------------
| CALIB             |
| STANDHYD  (0234) |   Area    (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     58.78       208.38
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1334.57        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        14.89
               over (min)        15.00        45.00
     Storage Coeff.  (min)=     14.51 (ii)   37.42 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.68         4.80         6.621 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=     78.80        14.18        19.35
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.18         0.24

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0234):   267.16   6.621     6.00     19.35
      + ID2= 2 (6234): 18174.56 122.817    12.25    30.25
        ================================================
        ID = 3 (8176): 18441.72 123.200    12.25    30.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0238) |   Area    (ha)= 311.70   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   1.940 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  18.985
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0236) |   Area    (ha)= 494.49   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=   3.795 (i)
     TIME TO PEAK    (hrs)=   8.000

     RUNOFF VOLUME    (mm)=  19.519
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.242

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                 0.00         241.54        0.0380
               602.55         227.00        0.0380
              1702.00         224.50        0.0380
              1721.25         223.00        0.0380
              1725.10         222.60        0.0380
              1780.94         222.50        0.0380
              1782.87         222.45        0.0380
              1784.79         222.40    0.0380 /0.0300  Main Channel
              1786.57         221.75       0.0300       Main Channel
              1787.07         220.75       0.0300       Main Channel
              1787.57         220.75       0.0300       Main Channel
              1791.57         220.75       0.0300       Main Channel
              1794.07         221.75       0.0300       Main Channel
              1798.27         222.00       0.0300       Main Channel
              1800.19         222.35    0.0300 /0.0380  Main Channel
              1802.12         222.47       0.0380
              1840.63         223.00       0.0380
              1900.00         225.00       0.0380
              1950.00         226.00       0.0380
              2242.61         240.00       0.0380

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
     0.80   221.55    .101E+05       5.2          1.14      32.36
     1.60   222.35    .296E+05      18.7          1.40      26.36
     2.64   223.39    .249E+06     151.8          1.35      27.33
     3.68   224.43    .613E+06     512.2          1.85      19.94
     4.71   225.46    .152E+07    1066.8          1.55      23.80
     5.75   226.50    .359E+07    2824.9          1.75      21.16
     6.79   227.54    .663E+07    6528.0          2.18      16.93
     7.83   228.58    .994E+07   12158.6          2.71      13.62
     8.87   229.62    .134E+08   19268.8          3.19      11.58
     9.91   230.66    .170E+08   27785.3          3.63      10.19
    10.94   231.69    .207E+08   37667.1          4.03       9.18
    11.98   232.73    .246E+08   48891.7          4.40       8.40
    13.02   233.77    .287E+08   61448.0          4.75       7.78
    14.06   234.81    .329E+08   75332.7          5.08       7.28
    15.10   235.85    .372E+08   90547.8          5.39       6.85
    16.14   236.89    .417E+08   *******          5.69       6.49
    17.17   237.92    .464E+08   *******          5.98       6.18
    18.21   238.96    .512E+08   *******          6.25       5.91
    19.25   240.00    .561E+08   *******          6.52       5.67

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
INFLOW : ID= 2 (6236)  494.49     3.80   8.00  19.52      0.58      1.14
OUTFLOW: ID= 1 (6238)  494.49     3.68   8.50  19.52      0.56      1.14

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| ADD HYD   (8180) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0238):   311.70   1.940     8.25     18.99
      + ID2= 2 (6238):   494.49   3.676     8.50     19.52
        ================================================
        ID = 3 (8180):   806.19   5.612     8.50     19.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8176): 18441.72 123.200    12.25    30.09
      + ID2= 2 (8180):   806.19   5.612     8.50     19.31
        ================================================
        ID = 3 (8178): 19247.91 127.205    11.75    29.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (2401.0) ------>
Distance      Elevation       Manning
    0.00        222.00        0.0450
   11.46        221.00        0.0450
  208.98        221.00        0.0450
  404.04        220.97        0.0450
  808.08        220.83        0.0450
  905.60        220.17        0.0450
  919.53        219.43        0.0450
  933.47        219.22        0.0450
  945.26        219.21    0.0450 /0.0300  Main Channel
  946.26        217.81        0.0300      Main Channel
  975.26        217.81        0.0300      Main Channel
 1003.26        217.81        0.0300      Main Channel
 1005.26        219.21    0.0300 /0.0450  Main Channel
 1017.06        219.28        0.0450
 1030.99        219.26        0.0450
 1044.92        219.23        0.0450
 1058.86        219.23        0.0450
 1253.91        219.22        0.0450
 1323.57        221.05        0.0450
 1379.30        222.00        0.0450

<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
  (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
 0.20    218.01    .307E+05        2.2           0.20      227.52
 0.40    218.21    .617E+05        7.1           0.31      143.95
 0.60    218.41    .928E+05       14.0           0.41      110.33
 0.80    218.61    .124E+06       22.6           0.49       91.46
 1.00    218.81    .156E+06       32.8           0.57       79.15
 1.20    219.01    .188E+06       44.5           0.64       70.38
 1.40    219.21    .220E+06       57.5           0.70       63.77
 1.63    219.44    .413E+06       82.5           0.54       83.52
 1.87    219.68    .632E+06      120.9           0.51       87.03
 2.10    219.91    .858E+06      170.0           0.53       84.11
 2.33    220.14    .109E+07      228.7           0.56       79.62
 2.56    220.37    .134E+07      294.4           0.59       76.03
 2.80    220.61    .162E+07      371.1           0.61       72.75
 3.03    220.84    .192E+07      456.8           0.64       70.18
 3.26    221.07    .251E+07      552.1           0.59       75.74
 3.49    221.30    .333E+07      711.8           0.57       78.07
 3.73    221.54    .417E+07      907.0           0.58       76.62
 3.96    221.77    .502E+07     1134.1           0.61       73.70
 4.19    222.00    .587E+07     1390.9           0.64       70.34

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8178) *******   127.20   11.75  29.64      1.89      0.52
OUTFLOW: ID= 1 (6240) *******   119.22   13.50  29.64      1.85      0.52


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-------------------
| CALIB           |
| NASHYD    (0240) |   Area     (ha)= 434.37   Curve Number    (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   2.058

     PEAK FLOW       (cms)=   1.142 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  15.341
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6240):   434.37    1.142    12.00     15.34
      + ID2= 2 (6240): 19247.91 119.224    13.50     29.64
        ================================================
        ID = 3 (8182): 19682.28 120.303    13.50     29.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0242) |   Area     (ha)= 657.88   Curve Number    (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.090

     PEAK FLOW       (cms)=   1.476 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  18.503
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0242):   657.88    1.476    12.75     18.50
      + ID2= 2 (8182): 19682.28 120.303    13.50     29.32
        ================================================
        ID = 3 (8184): 20340.16 121.773    13.50     28.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (2441.0) ------>
Distance      Elevation       Manning
    0.00        225.00        0.0450
    2.50        220.10        0.0450
    3.00        220.06        0.0450
    3.64        220.07        0.0450
    7.28        220.08        0.0450
   10.91        220.09        0.0450
   14.55        219.81        0.0450
   18.19        219.29        0.0450
   24.13        219.21    0.0450 /0.0300  Main Channel
   24.63        217.81        0.0300      Main Channel
   69.13        217.81        0.0300      Main Channel
  114.13        217.81        0.0300      Main Channel
  115.13        219.21    0.0300 /0.0450  Main Channel
  120.06        219.25        0.0450
  123.70        219.32        0.0450
  127.34        219.77        0.0450
  130.98        219.88        0.0450
  134.61        219.99        0.0450
  350.00        220.18        0.0450
  360.18        225.00        0.0450

<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
  (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
 0.35    218.16    .108E+06        9.0           0.29      200.52
 0.70    218.51    .216E+06       28.4           0.45      126.89
 1.05    218.86    .325E+06       55.7           0.59       97.27
 1.40    219.21    .434E+06       89.7           0.71       80.65
 1.79    219.60    .574E+06      135.9           0.81       70.36
 2.17    219.98    .726E+06      190.8           0.90       63.38
 2.56    220.37    .111E+07      264.3           0.82       69.82
 2.94    220.75    .157E+07      371.7           0.81       70.36
 3.33    221.14    .203E+07      503.4           0.85       67.30
 3.72    221.53    .250E+07      656.6           0.90       63.40
 4.10    221.91    .296E+07      829.6           0.96       59.54
 4.49    222.30    .343E+07     1021.1           1.02       56.00
 4.87    222.68    .390E+07     1230.2           1.08       52.83
 5.26    223.07    .437E+07     1456.2           1.14       50.01
 5.65    223.46    .484E+07     1698.4           1.20       47.51
 6.03    223.84    .531E+07     1956.3           1.26       45.28
 6.42    224.23    .579E+07     2229.3           1.32       43.28
 6.80    224.61    .626E+07     2517.0           1.38       41.48
 7.19    225.00    .674E+07     2819.2           1.44       39.85

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8184) *******   121.77   13.50  28.97      1.67      0.78
OUTFLOW: ID= 1 (6244) *******   117.82   14.50  28.97      1.63      0.77


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-------------------
| CALIB           |
| NASHYD    (0244) |   Area     (ha)=1908.71   Curve Number    (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  14.812

     PEAK FLOW       (cms)=  11.577 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  24.046
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8186) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0244):  1908.71  11.577     9.50    24.05
       + ID2= 2 (6244): 20340.16 117.815    14.50    28.97
          ================================================
          ID = 3 (8186): 22248.87 125.680    13.75    28.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.25
-------------------  VOLUME     (mm)=  28.08
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
  Comments:

          HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
          ACTUAL PEAK FLOW: PEAK ( 166.87) + BASE (    0.00) =  166.87  (cms).
```

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
hrs	cms	hrs	cms	hrs	cms	hrs	cms	hrs	cms
0.00	0.000	65.00	2.136	130.00	0.344	195.00	0.051	260.00	0.007
0.25	0.000	65.25	2.121	130.25	0.341	195.25	0.050	260.25	0.007
0.50	0.000	65.50	2.106	130.50	0.339	195.50	0.050	260.50	0.007
0.75	0.000	65.75	2.091	130.75	0.337	195.75	0.050	260.75	0.007
1.00	0.006	66.00	2.076	131.00	0.334	196.00	0.049	261.00	0.007
1.25	0.159	66.25	2.062	131.25	0.332	196.25	0.049	261.25	0.007
1.50	0.288	66.50	2.047	131.50	0.329	196.50	0.049	261.50	0.007
1.75	0.395	66.75	2.033	131.75	0.327	196.75	0.048	261.75	0.007
2.00	0.483	67.00	2.018	132.00	0.325	197.00	0.048	262.00	0.007
2.25	0.585	67.25	2.004	132.25	0.322	197.25	0.048	262.25	0.007
2.50	0.672	67.50	1.990	132.50	0.320	197.50	0.047	262.50	0.007
2.75	0.751	67.75	1.977	132.75	0.318	197.75	0.047	262.75	0.007
3.00	0.830	68.00	1.963	133.00	0.315	198.00	0.046	263.00	0.006
3.25	0.980	68.25	1.949	133.25	0.313	198.25	0.046	263.25	0.006
3.50	1.137	68.50	1.936	133.50	0.311	198.50	0.046	263.50	0.006
3.75	1.311	68.75	1.922	133.75	0.309	198.75	0.045	263.75	0.006
4.00	1.506	69.00	1.909	134.00	0.306	199.00	0.045	264.00	0.006
4.25	1.874	69.25	1.896	134.25	0.304	199.25	0.045	264.25	0.006
4.50	2.287	69.50	1.882	134.50	0.302	199.50	0.044	264.50	0.006
4.75	2.927	69.75	1.869	134.75	0.300	199.75	0.044	264.75	0.006
5.00	3.665	70.00	1.856	135.00	0.298	200.00	0.044	265.00	0.006
5.25	4.878	70.25	1.844	135.25	0.296	200.25	0.043	265.25	0.006
5.50	6.316	70.50	1.831	135.50	0.293	200.50	0.043	265.50	0.006
5.75	11.796	70.75	1.818	135.75	0.291	200.75	0.043	265.75	0.006
6.00	30.891	71.00	1.806	136.00	0.289	201.00	0.042	266.00	0.006
6.25	44.260	71.25	1.793	136.25	0.287	201.25	0.042	266.25	0.006
6.50	59.986	71.50	1.781	136.50	0.285	201.50	0.042	266.50	0.006
6.75	70.905	71.75	1.769	136.75	0.283	201.75	0.042	266.75	0.006
7.00	80.052	72.00	1.756	137.00	0.281	202.00	0.041	267.00	0.006
7.25	87.950	72.25	1.744	137.25	0.279	202.25	0.041	267.25	0.006
7.50	95.462	72.50	1.732	137.50	0.277	202.50	0.041	267.50	0.006
7.75	102.833	72.75	1.720	137.75	0.275	202.75	0.040	267.75	0.006
8.00	110.232	73.00	1.708	138.00	0.273	203.00	0.040	268.00	0.006
8.25	117.248	73.25	1.697	138.25	0.271	203.25	0.040	268.25	0.006
8.50	124.007	73.50	1.685	138.50	0.269	203.50	0.039	268.50	0.005
8.75	130.428	73.75	1.673	138.75	0.267	203.75	0.039	268.75	0.005
9.00	135.734	74.00	1.662	139.00	0.265	204.00	0.039	269.00	0.005
9.25	139.661	74.25	1.651	139.25	0.263	204.25	0.039	269.25	0.005
9.50	143.598	74.50	1.639	139.50	0.261	204.50	0.038	269.50	0.005
9.75	147.502	74.75	1.628	139.75	0.259	204.75	0.038	269.75	0.005
10.00	151.330	75.00	1.617	140.00	0.258	205.00	0.038	270.00	0.005
10.25	154.800	75.25	1.606	140.25	0.256	205.25	0.037	270.25	0.005
10.50	157.888	75.50	1.595	140.50	0.254	205.50	0.037	270.50	0.005
10.75	160.433	75.75	1.584	140.75	0.252	205.75	0.037	270.75	0.005
11.00	162.500	76.00	1.573	141.00	0.250	206.00	0.037	271.00	0.005
11.25	164.119	76.25	1.562	141.25	0.248	206.25	0.036	271.25	0.005
11.50	165.346	76.50	1.551	141.50	0.246	206.50	0.036	271.50	0.005
11.75	166.237	76.75	1.540	141.75	0.244	206.75	0.036	271.75	0.005
12.00	166.835	77.00	1.530	142.00	0.243	207.00	0.035	272.00	0.005
12.25	166.869	77.25	1.519	142.25	0.241	207.25	0.035	272.25	0.005
12.50	166.547	77.50	1.509	142.50	0.239	207.50	0.035	272.50	0.005
12.75	165.856	77.75	1.499	142.75	0.237	207.75	0.035	272.75	0.005
13.00	164.883	78.00	1.488	143.00	0.236	208.00	0.034	273.00	0.005
13.25	163.635	78.25	1.478	143.25	0.234	208.25	0.034	273.25	0.005
13.50	162.146	78.50	1.468	143.50	0.232	208.50	0.034	273.50	0.005
13.75	160.453	78.75	1.458	143.75	0.231	208.75	0.034	273.75	0.005
14.00	158.585	79.00	1.448	144.00	0.229	209.00	0.033	274.00	0.005
14.25	156.554	79.25	1.438	144.25	0.227	209.25	0.033	274.25	0.005
14.50	154.365	79.50	1.428	144.50	0.226	209.50	0.033	274.50	0.005
14.75	152.026	79.75	1.418	144.75	0.224	209.75	0.033	274.75	0.005
15.00	149.552	80.00	1.408	145.00	0.222	210.00	0.032	275.00	0.005
15.25	146.950	80.25	1.398	145.25	0.221	210.25	0.032	275.25	0.004
15.50	144.217	80.50	1.389	145.50	0.219	210.50	0.032	275.50	0.004
15.75	141.372	80.75	1.379	145.75	0.218	210.75	0.032	275.75	0.004
16.00	138.445	81.00	1.370	146.00	0.216	211.00	0.031	276.00	0.004
16.25	135.460	81.25	1.360	146.25	0.214	211.25	0.031	276.25	0.004
16.50	132.443	81.50	1.351	146.50	0.213	211.50	0.031	276.50	0.004
16.75	129.416	81.75	1.342	146.75	0.211	211.75	0.031	276.75	0.004
17.00	126.399	82.00	1.333	147.00	0.210	212.00	0.031	277.00	0.004
17.25	123.404	82.25	1.323	147.25	0.208	212.25	0.030	277.25	0.004
17.50	120.438	82.50	1.314	147.50	0.207	212.50	0.030	277.50	0.004
17.75	117.509	82.75	1.305	147.75	0.205	212.75	0.030	277.75	0.004
18.00	114.622	83.00	1.296	148.00	0.204	213.00	0.030	278.00	0.004
18.25	111.783	83.25	1.287	148.25	0.202	213.25	0.029	278.25	0.004
18.50	108.989	83.50	1.279	148.50	0.201	213.50	0.029	278.50	0.004
18.75	106.225	83.75	1.270	148.75	0.199	213.75	0.029	278.75	0.004
19.00	103.483	84.00	1.261	149.00	0.198	214.00	0.029	279.00	0.004
19.25	100.772	84.25	1.252	149.25	0.196	214.25	0.029	279.25	0.004
19.50	98.105	84.50	1.244	149.50	0.195	214.50	0.028	279.50	0.004
19.75	95.494	84.75	1.235	149.75	0.194	214.75	0.028	279.75	0.004
20.00	92.948	85.00	1.227	150.00	0.192	215.00	0.028	280.00	0.004
20.25	90.472	85.25	1.218	150.25	0.191	215.25	0.028	280.25	0.004
20.50	87.339	85.50	1.210	150.50	0.189	215.50	0.027	280.50	0.004
20.75	83.992	85.75	1.201	150.75	0.188	215.75	0.027	280.75	0.004
21.00	81.012	86.00	1.193	151.00	0.187	216.00	0.027	281.00	0.004
21.25	78.322	86.25	1.185	151.25	0.185	216.25	0.027	281.25	0.004
21.50	75.864	86.50	1.177	151.50	0.184	216.50	0.027	281.50	0.004
21.75	73.595	86.75	1.169	151.75	0.183	216.75	0.026	281.75	0.004
22.00	71.480	87.00	1.160	152.00	0.181	217.00	0.026	282.00	0.004
22.25	69.437	87.25	1.152	152.25	0.180	217.25	0.026	282.25	0.004
22.50	67.310	87.50	1.145	152.50	0.179	217.50	0.026	282.50	0.004
22.75	65.049	87.75	1.137	152.75	0.177	217.75	0.026	282.75	0.004
23.00	62.725	88.00	1.129	153.00	0.176	218.00	0.025	283.00	0.004
23.25	60.384	88.25	1.121	153.25	0.175	218.25	0.025	283.25	0.003
23.50	58.061	88.50	1.113	153.50	0.174	218.50	0.025	283.50	0.003
23.75	55.778	88.75	1.105	153.75	0.172	218.75	0.025	283.75	0.003
24.00	53.553	89.00	1.098	154.00	0.171	219.00	0.025	284.00	0.003
24.25	51.396	89.25	1.090	154.25	0.170	219.25	0.025	284.25	0.003
24.50	49.313	89.50	1.083	154.50	0.169	219.50	0.024	284.50	0.003
24.75	47.308	89.75	1.075	154.75	0.167	219.75	0.024	284.75	0.003
25.00	45.382	90.00	1.068	155.00	0.166	220.00	0.024	285.00	0.003
25.25	43.535	90.25	1.060	155.25	0.165	220.25	0.024	285.25	0.003
25.50	41.765	90.50	1.053	155.50	0.164	220.50	0.024	285.50	0.003
25.75	40.071	90.75	1.046	155.75	0.162	220.75	0.023	285.75	0.003
26.00	38.451	91.00	1.038	156.00	0.161	221.00	0.023	286.00	0.003
26.25	36.901	91.25	1.031	156.25	0.160	221.25	0.023	286.25	0.003
26.50	35.423	91.50	1.024	156.50	0.159	221.50	0.023	286.50	0.003
26.75	34.015	91.75	1.017	156.75	0.158	221.75	0.023	286.75	0.003
27.00	32.674	92.00	1.010	157.00	0.157	222.00	0.023	287.00	0.003
27.25	31.396	92.25	1.003	157.25	0.155	222.25	0.022	287.25	0.003
27.50	30.176	92.50	0.996	157.50	0.154	222.50	0.022	287.50	0.003
27.75	29.012	92.75	0.989	157.75	0.153	222.75	0.022	287.75	0.003
28.00	27.900	93.00	0.982	158.00	0.152	223.00	0.022	288.00	0.003
28.25	26.838	93.25	0.975	158.25	0.151	223.25	0.022	288.25	0.003
28.50	25.823	93.50	0.969	158.50	0.150	223.50	0.022	288.50	0.003
28.75	24.853	93.75	0.962	158.75	0.149	223.75	0.021	288.75	0.003
29.00	23.926	94.00	0.955	159.00	0.148	224.00	0.021	289.00	0.003
29.25	23.040	94.25	0.949	159.25	0.147	224.25	0.021	289.25	0.003
29.50	22.193	94.50	0.942	159.50	0.146	224.50	0.021	289.50	0.003
29.75	21.383	94.75	0.935	159.75	0.144	224.75	0.021	289.75	0.003
30.00	20.608	95.00	0.929	160.00	0.143	225.00	0.021	290.00	0.003
30.25	19.868	95.25	0.922	160.25	0.142	225.25	0.020	290.25	0.003
30.50	19.159	95.50	0.916	160.50	0.141	225.50	0.020	290.50	0.003
30.75	18.482	95.75	0.910	160.75	0.140	225.75	0.020	290.75	0.003
31.00	17.835	96.00	0.903	161.00	0.139	226.00	0.020	291.00	0.003
31.25	17.215	96.25	0.897	161.25	0.138	226.25	0.020	291.25	0.003
31.50	16.623	96.50	0.891	161.50	0.137	226.50	0.020	291.50	0.003
31.75	16.056	96.75	0.885	161.75	0.136	226.75	0.020	291.75	0.003
32.00	15.513	97.00	0.878	162.00	0.135	227.00	0.019	292.00	0.003
32.25	14.994	97.25	0.872	162.25	0.134	227.25	0.019	292.25	0.003
32.50	14.497	97.50	0.866	162.50	0.133	227.50	0.019	292.50	0.003
32.75	14.021	97.75	0.860	162.75	0.132	227.75	0.019	292.75	0.003
33.00	13.566	98.00	0.854	163.00	0.131	228.00	0.019	293.00	0.003
33.25	13.131	98.25	0.848	163.25	0.130	228.25	0.019	293.25	0.003
33.50	12.714	98.50	0.842	163.50	0.129	228.50	0.019	293.50	0.003
33.75	12.315	98.75	0.836	163.75	0.128	228.75	0.018	293.75	0.003
34.00	11.934	99.00	0.831	164.00	0.127	229.00	0.018	294.00	0.003
34.25	11.569	99.25	0.825	164.25	0.127	229.25	0.018	294.25	0.002
34.50	11.219	99.50	0.819	164.50	0.126	229.50	0.018	294.50	0.002
34.75	10.884	99.75	0.813	164.75	0.125	229.75	0.018	294.75	0.002
35.00	10.564	100.00	0.808	165.00	0.124	230.00	0.018	295.00	0.002
35.25	10.258	100.25	0.802	165.25	0.123	230.25	0.018	295.25	0.002
35.50	9.965	100.50	0.796	165.50	0.122	230.50	0.017	295.50	0.002
35.75	9.684	100.75	0.791	165.75	0.121	230.75	0.017	295.75	0.002
36.00	9.416	101.00	0.785	166.00	0.120	231.00	0.017	296.00	0.002
36.25	9.159	101.25	0.780	166.25	0.119	231.25	0.017	296.25	0.002
36.50	8.913	101.50	0.774	166.50	0.118	231.50	0.017	296.50	0.002
36.75	8.678	101.75	0.769	166.75	0.118	231.75	0.017	296.75	0.002
37.00	8.452	102.00	0.763	167.00	0.117	232.00	0.017	297.00	0.002
37.25	8.236	102.25	0.758	167.25	0.116	232.25	0.017	297.25	0.002
37.50	8.029	102.50	0.753	167.50	0.115	232.50	0.016	297.50	0.002
37.75	7.831	102.75	0.747	167.75	0.114	232.75	0.016	297.75	0.002
38.00	7.641	103.00	0.742	168.00	0.113	233.00	0.016	298.00	0.002
38.25	7.459	103.25	0.737	168.25	0.112	233.25	0.016	298.25	0.002
38.50	7.284	103.50	0.732	168.50	0.112	233.50	0.016	298.50	0.002
38.75	7.116	103.75	0.727	168.75	0.111	233.75	0.016	298.75	0.002
39.00	6.955	104.00	0.722	169.00	0.110	234.00	0.016	299.00	0.002
39.25	6.800	104.25	0.717	169.25	0.109	234.25	0.016	299.25	0.002
39.50	6.652	104.50	0.711	169.50	0.108	234.50	0.015	299.50	0.002
39.75	6.509	104.75	0.707	169.75	0.108	234.75	0.015	299.75	0.002
40.00	6.372	105.00	0.702	170.00	0.107	235.00	0.015	300.00	0.002
40.25	6.240	105.25	0.697	170.25	0.106	235.25	0.015	300.25	0.002
40.50	6.114	105.50	0.692	170.50	0.105	235.50	0.015	300.50	0.002
40.75	5.992	105.75	0.687	170.75	0.104	235.75	0.015	300.75	0.002
41.00	5.874	106.00	0.682	171.00	0.104	236.00	0.015	301.00	0.002
41.25	5.761	106.25	0.677	171.25	0.103	236.25	0.015	301.25	0.002
41.50	5.653	106.50	0.672	171.50	0.102	236.50	0.015	301.50	0.002

41.75	5.548	106.75	0.668	171.75	0.101	236.75	0.014	301.75	0.002
42.00	5.447	107.00	0.663	172.00	0.101	237.00	0.014	302.00	0.002
42.25	5.350	107.25	0.658	172.25	0.100	237.25	0.014	302.25	0.002
42.50	5.256	107.50	0.654	172.50	0.099	237.50	0.014	302.50	0.002
42.75	5.165	107.75	0.649	172.75	0.098	237.75	0.014	302.75	0.002
43.00	5.078	108.00	0.645	173.00	0.098	238.00	0.014	303.00	0.002
43.25	4.994	108.25	0.640	173.25	0.097	238.25	0.014	303.25	0.002
43.50	4.912	108.50	0.635	173.50	0.096	238.50	0.014	303.50	0.002
43.75	4.834	108.75	0.631	173.75	0.096	238.75	0.014	303.75	0.002
44.00	4.758	109.00	0.627	174.00	0.095	239.00	0.013	304.00	0.002
44.25	4.685	109.25	0.622	174.25	0.094	239.25	0.013	304.25	0.002
44.50	4.614	109.50	0.618	174.50	0.094	239.50	0.013	304.50	0.002
44.75	4.545	109.75	0.613	174.75	0.093	239.75	0.013	304.75	0.002
45.00	4.478	110.00	0.609	175.00	0.092	240.00	0.013	305.00	0.002
45.25	4.414	110.25	0.605	175.25	0.091	240.25	0.013	305.25	0.002
45.50	4.352	110.50	0.600	175.50	0.091	240.50	0.013	305.50	0.002
45.75	4.292	110.75	0.596	175.75	0.090	240.75	0.013	305.75	0.002
46.00	4.233	111.00	0.592	176.00	0.089	241.00	0.013	306.00	0.002
46.25	4.176	111.25	0.588	176.25	0.089	241.25	0.013	306.25	0.002
46.50	4.121	111.50	0.584	176.50	0.088	241.50	0.013	306.50	0.002
46.75	4.068	111.75	0.580	176.75	0.087	241.75	0.012	306.75	0.002
47.00	4.016	112.00	0.575	177.00	0.087	242.00	0.012	307.00	0.002
47.25	3.966	112.25	0.571	177.25	0.086	242.25	0.012	307.25	0.002
47.50	3.917	112.50	0.567	177.50	0.086	242.50	0.012	307.50	0.002
47.75	3.870	112.75	0.563	177.75	0.085	242.75	0.012	307.75	0.002
48.00	3.823	113.00	0.559	178.00	0.084	243.00	0.012	308.00	0.002
48.25	3.778	113.25	0.555	178.25	0.084	243.25	0.012	308.25	0.002
48.50	3.735	113.50	0.551	178.50	0.083	243.50	0.012	308.50	0.002
48.75	3.692	113.75	0.548	178.75	0.082	243.75	0.012	308.75	0.002
49.00	3.651	114.00	0.544	179.00	0.082	244.00	0.012	309.00	0.002
49.25	3.610	114.25	0.540	179.25	0.081	244.25	0.012	309.25	0.002
49.50	3.571	114.50	0.536	179.50	0.081	244.50	0.011	309.50	0.002
49.75	3.533	114.75	0.532	179.75	0.080	244.75	0.011	309.75	0.002
50.00	3.495	115.00	0.528	180.00	0.079	245.00	0.011	310.00	0.002
50.25	3.459	115.25	0.525	180.25	0.079	245.25	0.011	310.25	0.002
50.50	3.423	115.50	0.521	180.50	0.078	245.50	0.011	310.50	0.002
50.75	3.388	115.75	0.517	180.75	0.078	245.75	0.011	310.75	0.001
51.00	3.354	116.00	0.514	181.00	0.077	246.00	0.011	311.00	0.001
51.25	3.321	116.25	0.510	181.25	0.077	246.25	0.011	311.25	0.001
51.50	3.288	116.50	0.506	181.50	0.076	246.50	0.011	311.50	0.001
51.75	3.256	116.75	0.503	181.75	0.075	246.75	0.011	311.75	0.001
52.00	3.225	117.00	0.499	182.00	0.075	247.00	0.011	312.00	0.001
52.25	3.195	117.25	0.496	182.25	0.074	247.25	0.011	312.25	0.001
52.50	3.165	117.50	0.492	182.50	0.074	247.50	0.010	312.50	0.001
52.75	3.135	117.75	0.489	182.75	0.073	247.75	0.010	312.75	0.001
53.00	3.107	118.00	0.485	183.00	0.073	248.00	0.010	313.00	0.001
53.25	3.079	118.25	0.482	183.25	0.072	248.25	0.010	313.25	0.001
53.50	3.051	118.50	0.478	183.50	0.072	248.50	0.010	313.50	0.001
53.75	3.024	118.75	0.475	183.75	0.071	248.75	0.010	313.75	0.001
54.00	2.997	119.00	0.471	184.00	0.071	249.00	0.010	314.00	0.001
54.25	2.971	119.25	0.468	184.25	0.070	249.25	0.010	314.25	0.001
54.50	2.945	119.50	0.465	184.50	0.069	249.50	0.010	314.50	0.001
54.75	2.920	119.75	0.461	184.75	0.069	249.75	0.010	314.75	0.001
55.00	2.895	120.00	0.458	185.00	0.068	250.00	0.010	315.00	0.001
55.25	2.871	120.25	0.455	185.25	0.068	250.25	0.010	315.25	0.001
55.50	2.847	120.50	0.452	185.50	0.067	250.50	0.010	315.50	0.001
55.75	2.823	120.75	0.448	185.75	0.067	250.75	0.009	315.75	0.001
56.00	2.800	121.00	0.445	186.00	0.066	251.00	0.009	316.00	0.001
56.25	2.777	121.25	0.442	186.25	0.066	251.25	0.009	316.25	0.001
56.50	2.755	121.50	0.439	186.50	0.065	251.50	0.009	316.50	0.001
56.75	2.733	121.75	0.436	186.75	0.065	251.75	0.009	316.75	0.001
57.00	2.711	122.00	0.433	187.00	0.065	252.00	0.009	317.00	0.001
57.25	2.689	122.25	0.430	187.25	0.064	252.25	0.009	317.25	0.001
57.50	2.668	122.50	0.427	187.50	0.064	252.50	0.009	317.50	0.001
57.75	2.647	122.75	0.424	187.75	0.063	252.75	0.009	317.75	0.001
58.00	2.626	123.00	0.420	188.00	0.063	253.00	0.009	318.00	0.001
58.25	2.606	123.25	0.417	188.25	0.062	253.25	0.009	318.25	0.001
58.50	2.586	123.50	0.414	188.50	0.062	253.50	0.009	318.50	0.001
58.75	2.566	123.75	0.412	188.75	0.061	253.75	0.009	318.75	0.001
59.00	2.546	124.00	0.409	189.00	0.061	254.00	0.009	319.00	0.001
59.25	2.527	124.25	0.406	189.25	0.060	254.25	0.008	319.25	0.001
59.50	2.508	124.50	0.403	189.50	0.060	254.50	0.008	319.50	0.001
59.75	2.489	124.75	0.400	189.75	0.059	254.75	0.008	319.75	0.001
60.00	2.470	125.00	0.397	190.00	0.059	255.00	0.008	320.00	0.001
60.25	2.452	125.25	0.394	190.25	0.059	255.25	0.008	320.25	0.001
60.50	2.434	125.50	0.391	190.50	0.058	255.50	0.008	320.50	0.001
60.75	2.416	125.75	0.389	190.75	0.058	255.75	0.008	320.75	0.001
61.00	2.398	126.00	0.386	191.00	0.057	256.00	0.008	321.00	0.001
61.25	2.380	126.25	0.383	191.25	0.057	256.25	0.008	321.25	0.001
61.50	2.363	126.50	0.380	191.50	0.056	256.50	0.008	321.50	0.001
61.75	2.345	126.75	0.378	191.75	0.056	256.75	0.008	321.75	0.001
62.00	2.328	127.00	0.375	192.00	0.056	257.00	0.008	322.00	0.001
62.25	2.311	127.25	0.372	192.25	0.055	257.25	0.008	322.25	0.001
62.50	2.295	127.50	0.370	192.50	0.055	257.50	0.008	322.50	0.001
62.75	2.278	127.75	0.367	192.75	0.054	257.75	0.008	322.75	0.001
63.00	2.262	128.00	0.364	193.00	0.054	258.00	0.008	323.00	0.001
63.25	2.245	128.25	0.362	193.25	0.054	258.25	0.008	323.25	0.001
63.50	2.229	128.50	0.359	193.50	0.053	258.50	0.007	323.50	0.001
63.75	2.213	128.75	0.356	193.75	0.053	258.75	0.007	323.75	0.001
64.00	2.197	129.00	0.354	194.00	0.052	259.00	0.007		
64.25	2.182	129.25	0.351	194.25	0.052	259.25	0.007		
64.50	2.166	129.50	0.349	194.50	0.052	259.50	0.007		
64.75	2.151	129.75	0.346	194.75	0.051	259.75	0.007		

ADD HYD (8188)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8186):	22248.87	125.680	13.75	28.55
+ ID2= 2 (8190):	1908.71	11.577	9.50	24.05
ID = 3 (8188):	24157.57	134.080	13.50	28.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (4462)	Area (ha)=1366.10	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 4.22		

Unit Hyd Qpeak (cms)= 5.524

PEAK FLOW	(cms)=	4.956 (i)
TIME TO PEAK	(hrs)=	12.000
RUNOFF VOLUME	(mm)=	24.093
TOTAL RAINFALL	(mm)=	80.800
RUNOFF COEFFICIENT	=	0.298

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (4461)	Area (ha)= 108.90			
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 30.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	54.45	54.45		
Dep. Storage (mm)=	2.00	5.00		
Average Slope (%)=	0.50	0.50		
Length (m)=	852.06	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	106.66	65.78		
over (min)	15.00	30.00		
Storage Coeff. (min)=	11.09 (ii)	23.73 (ii)		
Unit Hyd. Tpeak (min)=	15.00	30.00		
Unit Hyd. peak (cms)=	0.08	0.04		
			TOTALS	
PEAK FLOW (cms)=	7.91	4.65	10.849 (iii)	
TIME TO PEAK (hrs)=	6.00	6.25	6.00	
RUNOFF VOLUME (mm)=	78.80	30.87	45.25	
TOTAL RAINFALL (mm)=	80.80	80.80	80.80	
RUNOFF COEFFICIENT =	0.98	0.38	0.56	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5446)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.6700	2.9494
	0.3690	1.4413	1.8200	3.3343
	0.5700	1.6830	1.9700	3.7111
	1.0600	2.1139	2.3700	3.7211
	1.3800	2.4971	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4461)	108.900	10.849	6.00	45.25
OUTFLOW: ID= 1 (5446)	108.900	1.675	7.25	45.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.44
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 2.9627

ADD HYD (8192)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4462):	1366.10	4.956	12.00	24.09
+ ID2= 2 (5446):	108.90	1.675	7.25	45.24
ID = 3 (8192):	1475.00	5.931	10.50	25.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8188): 24157.57 134.080    13.50    28.19
      + ID2= 2 (8192):  1475.00   5.931    10.50    25.65
        ================================================
        ID = 3 (8194): 25632.58 139.389    13.50    28.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.655 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  13.817
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   2.254 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.234
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.586 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.571
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   2.215 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.928
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.654 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.950
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0434):   56.64   0.654     6.50    14.95
      + ID2= 2 (0436):  187.51   2.215     7.00    19.93
        ================================================
        ID = 3 (8206):  244.15   2.853     6.75    18.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation        Manning
                  0.00         256.00         0.0600
                  9.23         255.50         0.0600
                 27.69         255.00         0.0600
                 50.77         254.90         0.0600
                 64.62         254.85         0.0600
                 78.47         252.26         0.0600
                 96.93         249.44         0.0600
                129.24         245.94         0.0600
                145.40         245.76         0.0600
                146.20         245.80   0.0600 /0.0350  Main Channel
                146.70         245.30      0.0350       Main Channel
                147.70         245.30      0.0350       Main Channel
                148.20         245.80   0.0350 /0.0600  Main Channel
                150.01         245.78         0.0600
                152.32         245.79         0.0600
                163.86         246.72         0.0600
                175.40         249.07         0.0600
                186.94         253.15         0.0600
                196.17         255.38         0.0600
                228.48         255.55         0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    245.80    .221E+04        0.9         1.02      40.44
       1.01    246.31    .352E+05       14.0         0.99      41.77
       1.53    246.83    .841E+05       47.3         1.39      29.61
       2.04    247.34    .144E+06      102.0         1.76      23.49
       2.55    247.85    .213E+06      177.3         2.07      19.99
       3.07    248.37    .291E+06      274.4         2.34      17.66
       3.58    248.88    .378E+06      394.6         2.58      15.97
       4.09    249.39    .474E+06      541.4         2.83      14.60
       4.61    249.91    .578E+06      719.9         3.08      13.38
       5.12    250.42    .688E+06      923.8         3.33      12.40
       5.63    250.93    .803E+06     1153.3         3.56      11.61
       6.14    251.44    .925E+06     1408.6         3.77      10.95
       6.66    251.96    .105E+07     1690.6         3.98      10.38
       7.17    252.47    .119E+07     2002.3         4.18       9.88
       7.68    252.98    .133E+07     2345.4         4.38       9.43
       8.20    253.50    .147E+07     2710.1         4.56       9.05
       8.71    254.01    .162E+07     3101.0         4.73       8.72
       9.22    254.52    .178E+07     3521.8         4.90       8.43
       9.74    255.04    .195E+07     3467.6         4.39       9.39

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     2.85   6.75  18.77      0.58      1.02
    OUTFLOW: ID= 1 (6438)  244.15     2.50   7.75  18.77      0.56      1.02

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--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0438):  130.70   1.586     6.75    17.57
      + ID2= 2 (6438):  244.15   2.498     7.75    18.77
        ================================================
        ID = 3 (8208):  374.85   3.861     7.25    18.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0440):  226.35   2.254     7.50    23.23
      + ID2= 2 (8208):  374.85   3.861     7.25    18.35
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          ================================================
          ID = 3 (8210):   601.20   6.108     7.50    20.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0432)  |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.865 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.938
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.234

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0430)  |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   1.726 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  19.711
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0428)  |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.707 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.454
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0426)  |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   2.796 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  23.867
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0424)  |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   1.085 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.765
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0424):    49.57   1.085     6.50    21.77
        + ID2= 2 (0426):   247.17   2.796     7.25    23.87
          ================================================
          ID = 3 (8198):   296.74   3.662     6.75    23.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (4281.0) ------>
                Distance      Elevation        Manning
                   0.00         246.54         0.0900
                   8.80         246.29         0.0900
                  30.78         246.03         0.0900
                  41.78         243.97         0.0900
                  63.77         237.16         0.0900
                  85.76         232.53         0.0900
                  96.75         230.16         0.0900
                 109.94         228.40         0.0900
                 112.14         228.28    0.0900 /0.0450  Main Channel
                 112.84         228.00         0.0450      Main Channel
                 113.34         227.50         0.0450      Main Channel
                 114.34         227.50         0.0450      Main Channel
                 114.84         228.00         0.0450      Main Channel
                 116.54         228.29    0.0450 /0.0900  Main Channel
                 118.74         228.40         0.0900
                 120.94         228.52         0.0900
                 149.52         229.51         0.0900
                 169.31         230.69         0.0900
                 186.00         234.27         0.0900
                 217.69         243.56         0.0900

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.78   228.28    .205E+04         1.6          0.97       21.60
        1.58   229.08    .202E+05        16.6          1.02       20.37
        2.39   229.89    .665E+05        64.8          1.22       17.11
        3.19   230.69    .133E+06       158.1          1.49       14.05
        4.00   231.50    .213E+06       308.6          1.82       11.48
        4.80   232.30    .299E+06       504.9          2.11        9.89
        5.61   233.11    .394E+06       746.6          2.37        8.79
        6.41   233.91    .496E+06      1034.5          2.61        7.99
        7.21   234.71    .605E+06      1373.3          2.84        7.35
        8.02   235.52    .722E+06      1763.3          3.06        6.82
        8.82   236.32    .844E+06      2202.0          3.27        6.39
        9.63   237.13    .974E+06      2690.5          3.46        6.03
       10.43   237.93    .111E+07      3239.5          3.66        5.71
       11.23   238.73    .125E+07      3839.0          3.84        5.43
       12.04   239.54    .140E+07      4489.1          4.03        5.18
       12.84   240.34    .155E+07      5190.5          4.20        4.97
       13.65   241.15    .170E+07      5943.8          4.36        4.78
       14.45   241.95    .187E+07      6749.8          4.53        4.61
       15.26   242.76    .204E+07      7609.4          4.68        4.46

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8198)  296.74     3.66    6.75  23.52      0.89      0.97
    OUTFLOW: ID= 1 (6428)  296.74     3.52    7.25  23.52      0.88      0.97

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| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0428):    50.53   0.707     6.50    17.45
        + ID2= 2 (6428):   296.74   3.517     7.25    23.52
          ================================================
          ID = 3 (8200):   347.27   4.114     7.25    22.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0430):   111.64   1.726     6.50    19.71
        + ID2= 2 (8200):   347.27   4.114     7.25    22.63
          ================================================
          ID = 3 (8202):   458.91   5.684     7.00    21.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6432) |
```

```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation       Manning
                 0.00        221.00        0.0600
                15.29        219.85        0.0600
                45.86        219.86        0.0600
                76.44        219.96        0.0600
               110.84        220.23        0.0600
               112.00        220.15        0.0600
               114.66        220.09        0.0600
               118.48        219.73        0.0600
               120.80        219.70    0.0600 /0.0350  Main Channel
               121.30        219.20        0.0350      Main Channel
               122.30        219.20        0.0350      Main Channel
               122.80        219.70    0.0350 /0.0600  Main Channel
               129.95        220.11        0.0600
               175.81        220.24        0.0600
               214.03        220.55        0.0600
               252.25        220.61        0.0600
               290.47        220.70        0.0600
               328.69        221.04        0.0600
               347.80        221.08        0.0600
               378.37        221.04        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.08   219.28     .185E+03         0.0          0.23      149.38
       0.17   219.37     .399E+03         0.1          0.34      100.62
       0.25   219.45     .641E+03         0.1          0.42       80.98
       0.33   219.53     .911E+03         0.2          0.49       69.79
       0.42   219.62     .121E+04         0.3          0.55       62.35
       0.50   219.70     .154E+04         0.5          0.60       56.91
       0.61   219.81     .267E+04         0.7          0.56       61.28
       0.71   219.91     .901E+04         1.3          0.30      112.96
       0.82   220.02     .249E+05         3.4          0.28      122.71
       0.92   220.12     .452E+05         6.8          0.31      109.98
       1.03   220.23     .747E+05        12.2          0.33      102.05
       1.14   220.34     .112E+06        21.3          0.39       87.59
       1.24   220.44     .153E+06        33.0          0.44       77.01
       1.35   220.55     .196E+06        47.2          0.49       69.22
       1.46   220.66     .248E+06        62.3          0.51       66.48
       1.56   220.76     .310E+06        83.4          0.55       62.06
       1.67   220.87     .376E+06       108.8          0.59       57.56
       1.77   220.97     .444E+06       137.7          0.64       53.77
       1.88   221.08     .517E+06       163.6          0.65       52.70

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8202)  458.91     5.68    7.00  21.92      0.89      0.30
    OUTFLOW: ID= 1 (6432)  458.91     3.70    9.00  21.92      0.83      0.28


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0432):   114.21   0.865     8.00    18.94
      + ID2= 2 (6432):   458.91   3.698     9.00    21.92
        ================================================
        ID = 3 (8204):   573.12   4.494     8.75    21.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8204):   573.12   4.494     8.75    21.33
      + ID2= 2 (8210):   601.20   6.108     7.50    20.19
        ================================================
        ID = 3 (8212):  1174.32  10.140     8.00    20.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation       Manning
                 0.00        221.00        0.0350
                26.73        220.80        0.0350
                53.47        220.60        0.0350
                66.83        220.40        0.0350
                80.20        220.20        0.0350
               347.52        220.00        0.0350
               354.21        219.59        0.0350
               360.89        219.50        0.0350
               367.57        219.08        0.0350
               368.76        219.00    0.0350 /0.0300  Main Channel
               369.26        218.50        0.0300      Main Channel
               374.26        218.50        0.0300      Main Channel
               374.76        219.00    0.0300 /0.0350  Main Channel
               380.94        220.33        0.0350
               387.62        219.62        0.0350
               394.31        219.23        0.0350
               454.45        219.07        0.0350
               514.60        219.09        0.0350
               660.00        219.19        0.0350
               661.63        221.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)         (m/s)       (min)
       0.12   218.62     .100E+04         0.2          0.28      92.89
       0.25   218.75     .205E+04         0.6          0.43      60.09
       0.37   218.87     .315E+04         1.1          0.55      46.99
       0.50   219.00     .430E+04         1.8          0.66      39.67
       0.63   219.13     .141E+05         3.4          0.37      69.99
       0.77   219.27     .652E+05        13.7          0.33      79.14
       0.90   219.40     .124E+06        35.5          0.45      58.02
       1.03   219.53     .183E+06        65.7          0.56      46.45
       1.17   219.67     .245E+06       103.8          0.66      39.30
       1.30   219.80     .307E+06       149.3          0.76      34.30
       1.43   219.93     .371E+06       201.6          0.85      30.65
       1.57   220.07     .440E+06       256.5          0.91      28.56
       1.70   220.20     .541E+06       325.7          0.94      27.70
       1.83   220.33     .663E+06       415.2          0.98      26.62
       1.97   220.47     .787E+06       520.3          1.03      25.21
       2.10   220.60     .913E+06       638.5          1.09      23.82
       2.23   220.73     .104E+07       767.2          1.15      22.62
       2.37   220.87     .117E+07       908.0          1.21      21.54
       2.50   221.00     .131E+07      1060.7          1.27      20.57

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8212) 1174.32    10.14    8.00  20.75      0.72      0.34
    OUTFLOW: ID= 1 (6442) 1174.32     8.76    9.50  20.75      0.70      0.35


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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0442):   117.26   0.655     7.75    13.82
      + ID2= 2 (6442):  1174.32   8.763     9.50    20.75
        ================================================
        ID = 3 (8214):  1291.58   9.326     9.50    20.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8194): 25632.58 139.389    13.50    28.05
      + ID2= 2 (8214):  1291.58   9.326     9.50    20.12
        ================================================
        ID = 3 (8196): 26924.15 145.033    13.50    27.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0444) |   Area     (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   2.061 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.663
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0444):   221.65   2.061     7.50    20.66
      + ID2= 2 (8196): 26924.15 145.033    13.50    27.67
```

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      ================================================
      ID = 3 (8216): 27145.80 145.632    13.50    27.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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```

EXISTING
EAST HOLLAND RIVER 100-YEAR STORM

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================================================================================================================

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V  V   I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O    Company
       OOO     T      T    H   H    Y    M   M   OOO              Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\16ff4504-54bc-421d-b768-1cbd43d1bfaf\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\16ff4504-54bc-421d-b768-1cbd43d1bfaf\Scenario.sum


DATE: 08/22/2012                          TIME: 01:29:37

USER:


COMMENTS: _____

--------------------------------------------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM     |    Filename: C:\Users\jscott\AppD
|                   |              ata\Local\Temp\
|                   |              16ff4504-54bc-421d-b768-1cbd43d1bfaf\5e0022d8
| Ptotal= 88.50 mm  |    Comments: 100-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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-------------------
| CALIB             |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     91.70        66.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1026.65        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82       132.40
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.95 (ii)   21.51 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.05

                                                          *TOTALS*
     PEAK FLOW       (cms)=     12.25        12.12        20.294 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        51.53        62.02
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.58         0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    110.64       165.96
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1357.94        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        93.53
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.14 (ii)   25.13 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=     14.07        19.78        26.893 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        45.97        54.48
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.52         0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  6.0870      6.1196
                        0.3730     3.2753    |  7.7230      7.0042
                        1.3370     3.4678    |  9.3080      7.8876
                        2.9800     4.4433    |  9.7080      7.8976
                        4.4520     5.2716    |  0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    276.600     26.893      6.00      54.48
     OUTFLOW: ID= 1 (5166)    276.600      9.020      7.00      54.48

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.54
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  7.7516

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-------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   158.10  20.294     6.00    62.02
        + ID2= 2 (5166):   276.60   9.020     7.00    54.48
          ================================================
          ID = 3 (8134):   434.70  22.116     6.25    57.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     26.50       106.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    939.86        40.00
     Mannings n            =     0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=     116.82        65.10
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.34 (ii)   24.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.23         8.93        10.964 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        39.72         46.74
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.45          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       71.19        30.51
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=      823.41        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       122.23
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.47 (ii)   20.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      14.29         5.26        17.763 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        49.55         68.76
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.56          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.6100      4.1638
                          0.3440     1.7056   |   8.2090      4.5053
                          3.1340     1.9730   |   8.8070      4.8468
                          4.1310     3.0607   |   9.2070      4.8568
                          5.1070     3.7142   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    101.700     17.763      6.00      68.76
     OUTFLOW: ID= 1 (5164)    101.700      4.829      6.75      68.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.19
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.5747

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1642):   132.50  10.964     6.25    46.74
      + ID2= 2 (5164):   101.70   4.829     6.75    68.75
        ================================================
        ID = 3 (8132):   234.20  15.233     6.25    56.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=   3.274 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  30.355
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=   3.158 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.188
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  26.493
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 26.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=   1.437 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.577
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number   (CN)= 17.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   0.375 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.146
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.058

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0148):   417.89   1.437     8.00     8.58
      + ID2= 2 (0150):   105.88   0.375     6.75     5.15
        ================================================
        ID = 3 (8116):   523.77   1.749     7.50     7.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6152) |
```

```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1521.0) ------>
             Distance      Elevation        Manning
                0.00         290.00         0.0500
               15.34         286.87         0.0500
               46.03         284.84         0.0500
               88.22         283.07         0.0500
              126.57         282.11         0.0500
              153.42         280.34         0.0500
              157.26         280.07         0.0500
              161.09         279.72         0.0500
              167.76         278.94    0.0500 /0.0300  Main Channel
              168.01         278.60         0.0300      Main Channel
              168.76         278.60         0.0300      Main Channel
              169.51         278.60         0.0300      Main Channel
              169.76         278.90    0.0300 /0.0500  Main Channel
              173.76         279.40         0.0500
              180.27         279.69         0.0500
              184.11         279.93         0.0500
              218.62         281.86         0.0500
              260.82         283.20         0.0500
              360.54         289.25         0.0500
              379.72         289.80         0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
        0.30   278.90    .114E+04         0.4          0.80      45.70
        0.87   279.47    .932E+04         4.2          0.98      37.22
        1.45   280.05    .353E+05        17.5          1.09      33.68
        2.02   280.62    .831E+05        47.8          1.26      29.01
        2.59   281.19    .155E+06       102.9          1.46      25.06
        3.17   281.77    .250E+06       189.3          1.66      22.03
        3.74   282.34    .375E+06       298.5          1.75      20.91
        4.32   282.92    .547E+06       456.5          1.83      19.98
        4.89   283.49    .767E+06       705.7          2.02      18.12
        5.46   284.06    .102E+07      1038.0          2.24      16.34
        6.04   284.64    .130E+07      1444.1          2.45      14.98
        6.61   285.21    .161E+07      1940.1          2.66      13.79
        7.18   285.78    .194E+07      2522.6          2.86      12.80
        7.76   286.36    .229E+07      3187.4          3.06      11.98
        8.33   286.93    .267E+07      3942.3          3.25      11.28
        8.91   287.51    .306E+07      4824.9          3.46      10.58
        9.48   288.08    .347E+07      5795.7          3.67       9.99
       10.05   288.65    .390E+07      6855.4          3.86       9.48
       10.63   289.23    .434E+07      8005.0          4.05       9.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)   (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     1.75    7.50   7.88      0.50      0.86
     OUTFLOW: ID= 1 (6152)  523.77     1.64    8.50   7.88      0.49      0.85


--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   1.677     7.00    26.49
       + ID2= 2 (6152):   523.77   1.644     8.50     7.88
         ================================================
         ID = 3 (8122):   648.14   3.190     8.00    11.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   2.450 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.040
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.970 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.331
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.196

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0154) |   Area    (ha)= 200.32   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.251 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.368
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0154):   200.32   1.251     7.25    13.37
       + ID2= 2 (0156):    83.49   0.970     6.75    17.33
         ================================================
         ID = 3 (8118):   283.81   2.188     7.00    14.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1581.0) ------>
             Distance      Elevation        Manning
                0.00         290.00         0.0400
               19.20         288.88         0.0400
               48.00         288.26         0.0400
              119.99         283.68         0.0400
              167.99         282.07         0.0400
              196.79         281.32         0.0400
              210.79         280.90         0.0400
              219.79         280.38    0.0400 /0.0300  Main Channel
              220.04         279.65         0.0300      Main Channel
              220.79         279.65         0.0300      Main Channel
              221.54         279.65         0.0300      Main Channel
              221.79         280.39    0.0300 /0.0400  Main Channel
              225.79         280.59         0.0400
              235.19         280.88         0.0400
              254.39         281.50         0.0400
              273.58         282.56         0.0400
              302.38         283.42         0.0400
              359.98         284.03         0.0400
              436.77         289.37         0.0400
              475.17         290.37         0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
        0.37   280.01    .973E+03         0.5          0.86      31.78
        0.73   280.38    .210E+04         1.5          1.18      23.16
        1.30   280.95    .149E+05         8.6          0.95      28.91
        1.86   281.51    .579E+05        40.0          1.13      24.12
        2.43   282.08    .133E+06       118.5          1.46      18.75
        2.99   282.64    .236E+06       254.6          1.77      15.46
        3.56   283.21    .369E+06       450.3          2.00      13.67
        4.13   283.78    .542E+06       702.7          2.13      12.86
        4.69   284.34    .767E+06      1125.2          2.41      11.36
        5.26   284.91    .101E+07      1697.1          2.75       9.93
        5.82   285.47    .127E+07      2379.1          3.07       8.91
        6.39   286.04    .155E+07      3171.4          3.36       8.14
        6.95   286.60    .184E+07      4075.5          3.64       7.53
        7.52   287.17    .215E+07      5093.1          3.89       7.03
        8.09   287.74    .247E+07      6226.5          4.13       6.62
        8.65   288.30    .281E+07      7461.2          4.36       6.28
        9.22   288.87    .318E+07      8635.1          4.46       6.13
        9.78   289.43    .357E+07     10143.6          4.67       5.86
       10.35   290.00    .398E+07     11608.8          4.79       5.71

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)   (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     2.19    7.00  14.53      0.78      1.15
     OUTFLOW: ID= 1 (6158)  283.81     2.10    7.50  14.53      0.78      1.16
```

```
--------------------
| ADD HYD   (8120) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0158):   178.59   2.450     7.25    28.04
       + ID2= 2 (6158):   283.81   2.102     7.50    14.53
         ================================================
         ID = 3 (8120):   462.40   4.528     7.50    19.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8124) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8120):   462.40   4.528     7.50    19.75
       + ID2= 2 (8122):   648.14   3.190     8.00    11.45
         ================================================
         ID = 3 (8124):  1110.54   7.675     7.50    14.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1601.0) ------>
             Distance      Elevation       Manning
                0.00         261.02        0.0400
               29.89         254.30        0.0400
               40.75         252.58        0.0400
               62.49         251.30        0.0400
              114.11         250.94        0.0400
              130.41         248.58        0.0400
              141.28         247.50        0.0400
              154.86         246.87        0.0400
              155.20         246.70        0.0400
              160.20         246.30    0.0400 /0.0300  Main Channel
              160.30         245.30        0.0300      Main Channel
              165.20         245.30        0.0300      Main Channel
              165.30         246.30    0.0300 /0.0400  Main Channel
              168.45         246.96        0.0400
              195.62         249.20        0.0400
              203.77         250.82        0.0400
              225.50         256.78        0.0400
              244.52         261.14        0.0400
              255.39         261.95        0.0400
              268.97         261.92        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.50   245.80   .120E+05        2.9         1.18      68.31
       1.00   246.30   .242E+05        8.5         1.70      47.47
       1.92   247.22   .825E+05       31.7         1.86      43.34
       2.84   248.14   .248E+06      102.5         2.00      40.39
       3.76   249.06   .506E+06      247.7         2.37      34.03
       4.68   249.98   .832E+06      486.8         2.83      28.49
       5.60   250.90   .121E+07      814.9         3.27      24.71
       6.52   251.82   .180E+07     1157.1         3.11      25.97
       7.44   252.74   .253E+07     1840.2         3.52      22.92
       8.36   253.66   .331E+07     2727.1         3.98      20.25
       9.29   254.59   .414E+07     3782.6         4.43      18.22
      10.21   255.51   .499E+07     5010.7         4.86      16.61
      11.13   256.43   .589E+07     6397.4         5.26      15.33
      12.05   257.35   .681E+07     7932.8         5.64      14.31
      12.97   258.27   .777E+07     9621.2         5.99      13.46
      13.89   259.19   .877E+07    11469.4         6.33      12.74
      14.81   260.11   .980E+07    13478.4         6.66      12.12
      15.73   261.03   .109E+08    15651.7         6.97      11.58
      16.65   261.95   .120E+08    17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     7.68    7.50  14.91      0.93      1.60
     OUTFLOW: ID= 1 (6160) 1110.54     7.05    8.50  14.91      0.87      1.52
```

```
--------------------
| ADD HYD   (8126) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0160):   318.82   3.158     8.00    28.19
       + ID2= 2 (6160):  1110.54   7.045     8.50    14.91
         ================================================
         ID = 3 (8126):  1429.36  10.167     8.50    17.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0162):   190.14   3.274     7.00    30.35
       + ID2= 2 (8126):  1429.36  10.167     8.50    17.87
         ================================================
         ID = 3 (8128):  1619.50  12.890     8.25    19.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8128):  1619.50  12.890     8.25    19.34
       + ID2= 2 (8132):   234.20  15.233     6.25    56.30
         ================================================
         ID = 3 (8130):  1853.70  21.360     6.25    24.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1661.0) ------>
             Distance      Elevation       Manning
                0.00         248.36        0.0500
               41.67         246.98        0.0500
               95.82         244.93        0.0500
              149.98         242.42        0.0500
              191.64         241.88        0.0500
              224.97         239.90        0.0500
              229.13         239.35        0.0500
              233.30         237.77        0.0500
              237.47         236.57        0.0500
              240.63         235.60    0.0500 /0.0300  Main Channel
              241.63         234.10        0.0300      Main Channel
              247.13         234.10        0.0300      Main Channel
              247.53         235.60    0.0300 /0.0500  Main Channel
              254.13         236.25        0.0500
              266.63         236.77        0.0500
              283.29         237.84        0.0500
              291.63         238.89        0.0500
              329.12         244.66        0.0500
              370.78         249.55        0.0500
              412.44         253.17        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.75   234.85   .130E+05        6.0         1.36      36.45
       1.50   235.60   .276E+05       18.1         1.95      25.41
       2.25   236.35   .544E+05       40.0         2.18      22.69
       3.00   237.10   .117E+06       80.1         2.04      24.32
       3.75   237.85   .213E+06      148.9         2.07      23.89
       4.50   238.60   .334E+06      255.1         2.27      21.85
       5.25   239.35   .473E+06      395.8         2.49      19.90
       6.00   240.10   .631E+06      563.8         2.65      18.66
       6.75   240.85   .824E+06      773.2         2.79      17.77
       7.50   241.60   .106E+07     1037.9         2.92      16.97
       8.26   242.36   .135E+07     1326.7         2.92      16.94
       9.01   243.11   .173E+07     1758.5         3.01      16.44
       9.76   243.86   .217E+07     2285.9         3.13      15.81
      10.51   244.61   .265E+07     2909.5         3.26      15.17
      11.26   245.36   .318E+07     3610.1         3.37      14.67
      12.01   246.11   .377E+07     4417.4         3.48      14.21
      12.76   246.86   .441E+07     5348.0         3.60      13.75
      13.51   247.61   .512E+07     6394.0         3.71      13.34
      14.26   248.36   .589E+07     7580.3         3.82      12.95

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8130) 1853.70    21.36    6.25  24.01      1.61      1.98
     OUTFLOW: ID= 1 (6166) 1853.70    18.80    7.00  24.01      1.52      1.95
```

```
--------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6166):  1853.70  18.797     7.00    24.01
       + ID2= 2 (8134):   434.70  22.116     6.25    57.22
         ================================================
```

```
         ID = 3 (8136):  2288.40  35.381     6.50    30.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.48         54.72
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     779.74         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         88.16
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.13 (ii)   21.39 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.97          6.62         10.284 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         45.04          54.99
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.51           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0850      2.2999
                          0.3100     0.9668   |   5.0850      2.6924
                          1.2590     1.1373   |   5.9090      3.1012
                          2.2140     1.5358   |   6.3090      3.1112
                          3.0620     1.8918   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)     91.200     10.284      6.00      54.99
     OUTFLOW: ID= 1 (5202)     91.200      3.970      6.75      54.98

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.60
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.2690

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 377.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  34.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     215.06        162.24
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1585.98         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        112.48
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      15.52 (ii)   25.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      29.88         23.04          44.884 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         47.54          60.79
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.54           0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   377.30  44.884     6.00    60.79
       + ID2= 2 (5202):    91.20   3.970     6.75    54.98
         ================================================
         ID = 3 (8110):   468.50  46.262     6.00    59.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18        358.82
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1762.57         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         24.85
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      16.53 (ii)   35.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.50         14.17          17.272 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      86.50         23.06          28.77
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.26           0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   2.848 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  14.953
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   2.848     9.00    14.95
       + ID2= 2 (0102):   466.00  17.272     6.50    28.77
         ================================================
         ID = 3 (8000):  1159.84  19.127     6.50    20.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1041.0) ------>
               Distance      Elevation        Manning
                  0.00         330.16         0.0450
                 50.03         328.36         0.0450
                 89.34         326.33         0.0450
                117.94         324.30         0.0450
                160.82         322.75         0.0450
                178.34         319.96         0.0450
                183.34         319.81         0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78         0.0300      Main Channel
                185.84         318.72         0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70         0.0450
                198.84         320.38         0.0450
                200.13         320.81         0.0450
                218.00         322.49         0.0450
                239.44         323.49         0.0450
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            250.17        323.96        0.0450
            275.18        325.20        0.0450
            310.92        326.47        0.0450
            353.81        330.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   319.02    .624E+03        0.1          0.45      73.00
        0.60   319.32    .181E+04        0.6          0.67      49.46
        1.23   319.95    .128E+05        4.9          0.77      43.38
        1.86   320.58    .396E+05       19.1          0.96      34.50
        2.48   321.20    .757E+05       43.5          1.15      28.98
        3.11   321.83    .125E+06       81.2          1.30      25.58
        3.74   322.46    .187E+06      135.9          1.45      22.92
        4.37   323.09    .269E+06      195.6          1.45      22.90
        5.00   323.72    .387E+06      287.8          1.48      22.44
        5.63   324.35    .545E+06      428.4          1.56      21.22
        6.25   324.97    .735E+06      630.5          1.71      19.42
        6.88   325.60    .952E+06      876.1          1.83      18.12
        7.51   326.23    .120E+07     1177.0          1.95      17.03
        8.14   326.86    .149E+07     1554.4          2.08      15.93
        8.77   327.49    .179E+07     2009.7          2.23      14.88
        9.40   328.12    .213E+07     2533.9          2.37      13.99
       10.02   328.74    .249E+07     3112.6          2.49      13.31
       10.65   329.37    .288E+07     3760.9          2.60      12.75
       11.28   330.00    .330E+07     4494.8          2.71      12.23

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84    19.13    6.50  20.50      1.86      0.96
     OUTFLOW: ID= 1 (6104) 1159.84    14.10    6.75  20.50      1.63      0.88


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--------------------
| CALIB            |
| NASHYD     (0104) |   Area    (ha)= 527.81   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.735

     PEAK FLOW       (cms)=   3.207 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.483
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):   527.81   3.207     8.00    16.48
       + ID2= 2 (6104):  1159.84  14.095     6.75    20.50
         ================================================
         ID = 3 (8002):  1687.65  16.853     6.75    19.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD     (0106) |   Area    (ha)= 259.52   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   3.614

     PEAK FLOW       (cms)=   2.445 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.753
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):   259.52   2.445     8.00    23.75
       + ID2= 2 (8002):  1687.65  16.853     6.75    19.25
         ================================================
         ID = 3 (8004):  1947.17  19.050     6.75    19.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1081.0) ------>
             Distance      Elevation        Manning
                0.00         326.06         0.0400
               12.06         325.74         0.0400
               30.15         324.28         0.0400
               59.27         320.35         0.0400
               72.37         317.60         0.0400
               87.45         314.52         0.0400
               93.48         313.91         0.0400
              105.54         313.55         0.0400
              106.17         313.40    0.0400 /0.0300  Main Channel
              110.62         313.04         0.0300      Main Channel
              110.82         312.97         0.0300      Main Channel
              111.57         313.08         0.0300      Main Channel
              111.67         313.48    0.0300 /0.0400  Main Channel
              129.66         316.62         0.0400
              150.77         318.95         0.0400
              180.92         319.61         0.0400
              205.04         321.23         0.0400
              232.18         322.09         0.0400
              268.37         322.31         0.0400
              298.52         326.00         0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.43   313.40    .244E+04        0.7          0.59      58.83
       1.09   314.06    .214E+05       10.4          1.01      34.24
       1.76   314.73    .600E+05       40.2          1.39      24.89
       2.42   315.39    .109E+06       92.1          1.75      19.80
       3.08   316.05    .169E+06      166.5          2.05      16.88
       3.75   316.72    .237E+06      264.4          2.31      14.97
       4.41   317.38    .318E+06      386.3          2.52      13.72
       5.07   318.04    .411E+06      539.3          2.72      12.71
       5.74   318.71    .517E+06      725.5          2.91      11.88
       6.40   319.37    .642E+06      909.2          2.94      11.77
       7.06   320.03    .806E+06     1179.3          3.04      11.38
       7.72   320.69    .989E+06     1515.9          3.18      10.87
       8.39   321.36    .119E+07     1895.5          3.30      10.49
       9.05   322.02    .143E+07     2310.2          3.36      10.30
       9.71   322.68    .172E+07     2763.2          3.33      10.39
      10.38   323.35    .205E+07     3477.6          3.53       9.81
      11.04   324.01    .238E+07     4284.3          3.73       9.27
      11.70   324.67    .274E+07     5154.0          3.91       8.85
      12.37   325.34    .311E+07     6104.0          4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8004) 1947.17    19.05    6.75  19.85      1.29      1.10
     OUTFLOW: ID= 1 (6108) 1947.17    16.97    7.50  19.85      1.24      1.08


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| CALIB            |
| NASHYD     (0108) |   Area    (ha)= 207.05   Curve Number   (CN)= 27.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.432

     PEAK FLOW       (cms)=   0.820 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.964
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.101

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0108):   207.05   0.820     7.50     8.96
       + ID2= 2 (6108):  1947.17  16.975     7.50    19.85
         ================================================
         ID = 3 (8006):  2154.22  17.795     7.50    18.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD     (0110) |   Area    (ha)= 323.92   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.35
```

Unit Hyd Qpeak (cms)= 4.087

PEAK FLOW (cms)= 2.597 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 21.785
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.246

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8008)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0110):		323.92	2.597	8.00	21.79
+ ID2= 2 (8006):		2154.22	17.795	7.50	18.80
ID = 3 (8008):		2478.14	20.335	7.50	19.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6112)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1121.0) ------>

Distance	Elevation	Manning	
0.00	320.59	0.0400	
13.48	317.93	0.0400	
40.45	311.52	0.0400	
64.04	307.68	0.0400	
74.15	307.01	0.0400	
91.00	307.22	0.0400	
107.86	305.21	0.0400	
111.23	304.86	0.0400	
113.32	304.60	0.0400 /0.0300	Main Channel
117.77	304.24	0.0300	Main Channel
117.97	304.17	0.0300	Main Channel
118.72	304.28	0.0300	Main Channel
118.82	304.68	0.0300 /0.0400	Main Channel
124.71	304.76	0.0400	
171.90	306.30	0.0400	
205.60	307.24	0.0400	
239.31	308.24	0.0400	
262.90	310.64	0.0400	
289.86	314.34	0.0400	
333.68	317.66	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	304.60	.372E+04	0.6	0.54	97.65
1.12	305.29	.463E+05	12.5	0.85	61.89
1.80	305.97	.149E+06	53.0	1.13	46.85
2.49	306.66	.311E+06	134.2	1.37	38.62
3.18	307.35	.554E+06	261.6	1.50	35.27
3.87	308.04	.894E+06	490.7	1.74	30.37
4.55	308.72	.129E+07	833.0	2.05	25.75
5.24	309.41	.171E+07	1269.8	2.36	22.39
5.93	310.10	.215E+07	1789.0	2.64	20.01
6.62	310.79	.261E+07	2392.7	2.90	18.21
7.30	311.47	.310E+07	3087.8	3.16	16.74
7.99	312.16	.361E+07	3873.6	3.40	15.52
8.68	312.85	.413E+07	4741.0	3.64	14.52
9.37	313.54	.467E+07	5689.3	3.86	13.69
10.05	314.22	.523E+07	6718.4	4.07	12.97
10.74	314.91	.581E+07	7770.7	4.24	12.46
11.43	315.60	.641E+07	8897.5	4.40	12.01
12.12	316.29	.704E+07	10113.2	4.55	11.61
12.80	316.97	.770E+07	11420.1	4.70	11.24

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8008)	2478.14	20.33	7.50	19.19	1.25	0.90
OUTFLOW:	ID= 1 (6112)	2478.14	17.28	8.75	19.19	1.20	0.88

CALIB			
NASHYD (0112)	Area (ha)= 414.89	Curve Number (CN)= 30.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.91		

Unit Hyd Qpeak (cms)= 3.699

PEAK FLOW (cms)= 1.180 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 10.271
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.116

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8010)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0112):		414.89	1.180	9.00	10.27
+ ID2= 2 (6112):		2478.14	17.284	8.75	19.19
ID = 3 (8010):		2893.03	18.461	8.75	17.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6114)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1141.0) ------>

Distance	Elevation	Manning	
0.00	312.27	0.0500	
14.07	309.70	0.0500	
28.14	306.51	0.0500	
35.17	305.81	0.0500	
42.20	304.95	0.0500	
52.75	304.24	0.0500	
77.37	303.61	0.0500	
98.47	301.33	0.0500	
131.76	300.40	0.0500 /0.0300	Main Channel
136.21	300.04	0.0300	Main Channel
136.41	299.97	0.0300	Main Channel
137.16	300.08	0.0300	Main Channel
137.26	300.48	0.0300 /0.0500	Main Channel
140.68	300.53	0.0500	
179.36	302.20	0.0500	
214.53	303.82	0.0500	
242.66	305.27	0.0500	
288.38	307.66	0.0500	
316.52	311.76	0.0500	
348.17	313.48	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	300.40	.366E+04	0.7	0.59	88.31
1.05	301.02	.505E+05	12.1	0.75	69.49
1.68	301.65	.165E+06	52.7	0.99	52.28
2.30	302.27	.324E+06	130.3	1.26	41.40
2.93	302.90	.520E+06	247.1	1.48	35.08
3.55	303.52	.754E+06	406.8	1.68	30.91
4.18	304.15	.104E+07	586.1	1.76	29.55
4.80	304.77	.138E+07	856.0	1.93	26.96
5.43	305.40	.177E+07	1201.1	2.12	24.56
6.05	306.02	.219E+07	1612.2	2.30	22.63
6.68	306.65	.264E+07	2090.6	2.47	21.07
7.30	307.27	.313E+07	2653.0	2.64	19.65
7.93	307.90	.364E+07	3303.9	2.83	18.36
8.55	308.52	.417E+07	4053.9	3.03	17.14
9.18	309.15	.471E+07	4871.9	3.22	16.12
9.80	309.77	.527E+07	5756.2	3.41	15.25
10.43	310.40	.584E+07	6699.8	3.58	14.52
11.05	311.02	.642E+07	7710.5	3.74	13.89
11.68	311.65	.702E+07	8788.5	3.90	13.32

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8010)	2893.03	18.46	8.75	17.91	1.15	0.78
OUTFLOW:	ID= 1 (6114)	2893.03	16.51	10.00	17.91	1.12	0.77

CALIB			
NASHYD (0114)	Area (ha)= 287.65	Curve Number (CN)= 49.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 4.389

PEAK FLOW (cms)= 2.412 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 19.870
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8012)

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0114):   287.65   2.412     7.75    19.87
      + ID2= 2 (6114):  2893.03  16.510    10.00    17.91
        ================================================
        ID = 3 (8012):  3180.68  18.373    10.00    18.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0116)  |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   3.517 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  30.364
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0116):   206.43   3.517     7.00    30.36
      + ID2= 2 (8012):  3180.68  18.373    10.00    18.09
        ================================================
        ID = 3 (8014):  3387.11  20.376     9.75    18.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1181.0) ------>
              Distance      Elevation       Manning
                 0.00         307.18        0.0450
                24.89         299.75        0.0450
                37.34         296.39        0.0450
                71.57         292.75        0.0450
                96.46         291.12        0.0450
               108.90         289.43        0.0450
               112.02         288.86        0.0450
               115.13         288.46        0.0450
               117.24         288.32    0.0450 /0.0350  Main Channel
               117.49         288.15        0.0350      Main Channel
               118.24         288.00        0.0350      Main Channel
               118.99         288.20        0.0350      Main Channel
               119.24         288.36    0.0350 /0.0450  Main Channel
               121.35         288.40        0.0450
               149.35         289.36        0.0450
               171.14         290.47        0.0450
               208.47         293.14        0.0450
               236.48         295.17        0.0450
               280.04         299.48        0.0450
               308.04         307.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.32  288.32    .116E+04        0.2         0.62      81.92
        1.30  289.30    .631E+05       22.2         1.07      47.43
        2.29  290.29    .218E+06      117.5         1.64      30.95
        3.27  291.27    .448E+06      314.6         2.15      23.72
        4.25  292.25    .756E+06      625.6         2.53      20.13
        5.24  293.24    .115E+07     1093.2         2.91      17.50
        6.22  294.22    .161E+07     1731.6         3.28      15.50
        7.20  295.20    .214E+07     2547.4         3.63      14.01
        8.19  296.19    .274E+07     3584.9         4.00      12.72
        9.17  297.17    .338E+07     4859.1         4.39      11.60
       10.15  298.15    .407E+07     6341.5         4.76      10.70
       11.13  299.13    .480E+07     8024.6         5.11       9.97
       12.12  300.12    .556E+07    10006.6         5.49       9.27
       13.10  301.10    .635E+07    12244.6         5.89       8.64
       14.08  302.08    .716E+07    14681.7         6.26       8.13
       15.07  303.07    .799E+07    17316.5         6.62       7.69
       16.05  304.05    .884E+07    20148.1         6.96       7.31
       17.03  305.03    .971E+07    23176.2         7.29       6.98
       18.02  306.02    .106E+08    26400.8         7.61       6.69

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8014) 3387.11    20.38    9.75  18.84      1.22      1.01
    OUTFLOW: ID= 1 (6118) 3387.11    19.83   10.25  18.84      1.19      0.99

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0118)  |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=   2.515 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  17.546
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0118):   340.53   2.515     7.75    17.55
      + ID2= 2 (6118):  3387.11  19.833    10.25    18.84
        ================================================
        ID = 3 (8016):  3727.64  21.700    10.25    18.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1221.0) ------>
              Distance      Elevation       Manning
                 0.00         277.00        0.0500
                52.18         272.82        0.0500
                86.97         269.38        0.0500
               134.80         267.35        0.0500
               160.89         263.85        0.0500
               169.58         262.88        0.0500
               178.28         262.45        0.0500
               195.67         262.07        0.0500
               213.07         260.99        0.0500
               226.01         259.80    0.0500 /0.0300  Main Channel
               226.11         259.30        0.0300      Main Channel
               230.11         259.30        0.0300      Main Channel
               230.21         259.80    0.0300 /0.0500  Main Channel
               235.01         260.20        0.0500
               239.15         260.57        0.0500
               243.50         260.93        0.0500
               300.03         264.43        0.0500
               339.16         268.34        0.0500
               373.95         272.36        0.0500
               430.48         277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50  259.80    .626E+04        2.5         1.23      41.35
        1.41  260.71    .462E+05       21.8         1.44      35.27
        2.31  261.61    .149E+06       79.6         1.63      31.19
        3.22  262.52    .340E+06      200.1         1.80      28.34
        4.12  263.42    .636E+06      446.8         2.15      23.71
        5.03  264.33    .995E+06      819.9         2.52      20.23
        5.93  265.23    .141E+07     1337.0         2.90      17.56
        6.84  266.14    .187E+07     1984.8         3.25      15.67
        7.74  267.04    .237E+07     2766.0         3.57      14.26
        8.65  267.95    .292E+07     3596.9         3.76      13.53
        9.55  268.85    .355E+07     4575.4         3.93      12.95
       10.46  269.76    .427E+07     5814.9         4.16      12.23
       11.36  270.66    .503E+07     7319.0         4.44      11.46
       12.27  271.57    .584E+07     9009.7         4.71      10.81
       13.17  272.47    .670E+07    10886.3         4.96      10.26
       14.08  273.38    .761E+07    12893.2         5.17       9.84
       14.98  274.28    .858E+07    15098.1         5.37       9.48
       15.89  275.19    .961E+07    17527.6         5.57       9.14
       16.79  276.09    .107E+08    20190.3         5.76       8.83

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8016) 3727.64    21.70   10.25  18.72      1.40      1.44
    OUTFLOW: ID= 1 (6122) 3727.64    21.18   10.75  18.72      1.37      1.43

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1221)  |   Area    (ha)=  17.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
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--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.37         11.33
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    343.51         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    116.82         17.63
               over (min)      15.00         30.00
     Storage Coeff.  (min)=     6.20 (ii)    27.62 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.10          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.03          0.39        1.266 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50         15.63        29.10
     TOTAL RAINFALL   (mm)=     88.50         88.50        88.50
     RUNOFF COEFFICIENT   =      0.98          0.18         0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  35.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1840     0.4294
                          0.0600     0.1855   |   1.4870     0.5014
                          0.3430     0.2103   |   1.7310     0.5718
                          0.6390     0.2878   |   2.1310     0.5818
                          0.8860     0.3509   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1221)     17.700      1.266      6.00      29.10
     OUTFLOW: ID= 1 (5122)     17.700      0.424      6.50      29.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.47
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2328

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1222) |   Area    (ha)= 347.20   Curve Number   (CN)= 41.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=   1.782 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  15.443
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.175

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   347.20   1.782     8.25    15.44
       + ID2= 2 (5122):    17.70   0.424     6.50    29.05
         ==========================================================
         ID = 3 (8018):   364.90   1.940     7.25    16.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  21.181    10.75    18.72
       + ID2= 2 (8018):   364.90   1.940     7.25    16.10
         ==========================================================
         ID = 3 (8020):  4092.54  22.752    10.75    18.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     18.00         32.00
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    577.35         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    116.82         23.11
               over (min)      15.00         30.00
     Storage Coeff.  (min)=     8.46 (ii)    27.68 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.73          1.45        4.617 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50         21.99        38.77
     TOTAL RAINFALL   (mm)=     88.50         88.50        88.50
     RUNOFF COEFFICIENT   =      0.98          0.25         0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3450     1.2129
                          0.1690     0.5421   |   4.2000     1.4164
                          0.9690     0.5941   |   4.8890     1.6153
                          1.8040     0.8130   |   5.2890     1.6253
                          2.5020     0.9912   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1261)     50.000      4.617      6.00      38.77
     OUTFLOW: ID= 1 (5126)     50.000      1.836      6.50      38.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.77
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8246

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--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   1.563 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  25.453
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.50   1.563     6.50    25.45
       + ID2= 2 (5126):    50.00   1.836     6.50    38.75
         ==========================================================
         ID = 3 (8024):   133.50   3.398     6.50    30.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.530 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.138
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     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.182

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   1.530     6.50    16.14
       + ID2= 2 (8024):   133.50   3.398     6.50    30.43
         ================================================
         ID = 3 (8026):   254.93   4.928     6.50    23.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1281.0) ------>
                Distance      Elevation       Manning
                    0.00         270.58        0.0400
                    7.71         270.36        0.0400
                   15.43         269.48        0.0400
                   23.14         265.88        0.0400
                   42.43         261.83        0.0400
                   61.71         258.31        0.0400
                   75.21         256.62        0.0400
                   90.64         255.35        0.0400
                   92.49         255.00   0.0400 /0.0300  Main Channel
                   93.49         254.00      0.0300       Main Channel
                   94.49         253.90      0.0300       Main Channel
                   94.99         253.80      0.0300       Main Channel
                   95.49         253.70      0.0300       Main Channel
                   95.99         253.80      0.0300       Main Channel
                   98.49         255.00   0.0300 /0.0400  Main Channel
                  100.28         255.44       0.0400
                  134.99         257.45       0.0400
                  148.49         259.67       0.0400
                  167.77         263.42       0.0400
                  190.92         270.00       0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.65   254.35    .439E+04         2.0          1.24       36.10
        1.30   255.00    .131E+05         9.4          1.92       23.39
        2.18   255.88    .433E+05        37.0          2.30       19.54
        3.06   256.76    .131E+06       113.3          2.34       19.20
        3.95   257.65    .273E+06       273.8          2.70       16.64
        4.83   258.53    .453E+06       538.5          3.21       14.01
        5.71   259.41    .658E+06       902.9          3.70       12.14
        6.59   260.29    .886E+06      1368.4          4.16       10.79
        7.48   261.18    .114E+07      1936.3          4.59        9.79
        8.36   262.06    .141E+07      2610.9          4.99        9.01
        9.24   262.94    .171E+07      3398.7          5.37        8.36
       10.12   263.82    .202E+07      4309.6          5.75        7.81
       11.01   264.71    .235E+07      5347.5          6.13        7.33
       11.89   265.59    .270E+07      6501.0          6.48        6.93
       12.77   266.47    .307E+07      7808.6          6.86        6.55
       13.65   267.35    .345E+07      9250.5          7.23        6.21
       14.54   268.24    .384E+07     10808.3          7.59        5.92
       15.42   269.12    .424E+07     12482.5          7.94        5.66
       16.30   270.00    .466E+07     14127.4          8.18        5.49

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.93     4.93    6.50  23.62      0.91      1.45
     OUTFLOW: ID= 1 (6128)  254.93     4.11    7.25  23.62      0.83      1.38

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--------------------
| CALIB            |
| NASHYD    (6128) |   Area    (ha)= 240.24   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   3.255 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.852
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.326

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   240.24   3.255     7.25    28.85
       + ID2= 2 (6128):   254.93   4.108     7.25    23.62
         ================================================
         ID = 3 (8028):   495.17   7.363     7.25    26.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.54  22.752    10.75    18.49
       + ID2= 2 (8028):   495.17   7.363     7.25    26.16
         ================================================
         ID = 3 (8022):  4587.71  26.030    10.50    19.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1201) |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         49.93
               over (min)         15.00         30.00
     Storage Coeff. (min)=       9.96 (ii)     24.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      3.30          3.53          5.496 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50         24.82         33.46
     TOTAL RAINFALL   (mm)=     88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.28          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7530      2.0863
                          0.2910     0.9015   |   7.2230      2.4361
                          1.6660     1.0219   |   8.4090      2.7784
                          3.1030     1.3984   |   8.8090      2.7884
                          4.3040     1.7049   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)     86.000      5.496      6.00       33.46
     OUTFLOW: ID= 1 (5120)     86.000      2.429      6.75       33.45

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.20
               TIME SHIFT OF PEAK FLOW       (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.2331

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--------------------
| CALIB            |
| NASHYD    (1202) |   Area    (ha)= 161.00   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=   2.554 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.619
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.289
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8030)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1202):	161.00	2.554	6.75	25.62
+ ID2= 2 (5120):	86.00	2.429	6.75	33.45
ID = 3 (8030):	247.00	4.983	6.75	28.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8032)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8022):	4587.71	26.030	10.50	19.31
+ ID2= 2 (8030):	247.00	4.983	6.75	28.35
ID = 3 (8032):	4834.71	27.494	10.25	19.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6130)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1301.0) ------>

Distance	Elevation	Manning	
0.00	257.18	0.0350	
62.45	254.70	0.0350	
109.29	252.74	0.0350	
150.92	251.55	0.0350	
192.56	248.96	0.0350	
239.39	247.16	0.0350	
291.84	246.00	0.0350	
296.84	245.00	0.0350	
298.84	245.00	0.0350 /0.0300	Main Channel
299.24	244.60	0.0300	Main Channel
301.84	244.60	0.0300	Main Channel
303.44	244.60	0.0300	Main Channel
303.84	245.00	0.0300 /0.0350	Main Channel
306.84	245.00	0.0350	
309.84	246.00	0.0350	
317.46	247.22	0.0350	
348.68	254.83	0.0350	
359.09	256.70	0.0350	
452.76	258.23	0.0350	
515.22	258.33	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	245.00	.870E+04	1.2	0.64	124.12
1.04	245.64	.468E+05	9.5	0.96	81.81
1.68	246.28	.109E+06	25.6	1.11	70.86
2.32	246.92	.257E+06	63.5	1.17	67.51
2.96	247.56	.498E+06	142.7	1.36	58.18
3.61	248.21	.800E+06	266.7	1.58	50.01
4.25	248.85	.116E+07	437.4	1.78	44.24
4.89	249.49	.157E+07	669.1	2.01	39.20
5.53	250.13	.203E+07	954.9	2.23	35.36
6.17	250.77	.252E+07	1294.4	2.43	32.42
6.81	251.41	.305E+07	1689.6	2.62	30.07
7.45	252.05	.363E+07	2090.7	2.73	28.93
8.09	252.69	.429E+07	2553.1	2.82	27.98
8.73	253.33	.501E+07	3138.4	2.96	26.60
9.37	253.97	.579E+07	3803.8	3.11	25.36
10.02	254.62	.662E+07	4549.3	3.25	24.25
10.66	255.26	.751E+07	5364.9	3.38	23.32
11.30	255.90	.845E+07	6265.7	3.51	22.49
11.94	256.54	.946E+07	7260.1	3.63	21.72

		<---- hydrograph ---->			<-pipe / channel->		
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8032)	4834.71	27.49	10.25	19.78	1.71	1.12
OUTFLOW:	ID= 1 (6130)	4834.71	25.85	11.25	19.78	1.68	1.11

CALIB	
STANDHYD (1301)	Area (ha)= 228.30
ID= 1 DT=15.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 47.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	148.39	79.91
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1233.69	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	116.82	117.77
over (min)	15.00	30.00
Storage Coeff. (min)=	13.35 (ii)	23.37 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

			TOTALS
PEAK FLOW	(cms)=	26.60	12.48	34.817 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	50.36	67.35
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.57	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5130)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	12.4560	7.0142
	0.8210	3.9074	14.9550	7.8554
	4.8550	4.4209	22.4790	8.9550
	7.0620	5.2214	22.8790	8.9650
	9.5970	6.0904	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (1301)	228.300	34.817	6.00	67.35
OUTFLOW:	ID= 1 (5130)	228.300	12.963	6.50	67.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.23
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 7.3018

CALIB	
NASHYD (1302)	Area (ha)= 157.80 Curve Number (CN)= 76.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.82

Unit Hyd Qpeak (cms)= 1.479

PEAK FLOW (cms)= 1.989 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 42.411
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.479

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8036)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1302):	157.80	1.989	8.50	42.41
+ ID2= 2 (5130):	228.30	12.963	6.50	67.34
ID = 3 (8036):	386.10	14.478	6.75	57.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8034)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6130):	4834.71	25.846	11.25	19.78
+ ID2= 2 (8036):	386.10	14.478	6.75	57.15
ID = 3 (8034):	5220.81	28.659	11.25	22.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0188)	Area (ha)= 308.53
ID= 1 DT=15.0 min	Total Imp(%)= 41.00 Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)

```
     Surface Area     (ha)=     126.50       182.03
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1434.18        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      79.65        38.11
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      27.59 (ii)   53.10 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.65         8.24        16.261 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75         6.25
     RUNOFF VOLUME    (mm)=      85.50        32.01        45.38
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.97         0.36         0.51


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      79.65        35.50
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      28.70 (ii)   54.94 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.47         8.47        16.182 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75         6.25
     RUNOFF VOLUME    (mm)=      85.50        28.49        41.03
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.97         0.32         0.46


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0186):   351.79  16.182    6.25    41.03
      + ID2= 2 (0188):   308.53  16.261    6.25    45.38
        ================================================
        ID = 3 (8068):   660.32  32.443    6.25    43.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        59.01
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.77 (ii)   23.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.09         5.10         8.281 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        28.33        38.22
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.32         0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  5.7800      2.5656
                           0.3790     1.0207   |  7.3720      3.0829
                           1.6240     1.1939   |  8.7710      3.5956
                           3.0930     1.6631   |  9.1710      3.6056
                           4.3530     2.1032   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800      8.281      6.00      38.22
     OUTFLOW: ID= 1 (5182)    111.800      3.544      6.75      38.21

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.80
               TIME SHIFT OF PEAK FLOW       (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.8363

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.626 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  24.973
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1822):    44.40   0.626     7.00    24.97
      + ID2= 2 (5182):   111.80   3.544     6.75    38.21
        ================================================
        ID = 3 (8062):   156.20   4.164     6.75    34.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1841) |   Area    (ha)= 144.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31        75.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     981.16        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        80.58
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.63 (ii)   23.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.16         7.94        12.195 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        34.09        44.04
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.39         0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.8820     2.3298
                          0.2960     1.0006   |   7.4070     2.7386
                          1.6530     1.1680   |   8.6830     3.1418
                          3.0860     1.4687   |   9.0830     3.1518
                          4.3760     1.8752   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    144.400     12.195      6.00      44.04
     OUTFLOW: ID= 1 (5184)    144.400      6.055      6.50      44.04

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.65
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.4267

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       49.60         68.50
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      887.32         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         69.80
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     10.95 (ii)    23.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      5.35          6.26          9.300 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50         32.19         41.42
     TOTAL RAINFALL   (mm)=     88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.36          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1842):   118.10   9.300     6.00     41.42
      + ID2= 2 (5184):   144.40   6.055     6.50     44.04
        ================================================
        ID = 3 (8060):   262.50  13.289     6.25     42.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8060):   262.50  13.289     6.25     42.86
      + ID2= 2 (8062):   156.20   4.164     6.75     34.45
        ================================================
        ID = 3 (8064):   418.70  16.470     6.25     39.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        7.00          7.00
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      305.51         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        109.87
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      5.78 (ii)    16.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      1.30          1.19          2.094 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50         50.72         61.45
     TOTAL RAINFALL   (mm)=     88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.57          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9360     0.3780
                          0.0470     0.1841   |   1.1760     0.4277
                          0.2710     0.2148   |   1.3690     0.4763
                          0.5050     0.2704   |   1.7690     0.4863
                          0.7010     0.3197   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     14.000      2.094      6.00      61.45
     OUTFLOW: ID= 1 (5178)     14.000      0.915      6.50      61.38

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.68
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3750

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1782) |   Area     (ha)= 261.40   Curve Number    (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=   4.998 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  44.571
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1782):   261.40   4.998     7.50     44.57
      + ID2= 2 (5178):    14.00   0.915     6.50     61.38
        ================================================
        ID = 3 (8046):   275.40   5.610     7.00     45.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0180) |   Area     (ha)= 226.65   Curve Number    (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   2.950 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  31.398
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
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         ID1= 1 (0180):   226.65   2.950     7.75    31.40
       + ID2= 2 (8046):   275.40   5.610     7.00    45.43
         ==========================================================
         ID = 3 (8050):   502.05   8.487     7.25    39.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope    (%)=        0.50          0.50
     Length           (m)=      612.64        40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        69.65
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      8.77 (ii)   21.13 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.88          3.50       5.113 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=     86.50         36.13      45.20
     TOTAL RAINFALL   (mm)=     88.50         88.50      88.50
     RUNOFF COEFFICIENT   =      0.98          0.41       0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------          (cms)     (ha.m.)   |   (cms)     (ha.m.)
                             0.0000     0.0000   |   1.1370      1.3070
                             0.0580     0.5427   |   1.4280      1.5354
                             0.3290     0.6196   |   1.6620      1.7593
                             0.6130     0.8627   |   2.0620      1.7693
                             0.8510     1.0621   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300      5.113      6.00      45.20
     OUTFLOW: ID= 1 (5174)     56.300      1.236      7.00      45.16

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.16
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3867

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-------------------
| CALIB             |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.947 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  36.575
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.413

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   1.947     6.75    36.57
       + ID2= 2 (5174):    56.30   1.236     7.00    45.16
         ==========================================================
         ID = 3 (8044):   139.10   3.157     7.00    40.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   4.760 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  44.397
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.502

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   3.090 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.587
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.928 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  31.205
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.353

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   3.090     7.00    21.59
       + ID2= 2 (0170):   166.91   2.928     7.00    31.21
         ==========================================================
         ID = 3 (8040):   414.04   6.018     7.00    25.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8042) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   4.760     7.00    44.40
       + ID2= 2 (8040):   414.04   6.018     7.00    25.46
         ==========================================================
         ID = 3 (8042):   616.27  10.778     7.00    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1741.0) ------>
              Distance      Elevation        Manning
                 0.00         296.00         0.0450
                13.36         288.94         0.0450
                26.71         288.64         0.0450
                51.19         287.96         0.0450
                73.45         287.32         0.0450
                86.81         286.48         0.0450
               102.39         285.08         0.0450
               110.73         282.76         0.0450
               115.73         281.06    0.0450 /0.0350  Main Channel
               115.74         280.35         0.0350      Main Channel
               120.73         280.35         0.0350      Main Channel
               120.74         281.10    0.0350 /0.0450  Main Channel
               125.74         282.64         0.0450
```

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              135.78        286.87        0.0450
              149.13        289.58        0.0450
              162.49        292.29        0.0450
              175.84        293.95        0.0450
              195.88        295.13        0.0450
              213.68        296.02        0.0450
              220.36        296.09        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.71   281.06    .136E+05        6.0         1.69      37.89
        1.50   281.85    .358E+05       22.5         2.42      26.43
        2.28   282.63    .726E+05       53.8         2.85      22.47
        3.07   283.42    .124E+06      104.1         3.24      19.79
        3.86   284.21    .189E+06      176.7         3.60      17.81
        4.64   284.99    .268E+06      274.9         3.94      16.26
        5.43   285.78    .369E+06      390.8         4.07      15.73
        6.21   286.56    .501E+06      551.6         4.23      15.15
        7.00   287.35    .674E+06      750.5         4.28      14.97
        7.79   288.14    .920E+06      993.3         4.15      15.44
        8.57   288.92    .126E+07     1361.5         4.14      15.47
        9.36   289.71    .167E+07     1986.0         4.56      14.04
       10.15   290.50    .210E+07     2739.7         5.02      12.76
       10.93   291.28    .254E+07     3615.0         5.47      11.70
       11.72   292.07    .300E+07     4608.8         5.91      10.83
       12.50   292.85    .347E+07     5693.3         6.30      10.16
       13.29   293.64    .397E+07     6892.9         6.67       9.60
       14.08   294.43    .450E+07     8150.4         6.97       9.19
       14.86   295.21    .506E+07     9525.0         7.23       8.86

                                 <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27    10.78    7.00  31.68      0.94      1.85
     OUTFLOW: ID= 1 (6174)  616.27     9.98    7.75  31.68      0.90      1.82


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| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   9.979     7.75    31.68
       + ID2= 2 (8044):   139.10   3.157     7.00    40.05
         ================================================
         ID = 3 (8048):   755.37  12.829     7.50    33.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37  12.829     7.50    33.22
       + ID2= 2 (8050):   502.05   8.487     7.25    39.09
         ================================================
         ID = 3 (8052):  1257.42  21.254     7.50    35.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.42  21.254     7.50    35.56
       + ID2= 2 (8064):   418.70  16.470     6.25    39.72
         ================================================
         ID = 3 (8058):  1676.12  32.961     6.75    36.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12        119.88
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1039.23         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         56.13
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      12.04 (ii)   25.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04

                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.59          8.41        10.290 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50         30.78        36.91
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.35         0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40         24.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     570.38         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         88.96
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)   19.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.94          3.08         4.929 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50         36.96        47.36
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.42         0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640      1.3175
                         0.1650     0.6418   |   4.0090      1.4908
                         0.9450     0.7489   |   4.7720      1.6604
                         1.7610     0.9426   |   5.1720      1.6704
                         2.4420     1.1144   |   0.0000      0.0000

                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800     4.929     6.00      47.36
     OUTFLOW: ID= 1 (5176)     48.800     2.117     6.50      47.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.96
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0495

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------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00  10.290     6.25    36.91
       + ID2= 2 (5176):    48.80   2.117     6.50    47.34
         ================================================
         ID = 3 (8056):   210.80  11.917     6.25    39.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8066) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80  11.917     6.25    39.32
       + ID2= 2 (8058):  1676.12  32.961     6.75    36.60
         ================================================
         ID = 3 (8066):  1886.92  41.721     6.50    36.91
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8070)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8066):	1886.92	41.721	6.50	36.91
	+ ID2= 2 (8068):	660.32	32.443	6.25	43.07
	ID = 3 (8070):	2547.24	74.126	6.25	38.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6190) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1901.0) ------>

Distance	Elevation	Manning	
0.00	261.34	0.0600	
19.76	261.64	0.0600	
59.28	261.29	0.0600	
79.04	261.09	0.0600	
103.74	255.99	0.0600	
153.13	253.42	0.0600	
192.65	252.78	0.0600	
212.29	249.80	0.0600	
217.29	249.50	0.0600 /0.0350	Main Channel
217.30	249.05	0.0350	Main Channel
222.29	249.05	0.0350	Main Channel
222.30	249.50	0.0350 /0.0600	Main Channel
227.30	249.80	0.0600	
232.17	252.31	0.0600	
276.63	253.53	0.0600	
326.03	256.97	0.0600	
355.67	257.30	0.0600	
400.12	260.08	0.0600	
469.28	261.25	0.0600	
489.04	262.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	249.50	.436E+04	1.0	0.43	75.97
1.07	250.12	.205E+05	5.4	0.51	62.96
1.70	250.75	.451E+05	14.8	0.64	50.78
2.32	251.37	.762E+05	29.2	0.74	43.46
2.94	251.99	.114E+06	49.1	0.84	38.61
3.57	252.62	.161E+06	70.2	0.85	38.18
4.19	253.24	.248E+06	93.4	0.73	44.29
4.81	253.86	.398E+06	154.9	0.76	42.79
5.44	254.49	.576E+06	246.1	0.83	38.99
6.06	255.11	.779E+06	362.7	0.90	35.79
6.68	255.73	.101E+07	506.5	0.98	33.15
7.30	256.35	.126E+07	687.6	1.06	30.52
7.93	256.98	.153E+07	902.8	1.15	28.18
8.55	257.60	.183E+07	1114.3	1.18	27.39
9.17	258.22	.216E+07	1407.8	1.26	25.55
9.80	258.85	.250E+07	1735.4	1.35	24.03
10.42	259.47	.286E+07	2097.5	1.42	22.73
11.04	260.09	.324E+07	2492.3	1.49	21.63
11.67	260.72	.364E+07	2837.8	1.51	21.39

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8070)	2547.24	74.13	6.25	38.50	3.67	0.82
OUTFLOW:	ID= 1 (6190)	2547.24	56.73	7.00	38.50	3.15	0.84

CALIB | STANDHYD (0190) | Area (ha)= 287.99 | ID= 1 DT=15.0 min | Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	146.87	141.12	
Dep. Storage	(mm)=	3.00	5.00	
Average Slope	(%)=	0.10	0.10	
Length	(m)=	1385.62	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		79.65	67.90	
over (min)		30.00	60.00	
Storage Coeff. (min)=		27.03 (ii)	47.27 (ii)	
Unit Hyd. Tpeak (min)=		30.00	60.00	
Unit Hyd. peak (cms)=		0.04	0.02	
				TOTALS
PEAK FLOW	(cms)=	11.85	11.99	18.842 (iii)
TIME TO PEAK	(hrs)=	6.25	6.75	6.25
RUNOFF VOLUME	(mm)=	85.50	46.84	57.28
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.97	0.53	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8072)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0190):	287.99	18.842	6.25	57.28
	+ ID2= 2 (6190):	2547.24	56.733	7.00	38.50
	ID = 3 (8072):	2835.23	74.278	6.75	40.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6192) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1921.0) ------>

Distance	Elevation	Manning	
0.00	264.40	0.0500	
3.64	263.94	0.0500	
14.54	261.05	0.0500	
29.08	256.78	0.0500	
36.36	254.96	0.0500	
50.90	252.20	0.0500	
65.44	249.78	0.0500	
76.35	246.86	0.0500	
77.24	245.90	0.0500	
82.24	245.45	0.0500 /0.0350	Main Channel
82.25	244.90	0.0350	Main Channel
87.25	244.90	0.0350	Main Channel
87.26	245.45	0.0350 /0.0500	Main Channel
94.53	246.89	0.0500	
170.87	247.16	0.0500	
218.13	248.69	0.0500	
265.40	249.22	0.0500	
301.75	250.78	0.0500	
338.11	253.47	0.0500	
359.92	264.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8072)	2835.23	74.28	6.75	40.41	2.65	0.89
OUTFLOW:	ID= 1 (6192)	2835.23	65.48	7.25	40.41	2.59	0.88

CALIB | STANDHYD (1921) | Area (ha)= 30.70 | ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.74	15.96
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	452.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		116.82	68.61

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                over (min)       15.00        30.00
     Storage Coeff.  (min)=       7.31 (ii)   19.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.18         1.55          3.166 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        31.05         44.36
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.35          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0560      0.7051
                          0.1040     0.3429   |   2.5820      0.7960
                          0.5960     0.4035   |   3.2900      0.8880
                          1.1090     0.5056   |   3.6900      0.8980
                          1.5380     0.5974   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)    (hrs)       (mm)
     INFLOW : ID= 2 (1921)     30.700     3.166     6.00      44.36
     OUTFLOW: ID= 1 (5192)     30.700     1.419     6.50      44.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.83
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5748

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--------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      58.29       157.61
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1199.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        46.97
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.12 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.54         8.85         13.025 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        26.50         34.90
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.30          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8074) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1922):   215.90  13.025     6.00    34.90
        + ID2= 2 (5192):    30.70   1.419     6.50    44.33
          ==========================================================
          ID = 3 (8074):   246.60  13.423     6.25    36.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8076) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6192):  2835.23  65.479     7.25    40.41
        + ID2= 2 (8074):   246.60  13.423     6.25    36.07
          ==========================================================
          ID = 3 (8076):  3081.83  69.676     7.25    40.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   2.030 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  33.271
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.376

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0194) |   Area    (ha)= 256.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=   5.753 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  34.641
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8194):   256.09   5.753     6.75    34.64
        + ID2= 2 (8196):    41.47   2.030     6.00    33.27
          ==========================================================
          ID = 3 (8078):   297.56   7.357     6.50    34.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                    <------ DATA FOR SECTION (1981.0) ------>
                  Distance      Elevation        Manning
                     0.00         267.15         0.0500
                    22.99         265.94         0.0500
                    51.73         261.39         0.0500
                    74.72         258.75         0.0500
                    94.83         257.79         0.0500
                   114.95         254.36         0.0500
                   126.44         254.06         0.0500
                   132.19         253.68         0.0500
                   135.06         253.35         0.0500
                   137.94         252.93     0.0500 /0.0300  Main Channel
                   140.81         252.41         0.0300      Main Channel
                   143.69         251.89         0.0300      Main Channel
                   146.56         252.51         0.0300      Main Channel
                   149.43         253.36     0.0300 /0.0500  Main Channel
                   158.05         255.89         0.0500
                   172.42         256.25         0.0500
                   204.03         259.15         0.0500
                   229.90         260.36         0.0500
                   252.89         260.46         0.0500
                   284.50         260.45         0.0500

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.35    252.24    .111E+04        0.6          0.97       31.07
           0.69    252.58    .442E+04        3.8          1.55       19.42
           1.04    252.93    .974E+04       11.1          2.06       14.65
           1.51    253.40    .203E+05       31.2          2.77       10.87
           1.98    253.87    .357E+05       65.0          3.30        9.14
           2.45    254.34    .596E+05      112.9          3.43        8.80
           2.92    254.81    .935E+05      186.8          3.62        8.34
           3.39    255.28    .131E+06      282.1          3.89        7.75
           3.86    255.75    .172E+06      398.2          4.18        7.22
           4.33    256.22    .221E+06      527.0          4.31        6.99
           4.80    256.69    .282E+06      697.3          4.47        6.75
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       5.27   257.16    .350E+06     898.5          4.64       6.50
       5.74   257.63    .425E+06    1131.4          4.82       6.26
       6.21   258.10    .508E+06    1367.4          4.88       6.19
       6.68   258.57    .603E+06    1635.6          4.91       6.14
       7.15   259.04    .709E+06    1977.2          5.04       5.98
       7.62   259.51    .826E+06    2360.5          5.17       5.83
       8.09   259.98    .954E+06    2790.7          5.29       5.70
       8.56   260.45    .110E+07    3179.6          5.25       5.74

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     7.36    6.50  34.45      0.86      1.76
     OUTFLOW: ID= 1 (6198)  297.56     7.13    6.75  34.45      0.85      1.75


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--------------------
| CALIB            |
| STANDHYD  (1981) |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.07        58.63
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    835.46        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        73.35
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    10.56 (ii)   22.67 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=     5.64         5.71          9.264 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=    86.50        33.80          44.34
     TOTAL RAINFALL   (mm)=    88.50        88.50          88.50
     RUNOFF COEFFICIENT   =     0.98         0.38           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  58.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9640      2.3173
                          0.2850     1.2270   |   9.5520      2.6039
                          1.7410     1.4052   |  10.9290      2.8853
                          3.5350     1.7675   |  11.3290      2.8953
                          5.6580     2.0183   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    104.700      9.264      6.00      44.34
     OUTFLOW: ID= 1 (5198)    104.700      4.999      6.50      44.33

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.96
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.9461

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--------------------
| CALIB            |
| NASHYD    (1982) |   Area    (ha)= 285.90   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=   4.991 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  31.210
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.353

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   285.90   4.991     7.00    31.21
        + ID2= 2 (5198):   104.70   4.999     6.50    44.33
          ==========================================================
          ID = 3 (8080):   390.60   9.740     6.50    34.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   7.128     6.75    34.45
        + ID2= 2 (8080):   390.60   9.740     6.50    34.73
          ==========================================================
          ID = 3 (8082):   688.16  16.662     6.75    34.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.83  69.676     7.25    40.06
        + ID2= 2 (8082):   688.16  16.662     6.75    34.61
          ==========================================================
          ID = 3 (8084):  3769.99  84.884     7.00    39.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2001.0) ------>
              Distance      Elevation       Manning
                 0.00         252.47        0.0500
                10.38         252.29        0.0500
                20.76         252.28        0.0500
                41.52         247.66        0.0500
                62.28         247.47        0.0500
                80.45         247.34        0.0500
                90.83         246.85        0.0500
               103.81         245.51        0.0500
               106.00         244.50        0.0500
               108.99         244.05    0.0500 /0.0300  Main Channel
               109.00         243.50        0.0300      Main Channel
               114.00         243.50        0.0300      Main Channel
               114.01         244.05    0.0300 /0.0500  Main Channel
               118.99         244.50        0.0500
               132.36         245.09        0.0500
               150.52         245.83        0.0500
               199.83         249.24        0.0500
               207.62         250.16        0.0500
               236.16         253.11        0.0500
               256.92         253.83        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.28   243.77    .365E+04        0.7          0.54      81.42
      0.55   244.05    .730E+04        2.2          0.81      54.59
      1.05   244.55    .197E+05        7.2          0.97      45.51
      1.54   245.04    .463E+05       17.2          0.99      44.76
      2.04   245.54    .895E+05       34.8          1.03      42.81
      2.53   246.03    .152E+06       62.8          1.09      40.43
      3.03   246.53    .232E+06      104.7          1.20      36.91
      3.52   247.02    .328E+06      159.7          1.29      34.19
      4.02   247.52    .450E+06      223.4          1.32      33.56
      4.51   248.01    .627E+06      326.9          1.38      31.99
      5.01   248.51    .820E+06      463.0          1.50      29.52
      5.50   249.00    .103E+07      626.0          1.62      27.30
      6.00   249.50    .124E+07      820.1          1.75      25.24
      6.49   249.99    .147E+07     1044.4          1.89      23.42
      6.99   250.49    .170E+07     1292.6          2.01      21.95
      7.48   250.98    .195E+07     1565.6          2.13      20.71
      7.98   251.48    .220E+07     1864.5          2.25      19.65
      8.47   251.97    .246E+07     2189.4          2.36      18.73
      8.97   252.47    .274E+07     2427.5          2.35      18.80

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    84.88    7.00  39.07      2.79      1.15
     OUTFLOW: ID= 1 (6200) 3769.99    74.35    7.75  39.07      2.67      1.12


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| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=   6.00
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|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.00          3.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     200.00         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        103.29
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       4.48 (ii)   15.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.44          0.49          0.761 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         43.65          53.51
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.49           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4010     0.1620
                         0.0200     0.0789   |   0.5040     0.1833
                         0.1160     0.0921   |   0.5870     0.2041
                         0.2170     0.1159   |   0.9870     0.2141
                         0.3000     0.1370   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     6.000     0.761      6.00      53.51
     OUTFLOW: ID= 1 (5200)     6.000     0.327      6.50      53.35

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.96
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1438

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-------------------
| CALIB             |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05         85.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     853.62         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         65.05
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.70 (ii)   23.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.93          7.26          8.343 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50         36.78          41.75
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.42           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):   109.30   8.343     6.25    41.75
        + ID2= 2 (5200):     6.00   0.327     6.50    53.35
          ================================================
          ID = 3 (8086):   115.30   8.617     6.25    42.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  74.346     7.75    39.07
        + ID2= 2 (8086):   115.30   8.617     6.25    42.36
          ================================================
          ID = 3 (8088):  3885.29  75.823     7.75    39.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.81  28.659    11.25    22.54
        + ID2= 2 (8088):  3885.29  75.823     7.75    39.16
          ================================================
          ID = 3 (8038):  9106.10  98.987     7.75    29.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                   0.00         252.00        0.0400
                   2.35         244.60        0.0400
                  39.94         243.14        0.0400
                  58.74         242.65        0.0400
                  91.63         242.03        0.0400
                 101.03         241.69        0.0400
                 103.38         241.66        0.0400
                 105.73         240.76        0.0400
                 105.93         240.59        0.0400
                 109.18         240.28   0.0400 /0.0300  Main Channel
                 110.43         239.81        0.0300      Main Channel
                 111.68         239.81        0.0300      Main Channel
                 113.43         240.09   0.0300 /0.0400  Main Channel
                 118.43         240.50        0.0400
                 138.62         241.68        0.0400
                 152.72         241.60        0.0400
                 166.82         242.68        0.0400
                 185.62         249.09        0.0400
                 197.36         251.00        0.0400
                 232.61         252.28        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.28   240.09    .118E+04         0.1          0.20      142.09
      0.91   240.72    .114E+05         2.4          0.35       79.92
      1.53   241.34    .352E+05         9.4          0.45       62.17
      2.16   241.97    .831E+05        22.8          0.46       60.69
      2.79   242.60    .172E+06        54.2          0.53       52.74
      3.41   243.22    .297E+06       111.4          0.63       44.49
      4.04   243.85    .445E+06       194.1          0.74       38.22
      4.67   244.48    .612E+06       301.1          0.83       33.88
      5.29   245.10    .793E+06       443.0          0.94       29.82
      5.92   245.73    .976E+06       611.3          1.06       26.60
      6.55   246.36    .116E+07       802.0          1.17       24.12
      7.18   246.99    .135E+07      1014.0          1.27       22.16
      7.80   247.61    .154E+07      1246.2          1.37       20.56
      8.43   248.24    .173E+07      1498.0          1.46       19.24
      9.06   248.87    .192E+07      1768.8          1.55       18.12
      9.68   249.49    .212E+07      2049.6          1.63       17.24
     10.31   250.12    .232E+07      2344.7          1.71       16.49
     10.94   250.75    .252E+07      2658.5          1.78       15.83
     11.56   251.37    .274E+07      2931.2          1.81       15.56

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.10   98.99     7.75  29.63      3.28      0.61
     OUTFLOW: ID= 1 (1365) 9106.10   86.73     8.50  29.63      3.15      0.59

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-------------------
| CALIB             |
| NASHYD    (1322) |   Area     (ha)= 249.10   Curve Number    (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   5.130
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     PEAK FLOW      (cms)=   5.368 (i)
     TIME TO PEAK   (hrs)=   7.000
     RUNOFF VOLUME   (mm)=  38.763
     TOTAL RAINFALL  (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.94         18.77
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     527.26         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        100.32
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      8.01 (ii)   18.70 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.10          0.05
                                                          *TOTALS*
     PEAK FLOW      (cms)=       4.24          2.74          6.039 (iii)
     TIME TO PEAK   (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME   (mm)=      86.50         45.08         59.58
     TOTAL RAINFALL  (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.51          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.9630      1.4050
                         0.1780     1.0280   |   1.4870      1.5525
                         0.4300     1.0400   |   1.9900      1.7000
                         0.8150     1.0500   |   2.3900      1.7100
                         0.8990     1.2275   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)     41.700      6.039      6.00      59.58
     OUTFLOW: ID= 1 (5132)     41.700      1.173      7.00      59.54

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.42
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.4712

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-------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):   249.10   5.368     7.00    38.76
       + ID2= 2 (5132):    41.70   1.173     7.00    59.54
         ==========================================
         ID = 3 (8090):   290.80   6.540     7.00    41.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   4.167

     PEAK FLOW      (cms)=   3.164 (i)
     TIME TO PEAK   (hrs)=   6.750
     RUNOFF VOLUME   (mm)=  30.190
     TOTAL RAINFALL  (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.341

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0134):   155.95   3.164     6.75    30.19
       + ID2= 2 (8090):   290.80   6.540     7.00    41.74
         ==========================================
         ID = 3 (8092):   446.75   9.638     7.00    37.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                  0.00         262.81        0.0400
                 37.23         260.54        0.0400
                 79.12         256.98        0.0400
                111.70         254.74        0.0400
                172.20         252.76        0.0400
                251.32         248.82        0.0400
                255.97         248.75        0.0400
                260.43         248.76        0.0400
                265.43         248.49        0.0400
                268.68         248.18    0.0400 /0.0300  Main Channel
                269.93         247.71        0.0300      Main Channel
                271.18         247.71        0.0300      Main Channel
                272.93         247.99        0.0300      Main Channel
                277.93         248.40    0.0300 /0.0400  Main Channel
                283.90         248.88        0.0400
                307.17         249.60        0.0400
                321.13         251.59        0.0400
                363.01         257.08        0.0400
                400.25         257.58        0.0400
                460.75         261.91        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
      0.47    248.18    .881E+04        1.3         0.76       114.66
      1.19    248.90    .742E+05       17.3         1.22        71.44
      1.92    249.63    .278E+06       78.3         1.48        59.26
      2.64    250.35    .589E+06      210.3         1.87        46.69
      3.36    251.07    .974E+06      414.3         2.23        39.19
      4.08    251.79    .143E+07      696.2         2.55        34.32
      4.81    252.52    .197E+07     1063.0         2.83        30.86
      5.53    253.24    .259E+07     1505.7         3.06        28.62
      6.25    253.96    .331E+07     2051.3         3.26        26.85
      6.97    254.68    .413E+07     2720.9         3.46        25.30
      7.70    255.41    .504E+07     3584.5         3.73        23.43
      8.42    256.13    .601E+07     4580.9         4.00        21.87
      9.14    256.85    .704E+07     5707.9         4.25        20.57
      9.86    257.57    .818E+07     6636.1         4.26        20.53
     10.59    258.30    .945E+07     8115.0         4.50        19.42
     11.31    259.02    .108E+08     9759.2         4.74        18.45
     12.03    259.74    .122E+08    11569.5         4.96        17.61
     12.75    260.46    .137E+08    13550.6         5.18        16.87
     13.48    261.19    .153E+08    15636.4         5.37        16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (8092)  446.75     9.64    7.00  37.71      0.85      0.95
     OUTFLOW: ID= 1 (1366)  446.75     6.81    8.50  37.71      0.72      0.88

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-------------------
| CALIB             |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
-------------------                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      86.12        323.98
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1653.48         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         59.19
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      15.91 (ii)   29.10 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                          *TOTALS*
     PEAK FLOW      (cms)=       10.39         22.40         27.662 (iii)
     TIME TO PEAK   (hrs)=       6.00          6.25          6.25
     RUNOFF VOLUME   (mm)=      86.50         34.39         40.12
     TOTAL RAINFALL  (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.39          0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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            YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1361) |   Area    (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.27         46.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     825.83         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        106.96
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     10.49 (ii)    20.90 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      7.46          6.83      11.897 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=     86.50         42.99       54.74
     TOTAL RAINFALL   (mm)=     88.50         88.50       88.50
     RUNOFF COEFFICIENT   =      0.98          0.49        0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   2.4000      3.2690
                        0.1600     1.6363   |   2.6450      3.8640
                        0.9600     1.7470   |   2.8900      4.4590
                        1.8400     1.9320   |   3.2900      4.4690
                        2.1200     2.6005   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    102.300     11.897      6.00      54.74
     OUTFLOW: ID= 1 (5136)    102.300      2.388      7.00      54.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.07
                TIME SHIFT OF PEAK FLOW       (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.2500

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-------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   410.10  27.662     6.25    40.12
       + ID2= 2 (5136):   102.30   2.388     7.00    54.71
         ================================================
         ID = 3 (8096):   512.40  29.704     6.25    43.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.75   6.806     8.50    37.71
       + ID2= 2 (8096):   512.40  29.704     6.25    43.04
         ================================================
         ID = 3 (8094):   959.15  31.394     6.25    40.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.10  86.726     8.50    29.63
       + ID2= 2 (8094):   959.15  31.394     6.25    40.56
         ================================================
         ID = 3 (8098): 10065.25  99.549     8.25    30.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=   4.473 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.763
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 24.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=   1.144 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.804
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.088

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06        120.52
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1028.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         14.92
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     11.96 (ii)    34.86 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      8.60          2.89       9.772 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=     86.50         16.09      30.88
     TOTAL RAINFALL   (mm)=     88.50         88.50      88.50
     RUNOFF COEFFICIENT   =      0.98          0.18       0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  41.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   414.79   1.144     8.00     7.80
       + ID2= 2 (0140):   158.58   9.772     6.00    30.88
         ================================================
         ID = 3 (8102):   573.37  10.297     6.00    14.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1421.0) ------>
              Distance      Elevation       Manning
                  0.00         295.50        0.0400
                  7.25         295.36        0.0400
```

```
                14.50        295.22        0.0400
                21.75        295.22        0.0400
                29.00        294.23        0.0400
                52.56        286.45        0.0400
                67.06        281.44        0.0400
                77.94        278.28        0.0400
                82.81        277.20    0.0400 /0.0300  Main Channel
                83.21        276.80        0.0300      Main Channel
                88.81        276.80        0.0300      Main Channel
                96.41        276.80        0.0300      Main Channel
                96.81        277.20    0.0300 /0.0400  Main Channel
               103.31        278.96        0.0400
               108.75        280.16        0.0400
               117.81        282.73        0.0400
               135.94        290.30        0.0400
               159.50        292.14        0.0400
               174.00        293.07        0.0400
               179.44        293.37        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.40   277.20   .238E+05       6.9         1.27       57.28
        1.25   278.05   .889E+05      50.9         2.50       29.13
        2.10   278.90   .179E+06     133.4         3.26       22.36
        2.95   279.75   .293E+06     256.7         3.83       19.03
        3.80   280.60   .432E+06     426.0         4.31       16.90
        4.66   281.46   .593E+06     644.3         4.75       15.35
        5.51   282.31   .776E+06     915.3         5.16       14.12
        6.36   283.16   .978E+06    1242.2         5.55       13.12
        7.21   284.01   .120E+07    1626.2         5.94       12.27
        8.06   284.86   .143E+07    2065.6         6.30       11.57
        8.91   285.71   .169E+07    2562.4         6.64       10.97
        9.76   286.56   .196E+07    3118.0         6.97       10.46
       10.61   287.41   .224E+07    3733.3         7.28       10.02
       11.46   288.26   .255E+07    4411.9         7.57        9.62
       12.31   289.11   .287E+07    5155.6         7.86        9.27
       13.17   289.97   .321E+07    5966.6         8.14        8.96
       14.02   290.82   .357E+07    6705.0         8.22        8.87
       14.87   291.67   .398E+07    7494.3         8.24        8.85
       15.72   292.52   .444E+07    8405.3         8.28        8.80

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.37   10.30    6.00  14.19      0.47      1.32
     OUTFLOW: ID= 1 (6142)  573.37    4.48    6.75  14.19      0.26      1.27


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--------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0142):   396.54   4.473     8.00    29.76
       + ID2= 2 (6142):   573.37   4.484     6.75    14.19
         ================================================
         ID = 3 (8104):   969.91   8.555     7.00    20.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0144) |   Area    (ha)= 135.69   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.71

     Unit Hyd Qpeak  (cms)=   3.240

     PEAK FLOW       (cms)=   3.378 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  39.685
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.448

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0144):   135.69   3.378     6.75    39.69
       + ID2= 2 (8104):   969.91   8.555     7.00    20.55
         ================================================
         ID = 3 (8106):  1105.60  11.902     7.00    22.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6146) |

| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation        Manning
                  0.00        262.00         0.0350
                 39.58        257.13         0.0350
                123.69        257.51         0.0350
                183.07        256.83         0.0350
                202.86        255.73         0.0350
                212.75        254.73         0.0350
                222.65        252.86         0.0350
                232.44        250.70    0.0350 /0.0300  Main Channel
                236.44        250.20         0.0300      Main Channel
                236.84        249.80         0.0300      Main Channel
                242.44        249.80         0.0300      Main Channel
                250.04        249.80         0.0300      Main Channel
                250.44        250.20         0.0300      Main Channel
                252.33        250.57    0.0300 /0.0350  Main Channel
                286.97        253.52         0.0350
                331.50        255.80         0.0350
                380.98        255.55         0.0350
                445.30        258.40         0.0350
                455.19        259.82         0.0350
                489.83        262.22         0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.39   250.19   .169E+05       5.4         1.04       52.00
        0.77   250.57   .373E+05      16.6         1.44       37.46
        1.44   251.24   .911E+05      60.3         2.14       25.19
        2.11   251.91   .169E+06     136.3         2.61       20.64
        2.79   252.59   .270E+06     249.7         2.99       18.05
        3.46   253.26   .396E+06     405.4         3.31       16.28
        4.13   253.93   .549E+06     603.3         3.56       15.15
        4.80   254.60   .737E+06     857.8         3.77       14.31
        5.48   255.28   .963E+06    1174.6         3.95       13.67
        6.15   255.95   .128E+07    1449.5         3.66       14.74
        6.82   256.62   .173E+07    2046.4         3.83       14.07
        7.49   257.29   .227E+07    2665.2         3.81       14.17
        8.17   257.97   .310E+07    3705.2         3.87       13.93
        8.84   258.64   .400E+07    5127.4         4.15       12.99
        9.51   259.31   .492E+07    6858.6         4.51       11.95
       10.18   259.98   .587E+07    8815.5         4.86       11.09
       10.86   260.66   .684E+07   10954.6         5.18       10.41
       11.53   261.33   .785E+07   13324.3         5.49        9.82
       12.20   262.00   .890E+07   15923.2         5.79        9.31

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.60   11.90    7.00  22.90      0.61      1.24
     OUTFLOW: ID= 1 (6146) 1105.60   10.59    8.00  22.90      0.56      1.19


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| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.25         88.75
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     912.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         85.26
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.14 (ii)    22.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.97         10.14        11.663 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50         44.52        49.56
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.50         0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  70.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  15.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.38          45.12
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     685.57          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=     116.82          94.76
               over (min)       15.00          30.00
     Storage Coeff.  (min)=      9.38 (ii)     20.31 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.09           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.95           6.01          6.982 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50          46.18          52.23
     TOTAL RAINFALL   (mm)=      88.50          88.50          88.50
     RUNOFF COEFFICIENT   =       0.98           0.52           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.0640      2.2344
                          0.2390     0.7085   |   9.9830      2.6409
                          2.2880     0.8391   |  11.7350      3.0631
                          4.3270     1.4661   |  12.1350      3.0731
                          6.1170     1.8197   |   0.0000      0.0000

                               AREA      QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     70.500     6.982      6.25      52.23
     OUTFLOW: ID= 1 (5146)     70.500     3.993      6.50      52.22

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.19
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3832

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--------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   125.00  11.663     6.25    49.56
       + ID2= 2 (5146):    70.50   3.993     6.50    52.22
         ==========================================
         ID = 3 (8099):   195.50  15.069     6.25    50.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60  10.591     8.00    22.90
       + ID2= 2 (8099):   195.50  15.069     6.25    50.52
         ==========================================
         ID = 3 (8108):  1301.10  18.842     6.25    27.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25  99.549     8.25    30.67
       + ID2= 2 (8108):  1301.10  18.842     6.25    27.05
         ==========================================
         ID = 3 (8100): 11366.35 112.219     8.25    30.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (2021.0) ------>
Distance      Elevation       Manning
   0.00         245.48        0.0400
  29.68         242.80        0.0400
  74.20         240.39        0.0400
 155.81         237.12        0.0400
 200.33         234.48        0.0400
 244.85         234.67        0.0400
 259.69         233.96        0.0400
 274.53         233.84        0.0400
 281.68         233.40        0.0400
 285.78         232.40    0.0400 /0.0300  Main Channel
 286.78         231.40        0.0300      Main Channel
 296.78         231.40        0.0300      Main Channel
 299.78         232.40    0.0300 /0.0400  Main Channel
 311.62         233.74        0.0400
 333.88         234.34        0.0400
 497.11         235.32        0.0400
 571.31         237.32        0.0400
 675.18         239.10        0.0400
 704.86         242.71        0.0400
 734.54         242.62        0.0400

<---------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
 0.50   231.90    .221E+05        4.7         0.85      78.67
 1.00   232.40    .482E+05       15.3         1.28      52.40
 1.60   233.00    .913E+05       38.3         1.68      39.77
 2.20   233.60    .154E+06       72.9         1.90      35.24
 2.80   234.20    .278E+06      124.2         1.79      37.30
 3.40   234.80    .599E+06      214.3         1.44      46.59
 4.01   235.41    .125E+07      445.0         1.43      46.90
 4.61   236.01    .205E+07      838.4         1.64      40.81
 5.21   236.61    .293E+07     1361.6         1.86      35.89
 5.81   237.21    .389E+07     2011.2         2.08      32.23
 6.41   237.81    .494E+07     2753.5         2.24      29.91
 7.01   238.41    .612E+07     3635.0         2.39      28.04
 7.61   239.01    .741E+07     4672.5         2.53      26.43
 8.21   239.61    .880E+07     5999.3         2.74      24.44
 8.82   240.22    .102E+08     7510.0         2.94      22.72
 9.42   240.82    .117E+08     9201.9         3.15      21.23
10.02   241.42    .132E+08    11059.7         3.35      19.95
10.62   242.02    .148E+08    13073.4         3.54      18.87
11.22   242.62    .164E+08    15242.1         3.73      17.93

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
INFLOW : ID= 2 (8100) *******    112.22    8.25  30.26      2.66      1.82
OUTFLOW: ID= 1 (6202) *******    107.11    9.00  30.26      2.60      1.83

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| ADD HYD   (8112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35 107.112     9.00    30.26
       + ID2= 2 (8110):   468.50  46.262     6.00    59.66
         ==========================================
         ID = 3 (8112): 11834.85 111.629     9.00    31.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********    111.629      9.00      31.42
     OUTFLOW: ID= 1 (5555)  ********    110.160      9.50      31.42

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.68
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 17.4893

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| ADD HYD   (8114) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5555): 11834.85 110.160     9.50    31.42
      + ID2= 2 (8136):  2288.40  35.381     6.50    30.32
        ================================================
        ID = 3 (8114): 14123.25 130.998     9.00    31.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.25         1.75
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     408.25        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       626.18
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      6.87 (ii)   12.01 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.50         2.40          6.901 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=     86.50        74.95          81.88
     TOTAL RAINFALL   (mm)=     88.50        88.50          88.50
     RUNOFF COEFFICIENT   =      0.98         0.85           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8990      1.7295
                         0.0850     0.5280   |   2.1560      1.9661
                         0.8990     0.8577   |   2.3740      2.2023
                         1.3460     1.1601   |   2.7740      2.2123
                         1.6060     1.4451   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)    (hrs)       (mm)
     INFLOW : ID= 2 (2061)     25.000      6.901      6.00      81.88
     OUTFLOW: ID= 1 (5206)     25.000      1.377      6.50      81.82

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.95
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1973

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-------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     155.31        95.19
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1292.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       130.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.72 (ii)   23.33 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     23.96        16.56         34.933 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50        52.78          65.93
     TOTAL RAINFALL   (mm)=     88.50        88.50          88.50
     RUNOFF COEFFICIENT   =      0.98         0.60           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8144) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2062):   250.50  34.933     6.00    65.93
      + ID2= 2 (5206):    25.00   1.377     6.50    81.82
        ================================================
        ID = 3 (8144):   275.50  35.836     6.00    67.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      72.54       128.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1159.02        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        63.34
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.86 (ii)   25.70 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     10.14        10.19         16.548 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50        33.30          43.94
     TOTAL RAINFALL   (mm)=     88.50        88.50          88.50
     RUNOFF COEFFICIENT   =      0.98         0.38           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4660      4.9468
                         0.5050     1.9141   |  15.4770      5.3726
                         2.8390     2.2056   |  18.2610      6.4806
                         5.2410     3.6606   |  18.6610      6.4906
                         7.9920     4.3236   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    201.500     16.548      6.00      43.94
     OUTFLOW: ID= 1 (5204)    201.500      6.626      6.75      43.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.04
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.0032

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| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.74        49.16
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     905.17        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       102.58
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.08 (ii)   21.67 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=     10.76         6.87         15.187 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50        40.08          55.40
     TOTAL RAINFALL   (mm)=     88.50        88.50          88.50
     RUNOFF COEFFICIENT   =      0.98         0.45           0.63
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8140)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2042):	122.90	15.187	6.00	55.40	
+ ID2= 2 (5204):	201.50	6.626	6.75	43.94	
ID = 3 (8140):	324.40	16.435	6.00	48.28	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6206)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2061.0) ------>

Distance	Elevation	Manning		
0.00	253.07	0.0350		
13.98	252.89	0.0350		
27.95	251.99	0.0350		
34.94	252.18	0.0350		
41.93	252.02	0.0350		
73.38	250.35	0.0350		
94.34	247.09	0.0350		
111.81	244.79	0.0350		
115.31	244.24	0.0350		
117.55	244.20	0.0350 /0.0300	Main Channel	
118.80	243.60	0.0300	Main Channel	
122.30	243.60	0.0300	Main Channel	
122.55	244.60	0.0300 /0.0350	Main Channel	
146.76	244.74	0.0350		
164.23	247.26	0.0350		
213.15	248.92	0.0350		
241.10	249.51	0.0350		
272.55	250.87	0.0350		
300.50	252.26	0.0350		
345.93	253.67	0.0350		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	243.90	.310E+04	1.4	1.23	36.25
0.60	244.20	.676E+04	4.6	1.81	24.64
1.12	244.72	.221E+05	17.1	2.07	21.60
1.64	245.24	.754E+05	64.1	2.28	19.60
2.17	245.77	.139E+06	149.8	2.88	15.50
2.69	246.29	.214E+06	273.3	3.43	13.04
3.21	246.81	.299E+06	436.1	3.91	11.43
3.73	247.33	.395E+06	632.6	4.30	10.40
4.25	247.85	.511E+06	836.4	4.39	10.18
4.77	248.37	.653E+06	1114.9	4.58	9.76
5.30	248.90	.822E+06	1472.1	4.81	9.30
5.82	249.42	.102E+07	1872.2	4.91	9.10
6.34	249.94	.126E+07	2444.6	5.22	8.56
6.86	250.46	.151E+07	3113.1	5.52	8.09
7.38	250.98	.180E+07	3843.5	5.74	7.79
7.90	251.50	.211E+07	4717.8	6.00	7.45
8.43	252.03	.245E+07	5701.4	6.24	7.16
8.95	252.55	.284E+07	6727.5	6.36	7.03
9.47	253.07	.326E+07	7885.3	6.48	6.90

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8140)	324.40	16.44	6.00	48.28	1.09	2.06
OUTFLOW: ID= 1 (6206)	324.40	13.04	6.50	48.28	0.95	1.98

ADD HYD (8142)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6206):	324.40	13.037	6.50	48.28	
+ ID2= 2 (8144):	275.50	35.836	6.00	67.37	
ID = 3 (8142):	599.90	42.451	6.00	57.05	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8138)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (8114):	14123.25	130.998	9.00	31.24	
+ ID2= 2 (8142):	599.90	42.451	6.00	57.05	
ID = 3 (8138):	14723.15	138.773	8.75	32.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6208)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2081.0) ------>

Distance	Elevation	Manning		
0.00	249.19	0.1000		
73.11	244.13	0.1000		
121.86	243.39	0.1000		
243.71	240.01	0.1000		
353.38	238.75	0.1000		
450.87	235.40	0.1000		
499.61	231.40	0.1000		
511.80	230.96	0.1000		
523.98	230.12	0.1000		
534.50	227.80	0.1000 /0.0500	Main Channel	
536.50	226.70	0.0500	Main Channel	
546.50	226.70	0.0500	Main Channel	
548.50	227.80	0.0500 /0.1000	Main Channel	
572.72	230.25	0.1000		
682.40	230.50	0.1000		
804.25	233.95	0.1000		
926.11	235.83	0.1000		
1047.96	240.70	0.1000		
1145.45	243.26	0.1000		
1206.38	247.03	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	227.25	.111E+05	2.0	0.33	92.44
1.10	227.80	.242E+05	6.5	0.50	61.56
2.23	228.93	.700E+05	26.0	0.68	44.91
3.36	230.06	.150E+06	60.8	0.74	41.04
4.49	231.19	.446E+06	130.8	0.54	56.83
5.62	232.32	.925E+06	287.4	0.57	53.66
6.76	233.46	.152E+07	522.9	0.63	48.32
7.89	234.59	.223E+07	827.2	0.68	44.91
9.02	235.72	.312E+07	1219.5	0.72	42.61
10.15	236.85	.418E+07	1780.6	0.78	39.11
11.28	237.98	.537E+07	2479.2	0.85	36.07
12.41	239.11	.669E+07	3282.9	0.90	33.95
13.54	240.24	.824E+07	4228.6	0.94	32.47
14.67	241.37	.997E+07	5384.6	0.99	30.87
15.81	242.51	.119E+08	6698.4	1.03	29.56
16.94	243.64	.140E+08	8235.2	1.08	28.25
18.07	244.77	.162E+08	10104.2	1.14	26.73
19.20	245.90	.185E+08	12251.5	1.21	25.21
20.33	247.03	.209E+08	14597.0	1.28	23.89

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8138)	*******	138.77	8.75	32.29	4.55	0.54
OUTFLOW: ID= 1 (6208)	*******	128.52	10.00	32.29	4.44	0.54

CALIB			
STANDHYD (2082)	Area (ha)= 426.60		
ID= 1 DT=15.0 min	Total Imp(%)= 64.00	Dir. Conn.(%)= 37.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	273.02	153.58	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	0.50	0.50	
Length (m)=	1686.42	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	116.82	133.62	
over (min)	15.00	30.00	
Storage Coeff. (min)=	16.10 (ii)	25.63 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.07	0.04	
			TOTALS
PEAK FLOW (cms)=	36.17	26.02	53.229 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	86.50	49.61	63.26
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	0.98	0.56	0.71

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  70.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2081) |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     93.00       172.71
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1330.91        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        78.16
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    13.97 (ii)   25.77 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=    12.94        16.91        23.754 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    86.50        41.24        50.29
     TOTAL RAINFALL   (mm)=    88.50        88.50        88.50
     RUNOFF COEFFICIENT   =     0.98         0.47         0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  70.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000    0.0000    |  16.8530     6.3371
                          0.8360    2.7353    |  21.1630     7.3975
                          4.7810    3.1070    |  25.1140     8.4406
                          8.9050    4.2484    |  25.5140     8.4506
                         12.6070    5.1796    |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2081)    265.700     23.754      6.00      50.29
     OUTFLOW: ID= 1 (5208)    265.700     12.754      6.75      50.29

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.69
                    TIME SHIFT OF PEAK FLOW       (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  5.3059

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| ADD HYD   (8148) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2082):   426.60  53.229     6.00    63.26
       + ID2= 2 (5208):   265.70  12.754     6.75    50.29
         ==========================================
         ID = 3 (8148):   692.30  55.182     6.00    58.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.15 128.524    10.00    32.29
       + ID2= 2 (8148):   692.30  55.182     6.00    58.28
         ==========================================
         ID = 3 (8146): 15415.45 133.593    10.00    33.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2101.0) ------>
              Distance      Elevation       Manning
                0.00        241.81        0.0800
               28.43        241.78        0.0800
               85.30        237.04        0.0800
              149.27        231.32        0.0800
              170.60        230.10        0.0800
              255.89        229.37        0.0800
              277.22        228.68        0.0800
              284.33        228.42        0.0800
              291.43        228.16        0.0800
              297.76        227.00    0.0800 /0.0350  Main Channel
              298.76        225.00        0.0350      Main Channel
              312.76        225.00        0.0350      Main Channel
              313.76        227.00    0.0350 /0.0800  Main Channel
              326.97        229.50        0.0800
              348.30        230.29        0.0800
              376.73        229.76        0.0800
              490.46        235.75        0.0800
              568.65        236.24        0.0800
              661.06        241.85        0.0800
              703.71        246.04        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.67    225.67    .141E+05       6.6         0.69       35.86
      1.33    226.33    .289E+05      20.4         1.04       23.65
      2.00    227.00    .443E+05      39.3         1.31       18.81
      2.93    227.93    .730E+05      77.8         1.57       15.64
      3.85    228.85    .123E+06     131.1         1.57       15.65
      4.78    229.78    .228E+06     205.6         1.33       18.51
      5.70    230.70    .503E+06     356.7         1.05       23.49
      6.63    231.63    .846E+06     608.7         1.06       23.17
      7.55    232.55    .123E+07     946.4         1.14       21.65
      8.48    233.48    .165E+07    1367.0         1.22       20.13
      9.41    234.41    .211E+07    1871.8         1.31       18.80
     10.33    235.33    .261E+07    2463.2         1.40       17.65
     11.26    236.26    .317E+07    2999.4         1.40       17.63
     12.18    237.18    .384E+07    3848.3         1.48       16.63
     13.11    238.11    .454E+07    4806.0         1.56       15.75
     14.03    239.03    .528E+07    5876.9         1.64       14.97
     14.96    239.96    .605E+07    7062.7         1.72       14.29
     15.88    240.88    .687E+07    8365.0         1.80       13.68
     16.81    241.81    .771E+07    9506.9         1.82       13.52

                                <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   133.59   10.00  33.46      3.88      1.56
     OUTFLOW: ID= 1 (6210) *******   132.71   10.25  33.46      3.87      1.57


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--------------------
| CALIB            |
| NASHYD    (0210) |   Area    (ha)= 218.27   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=   4.665 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  46.998
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.531

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0210):   218.27   4.665     7.25    47.00
       + ID2= 2 (6210): 15415.45 132.705    10.25    33.46
         ==========================================
         ID = 3 (8150): 15633.72 135.954    10.00    33.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0218) |   Area    (ha)= 152.25   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=   3.023 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  34.774
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.393
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0216) |   Area    (ha)= 145.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=   4.797 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  40.355
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.456

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2121) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.08         3.92
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       344.46
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.76 (ii)   15.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.94         2.15      13.450 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=      86.50        63.72       80.81
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.72        0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   3.7460      1.9720
                        0.1900     1.1850   |   4.7040      2.0838
                        1.0850     1.4413   |   5.4760      2.1940
                        2.0210     1.5949   |   5.8760      2.2040
                        2.8030     1.7848   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2121)     56.000     13.450      6.00      80.81
     OUTFLOW: ID= 1 (5212)     56.000      6.106      6.25      80.78

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.40
                  TIME SHIFT OF PEAK FLOW       (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2225

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-------------------
| CALIB             |
| STANDHYD  (2122) |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.00       193.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1347.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        61.99
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.07 (ii)   27.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      15.21        14.59       24.423 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=      86.50        37.21       48.55
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.42        0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2122):   272.40  24.423     6.00    48.55
        + ID2= 2 (5212):    56.00   6.106     6.25    80.78
          ================================================
          ID = 3 (8152):   328.40  27.753     6.25    54.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (2141.0) ------>
               Distance      Elevation        Manning
                  0.00         259.29         0.0500
                 15.33         258.91         0.0500
                 38.33         258.57         0.0500
                 65.16         257.93         0.0500
                 95.82         253.44         0.0500
                111.15         251.21         0.0500
                130.32         249.67         0.0500
                149.48         248.51         0.0500
                150.66         248.50    0.0500 /0.0370  Main Channel
                150.81         247.50         0.0370      Main Channel
                154.66         247.50         0.0370      Main Channel
                155.66         248.50    0.0370 /0.0500  Main Channel
                160.98         248.50         0.0500
                187.81         249.78         0.0500
                199.31         252.13         0.0500
                245.30         254.04         0.0500
                264.46         253.99         0.0500
                298.96         255.23         0.0500
                329.62         257.02         0.0500
                379.45         258.82         0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   248.00    .648E+04        2.1         1.00      52.30
      1.00   248.50    .139E+05        6.4         1.44      36.35
      1.61   249.11    .570E+05       22.6         1.24      42.01
      2.21   249.71    .143E+06       63.6         1.39      37.61
      2.82   250.32    .263E+06      142.9         1.70      30.69
      3.43   250.93    .403E+06      257.2         2.00      26.11
      4.04   251.54    .562E+06      410.4         2.29      22.82
      4.64   252.14    .735E+06      601.3         2.56      20.37
      5.25   252.75    .933E+06      791.0         2.66      19.67
      5.86   253.36    .117E+07     1038.0         2.79      18.74
      6.46   253.96    .144E+07     1344.4         2.93      17.82
      7.07   254.57    .178E+07     1664.1         2.93      17.83
      7.68   255.18    .217E+07     2140.2         3.10      16.87
      8.28   255.78    .259E+07     2722.9         3.30      15.83
      8.89   256.39    .304E+07     3387.1         3.50      14.94
      9.50   257.00    .351E+07     4132.7         3.69      14.16
     10.11   257.61    .402E+07     4913.0         3.83      13.64
     10.71   258.21    .458E+07     5648.3         3.87      13.50
     11.32   258.82    .521E+07     6343.1         3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.40    27.75    6.25  54.04      1.68      1.26
     OUTFLOW: ID= 1 (6214)  328.40    17.05    6.50  54.04      1.40      1.30

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-------------------
| CALIB             |
| STANDHYD  (0214) |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.24       237.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1453.62        40.00
     Mannings n           =      0.013        0.250
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     Max.Eff.Inten.(mm/hr)=     116.82       61.86
           over (min)          15.00       30.00
     Storage Coeff. (min)=     14.73 (ii)  27.69 (ii)
     Unit Hyd. Tpeak (min)=    15.00       30.00
     Unit Hyd. peak  (cms)=     0.07        0.04
                                                    *TOTALS*
     PEAK FLOW      (cms)=      6.80       17.64      20.900 (iii)
     TIME TO PEAK   (hrs)=      6.00        6.25       6.25
     RUNOFF VOLUME   (mm)=     86.50       33.48      38.25
     TOTAL RAINFALL  (mm)=     88.50       88.50      88.50
     RUNOFF COEFFICIENT  =      0.98        0.38       0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0214):   316.95  20.900     6.25    38.25
       + ID2= 2 (6214):   328.40  17.047     6.50    54.04
         ==================================================
         ID = 3 (8154):   645.35  35.268     6.25    46.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0216):   145.77   4.797     6.50    40.36
       + ID2= 2 (8154):   645.35  35.268     6.25    46.29
         ==================================================
         ID = 3 (8156):   791.12  39.789     6.25    45.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2181.0) ------>
              Distance      Elevation       Manning
                  0.00         256.38        0.0450
                  7.70         254.85        0.0450
                 15.40         253.20        0.0450
                 19.25         252.29        0.0450
                 23.10         251.17        0.0450
                 78.94         236.16        0.0450
                 80.87         235.80        0.0450
                 82.79         235.45        0.0450
                 84.57         234.60   0.0450 /0.0300  Main Channel
                 85.07         233.60        0.0300      Main Channel
                 88.57         233.60        0.0300      Main Channel
                 93.57         233.60        0.0300      Main Channel
                 94.07         234.60   0.0300 /0.0450  Main Channel
                 96.27         235.13        0.0450
                 98.19         235.20        0.0450
                100.12         235.32        0.0450
                138.63         239.95        0.0450
                180.98         244.80        0.0450
                188.69         245.00        0.0450
                190.61         256.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
        1.00   234.60   .181E+05        6.0         0.66      50.64
        2.13   235.73   .518E+05       23.8         0.93      36.27
        3.25   236.85   .119E+06       60.0         1.02      33.03
        4.38   237.98   .217E+06      120.6         1.12      29.99
        5.51   239.11   .346E+06      210.5         1.23      27.39
        6.63   240.23   .506E+06      334.1         1.33      25.22
        7.76   241.36   .697E+06      495.6         1.43      23.44
        8.88   242.48   .920E+06      699.8         1.53      21.91
       10.01   243.61   .117E+07      950.8         1.63      20.59
       11.14   244.74   .146E+07     1252.5         1.73      19.45
       12.26   245.86   .178E+07     1619.6         1.83      18.37
       13.39   246.99   .212E+07     2078.5         1.97      17.01
       14.52   248.12   .247E+07     2589.0         2.11      15.88
       15.64   249.24   .282E+07     3149.7         2.25      14.94
       16.77   250.37   .319E+07     3759.8         2.37      14.14
       17.89   251.49   .356E+07     4419.5         2.50      13.44
       19.02   252.62   .395E+07     5126.4         2.61      12.84
       20.15   253.75   .435E+07     5871.6         2.72      12.34
       21.27   254.87   .476E+07     6663.2         2.82      11.89

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.12   39.79   6.25  45.19      2.62      0.96
     OUTFLOW: ID= 1 (6218)  791.12   28.70   6.75  45.19      2.28      0.94

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--------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0218):   152.25   3.023     7.00    34.77
       + ID2= 2 (6218):   791.12  28.701     6.75    45.19
         ==================================================
         ID = 3 (8158):   943.37  31.704     6.75    43.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.72 135.954    10.00    33.65
       + ID2= 2 (8158):   943.37  31.704     6.75    43.51
         ==================================================
         ID = 3 (8151): 16577.09 152.407     7.00    34.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  33.0100     0.6700
                          2.6400     0.0500   |  37.4800     0.7800
                          4.8300     0.0900   |  47.5400     1.0100
                          7.4100     0.1300   |  60.2300     1.2800
                         10.3300     0.1900   |  71.9530     1.5258
                         13.5300     0.2500   |  *******     3.0529
                         16.9900     0.3200   |  *******     5.3299
                         20.6800     0.3900   |  *******     8.4148
                         24.6000     0.4800   |  *******    11.7637
                         28.7100     0.5700   |  *******    11.7737

                              AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********    152.407      7.00       34.21
     OUTFLOW: ID= 1 (5504)   ********    152.405      7.25       34.21

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.3458

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--------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (2201.0) ------>
              Distance      Elevation       Manning
                  0.00         245.59        0.0600
                  5.76         245.45        0.0600
                 23.03         242.27        0.0600
                 57.58         232.35        0.0600
                 86.37         226.18        0.0600
                109.41         224.31        0.0600
                115.17         223.86        0.0600
                120.92         222.78        0.0600
                126.68         221.93        0.0600
                128.06         221.50   0.0600 /0.0300  Main Channel
                129.56         220.00        0.0300      Main Channel
                141.56         220.00        0.0300      Main Channel
                143.06         221.50   0.0300 /0.0600  Main Channel
                149.72         223.77        0.0600
                155.47         225.09        0.0600
                253.36         229.21        0.0600
                333.98         227.50        0.0600
                454.90         229.25        0.0600
                500.97         233.11        0.0600
                570.07         237.42        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
```

```
  0.75   220.75    .262E+05       5.5          0.57      79.44
  1.50   221.50    .555E+05      17.5          0.86      52.89
  2.44   222.44    .103E+06      42.7          1.14      40.03
  3.37   223.37    .171E+06      79.4          1.27      35.98
  4.31   224.31    .263E+06     128.1          1.33      34.22
  5.25   225.25    .393E+06     191.7          1.34      34.19
  6.18   226.18    .594E+06     276.7          1.28      35.77
  7.12   227.12    .872E+06     399.9          1.26      36.33
  8.06   228.06    .127E+07     542.7          1.17      38.92
  8.99   228.99    .199E+07     770.0          1.06      43.01
  9.93   229.93    .297E+07    1151.8          1.06      42.95
 10.86   230.86    .400E+07    1652.9          1.13      40.33
 11.80   231.80    .507E+07    2251.8          1.22      37.53
 12.74   232.74    .618E+07    2946.5          1.31      34.97
 13.67   233.67    .733E+07    3726.8          1.39      32.79
 14.61   234.61    .853E+07    4591.0          1.48      30.96
 15.55   235.55    .977E+07    5544.1          1.55      29.37
 16.48   236.48    .111E+08    6586.7          1.63      27.99
 17.42   237.42    .124E+08    7719.2          1.71      26.77

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
INFLOW : ID= 2 (5504) *******   152.40    7.25  34.21      4.67      1.33
OUTFLOW: ID= 1 (6220) *******   145.34    9.75  34.21      4.57      1.33


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   2.291 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  39.073
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0220):   169.10   2.291     8.00    39.07
       + ID2= 2 (6220): 16577.09 145.339     9.75    34.21
         ================================================
         ID = 3 (8160): 16746.19 147.406     9.75    34.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852

     PEAK FLOW       (cms)=   4.479 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.069
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27        92.93
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        92.49
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.65 (ii)   22.69 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      7.19        11.51        14.703 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        47.20         54.67
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.53          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  6.6430      3.7677
                          0.4620     2.0014   |  8.2830      4.2576
                          2.0160     2.2850   | 14.1970      4.6909
                          3.6250     2.7987   | 14.5970      4.7009
                          5.0230     3.2496   |  0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2221)    145.200     14.703      6.00       54.67
     OUTFLOW: ID= 1 (5222)    145.200      6.391      6.75       54.66

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.47
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.6903

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95        16.35
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     703.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       258.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      9.53 (ii)   16.84 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      8.47         6.50         12.995 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        63.50         72.93
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.72          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    74.30  12.995     6.00    72.93
       + ID2= 2 (5222):   145.20   6.391     6.75    54.66
         ================================================
         ID = 3 (8164):   219.50  13.408     6.00    60.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75        92.70
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     967.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        85.39
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```
              over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.54 (ii)   22.93 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      9.55        10.55        16.459 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        48.96        58.72
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.55         0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0224):   140.45  16.459     6.00    58.72
      + ID2= 2 (8164):   219.50  13.408     6.00    60.84
        ================================================
        ID = 3 (8166):   359.95  29.867     6.00    60.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2261.0) ------>
             Distance      Elevation       Manning
                0.00         245.35        0.0600
                8.27         242.72        0.0600
               16.54         240.01        0.0600
               31.02         235.31        0.0600
               41.36         233.14        0.0600
               90.99         227.73        0.0600
               93.06         227.50        0.0600
               95.13         227.27        0.0600
               95.83         227.00        0.0600
              100.83         226.50    0.0600 /0.0350  Main Channel
              101.33         225.50        0.0350      Main Channel
              101.83         226.50    0.0350 /0.0600  Main Channel
              105.83         227.00        0.0600
              107.54         227.39        0.0600
              109.60         227.62        0.0600
              111.67         227.86        0.0600
              146.83         231.76        0.0600
              173.71         234.77        0.0600
              186.12         238.23        0.0600
              202.67         238.35        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.50  226.00    .403E+03         0.0         0.16     330.59
       1.00  226.50    .161E+04         0.1         0.26     208.26
       1.70  227.20    .173E+05         1.5         0.27     195.72
       2.39  227.89    .541E+05         5.9         0.35     152.27
       3.09  228.59    .119E+06        16.0         0.43     124.08
       3.79  229.29    .212E+06        33.8         0.51     104.65
       4.49  229.99    .334E+06        61.2         0.59      90.97
       5.18  230.68    .484E+06        99.7         0.66      80.88
       5.88  231.38    .663E+06       151.0         0.73      73.13
       6.58  232.08    .870E+06       216.5         0.80      66.95
       7.27  232.77    .111E+07       297.5         0.87      61.91
       7.97  233.47    .137E+07       398.1         0.94      57.29
       8.67  234.17    .165E+07       518.9         1.01      53.12
       9.36  234.86    .196E+07       658.9         1.08      49.59
      10.06  235.56    .228E+07       827.0         1.17      46.02
      10.76  236.26    .262E+07      1015.4         1.25      42.96
      11.46  236.96    .296E+07      1221.2         1.33      40.41
      12.15  237.65    .332E+07      1444.6         1.40      38.26
      12.85  238.35    .368E+07      1598.2         1.40      38.42

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.95    29.87    6.00  60.02      3.64      0.49
     OUTFLOW: ID= 1 (6226)  359.95    10.29    6.75  60.01      2.70      0.38
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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0226):   237.58   4.479     7.25    41.07
      + ID2= 2 (6226):   359.95  10.292     6.75    60.01
        ================================================
        ID = 3 (8168):   597.53  14.573     6.75    52.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8160): 16746.19 147.406     9.75    34.26
      + ID2= 2 (8168):   597.53  14.573     6.75    52.48
        ================================================
        ID = 3 (8162): 17343.72 157.961     8.75    34.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2281.0) ------>
             Distance      Elevation       Manning
                0.00         245.00        0.0600
               18.60         244.74        0.0600
               37.20         242.47        0.0600
               93.01         233.71        0.0600
              125.57         226.95        0.0600
              213.93         221.63        0.0600
              218.58         221.15        0.0600
              223.23         220.45        0.0600
              225.03         220.55    0.0600 /0.0300  Main Channel
              225.53         218.05        0.0300      Main Channel
              232.53         218.05        0.0300      Main Channel
              240.03         218.05        0.0300      Main Channel
              241.03         220.55    0.0300 /0.0600  Main Channel
              246.48         221.00        0.0600
              251.13         221.27        0.0600
              255.78         221.22        0.0600
              325.54         225.25        0.0600
              367.40         228.91        0.0600
              404.60         231.75        0.0600
              460.41         245.00        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)        (m/s)      (min)
       1.25  219.30    .338E+05        16.0         0.86      35.15
       2.50  220.55    .696E+05        48.3         1.26      24.02
       3.94  221.99    .168E+06       116.0         1.26      24.14
       5.38  223.43    .392E+06       247.5         1.15      26.37
       6.81  224.86    .743E+06       472.6         1.16      26.20
       8.25  226.30    .122E+07       821.6         1.23      24.67
       9.69  227.74    .179E+07      1320.1         1.34      22.59
      11.13  229.18    .243E+07      1965.7         1.47      20.58
      12.57  230.62    .313E+07      2744.2         1.59      19.02
      14.01  232.06    .390E+07      3683.4         1.72      17.66
      15.44  233.49    .472E+07      4824.1         1.86      16.30
      16.88  234.93    .557E+07      6092.4         1.99      15.23
      18.32  236.37    .646E+07      7503.3         2.11      14.35
      19.76  237.81    .739E+07      9061.2         2.23      13.59
      21.20  239.25    .836E+07     10767.6         2.34      12.94
      22.64  240.69    .937E+07     12624.8         2.45      12.37
      24.07  242.12    .104E+08     14634.9         2.56      11.87
      25.51  243.56    .115E+08     16762.8         2.65      11.45
      26.95  245.00    .127E+08     18699.9         2.69      11.28

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******  157.96    8.75  34.89      4.40      1.22
     OUTFLOW: ID= 1 (6228) *******  155.60    9.75  34.89      4.36      1.22
```

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-------------------
| CALIB            |
| NASHYD    (6228) |   Area    (ha)= 310.54   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=   3.743 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.109
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.318

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0228):   310.54   3.743     7.50    28.11
       + ID2= 2 (6228): 17343.72 155.597     9.75    34.89
         ==========================================
         ID = 3 (8170): 17654.26 158.534     9.75    34.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2302) |   Area    (ha)= 126.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     29.14         97.56
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    919.06         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    116.82         71.35
           over (min)      =     15.00         30.00
     Storage Coeff.  (min)=     11.19 (ii)    23.43 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.01          9.12      10.282 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.25
     RUNOFF VOLUME    (mm)=     86.50         39.27       43.52
     TOTAL RAINFALL   (mm)=     88.50         88.50       88.50
     RUNOFF COEFFICIENT   =      0.98          0.44        0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2301) |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     39.40         39.40
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    724.80         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    116.82        116.70
           over (min)      =     15.00         30.00
     Storage Coeff.  (min)=      9.70 (ii)    19.76 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.14          6.55       8.449 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=     86.50         46.81       54.35
     TOTAL RAINFALL   (mm)=     88.50         88.50       88.50
     RUNOFF COEFFICIENT   =      0.98          0.53        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   5.6350     1.5914
                        0.3160     0.7624    |   6.9200     1.8001
                        1.7040     0.8931    |   7.9010     2.0070
                        3.5140     1.1218    |   8.3010     2.0170
                        4.5020     1.3405    |   0.0000     0.0000
```

```
                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2301)     78.800     8.449     6.00       54.35
     OUTFLOW: ID= 1 (5230)     78.800     5.220     6.50       54.34

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.78
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5108

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):   126.70  10.282     6.25    43.52
       + ID2= 2 (5230):    78.80   5.220     6.50    54.34
         ==========================================
         ID = 3 (8172):   205.50  14.869     6.25    47.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0232) |   Area    (ha)= 314.80   Curve Number    (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=   3.790 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.804
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0232):   314.80   3.790     7.25    25.80
       + ID2= 2 (8172):   205.50  14.869     6.25    47.67
         ==========================================
         ID = 3 (8173):   520.30  17.765     6.25    34.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17654.26 158.534     9.75    34.77
       + ID2= 2 (8173):   520.30  17.765     6.25    34.44
         ==========================================
         ID = 3 (8174): 18174.56 162.676     9.50    34.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                  0.00         228.00        0.0550
                 42.86         223.21        0.0550
                 85.72         219.56        0.0550
                107.15         219.42        0.0550
                128.58         219.39        0.0550
                214.30         219.30        0.0550
                225.02         219.26        0.0550
                235.73         219.24        0.0550
                255.16         219.20    0.0550 /0.0350  Main Channel
                257.16         217.20        0.0350      Main Channel
                303.16         217.20        0.0350      Main Channel
                305.16         219.20    0.0350 /0.0550  Main Channel
                310.74         219.28        0.0550
                321.45         219.27        0.0550
                332.17         219.26        0.0550
                396.46         219.29        0.0550
                782.20         222.91        0.0550
                878.64         227.43        0.0550
                964.36         227.80        0.0550
               1060.79         228.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	217.70	.887E+05	7.2	0.31	206.54
1.00	218.20	.179E+06	22.7	0.48	131.74
1.50	218.70	.272E+06	44.5	0.62	101.75
2.00	219.20	.366E+06	71.8	0.75	84.97
2.59	219.79	.993E+06	136.1	0.52	121.59
3.17	220.37	.189E+07	258.6	0.52	121.80
3.76	220.96	.294E+07	434.7	0.56	112.82
4.35	221.55	.415E+07	665.9	0.61	103.88
4.93	222.13	.551E+07	955.0	0.66	96.22
5.52	222.72	.703E+07	1305.1	0.71	89.80
6.11	223.31	.868E+07	1744.9	0.77	82.91
6.69	223.89	.104E+08	2261.4	0.83	76.46
7.28	224.48	.121E+08	2838.0	0.89	71.12
7.87	225.07	.139E+08	3472.9	0.95	66.63
8.45	225.65	.157E+08	4165.0	1.01	62.82
9.04	226.24	.176E+08	4913.5	1.07	59.54
9.63	226.83	.194E+08	5717.7	1.12	56.68
10.21	227.41	.214E+08	6577.1	1.17	54.18
10.80	228.00	.235E+08	6919.5	1.12	56.61

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (8174) *******		162.68	9.50	34.76	2.71	0.52
OUTFLOW: ID= 1 (6234) *******		139.73	12.25	34.76	2.60	0.52

CALIB	
STANDHYD (0234)	Area (ha)= 267.16
ID= 1 DT=15.0 min	Total Imp(%)= 22.00 Dir. Conn.(%)= 8.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	58.78	208.38
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1334.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	116.82	17.79
over (min)	15.00	45.00
Storage Coeff. (min)=	13.99 (ii)	35.33 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.07	0.03

		TOTALS
PEAK FLOW (cms)=	5.20	5.91 7.610 (iii)
TIME TO PEAK (hrs)=	6.00	6.50 6.00
RUNOFF VOLUME (mm)=	86.50	16.86 22.43
TOTAL RAINFALL (mm)=	88.50	88.50 88.50
RUNOFF COEFFICIENT =	0.98	0.19 0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 39.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8176)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0234):	267.16	7.610	6.00	22.43
	+ ID2= 2 (6234):	18174.56	139.730	12.25	34.76
	ID = 3 (8176):	18441.72	140.272	12.00	34.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0238)	Area (ha)= 311.70 Curve Number (CN)= 53.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.56

Unit Hyd Qpeak (cms)= 3.405

PEAK FLOW (cms)= 2.301 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 22.464
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0236)	Area (ha)= 494.49 Curve Number (CN)= 54.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.24

Unit Hyd Qpeak (cms)= 6.830

PEAK FLOW (cms)= 4.497 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 23.078
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6238)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2381.0) ------>

Distance	Elevation	Manning	
0.00	241.54	0.0380	
602.55	227.00	0.0380	
1702.00	224.50	0.0380	
1721.25	223.00	0.0380	
1725.10	222.60	0.0380	
1780.94	222.50	0.0380	
1782.87	222.45	0.0380	
1784.79	222.40	0.0380 /0.0300	Main Channel
1786.57	221.75	0.0300	Main Channel
1787.07	220.75	0.0300	Main Channel
1787.57	220.75	0.0300	Main Channel
1791.57	220.75	0.0300	Main Channel
1794.07	221.75	0.0300	Main Channel
1798.27	222.00	0.0300	Main Channel
1800.19	222.35	0.0300 /0.0380	Main Channel
1802.12	222.47	0.0380	
1840.63	223.00	0.0380	
1900.00	225.00	0.0380	
1950.00	226.00	0.0380	
2242.61	240.00	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	221.55	.101E+05	5.2	1.14	32.36
1.60	222.35	.296E+05	18.7	1.40	26.36
2.64	223.39	.249E+06	151.8	1.35	27.33
3.68	224.43	.613E+06	512.2	1.85	19.94
4.71	225.46	.152E+07	1066.8	1.55	23.80
5.75	226.50	.359E+07	2824.9	1.75	21.16
6.79	227.54	.663E+07	6528.0	2.18	16.93
7.83	228.58	.994E+07	12158.6	2.71	13.62
8.87	229.62	.134E+08	19268.8	3.19	11.58
9.91	230.66	.170E+08	27785.3	3.63	10.19
10.94	231.69	.207E+08	37667.1	4.03	9.18
11.98	232.73	.246E+08	48891.7	4.40	8.40
13.02	233.77	.287E+08	61448.0	4.75	7.78
14.06	234.81	.329E+08	75332.7	5.08	7.28
15.10	235.85	.372E+08	90547.8	5.39	6.85
16.14	236.89	.417E+08	*******	5.69	6.49
17.17	237.92	.464E+08	*******	5.98	6.18
18.21	238.96	.512E+08	*******	6.25	5.91
19.25	240.00	.561E+08	*******	6.52	5.67

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (0236)	494.49	4.50	8.00	23.08	0.69	1.14
OUTFLOW: ID= 1 (6238)	494.49	4.36	8.50	23.08	0.67	1.14

ADD HYD (8180)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0238):	311.70	2.301	8.25	22.46
	+ ID2= 2 (6238):	494.49	4.355	8.50	23.08
	ID = 3 (8180):	806.19	6.649	8.50	22.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8178)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8176):	18441.72	140.272	12.00	34.58
	+ ID2= 2 (8180):	806.19	6.649	8.50	22.84

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         ================================================
         ID = 3 (8178): 19247.91 144.835    12.00    34.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2401.0) ------>
              Distance      Elevation        Manning
                  0.00         222.00         0.0450
                 11.46         221.00         0.0450
                208.98         221.00         0.0450
                404.04         220.97         0.0450
                808.08         220.83         0.0450
                905.60         220.17         0.0450
                919.53         219.43         0.0450
                933.47         219.22         0.0450
                945.26         219.21    0.0450 /0.0300  Main Channel
                946.26         217.81         0.0300      Main Channel
                975.26         217.81         0.0300      Main Channel
               1003.26         217.81         0.0300      Main Channel
               1005.26         219.21    0.0300 /0.0450  Main Channel
               1017.06         219.28         0.0450
               1030.99         219.26         0.0450
               1044.92         219.23         0.0450
               1058.86         219.23         0.0450
               1253.91         219.22         0.0450
               1323.57         221.05         0.0450
               1379.30         222.00         0.0450

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.20   218.01    .307E+05        2.2         0.20     227.52
        0.40   218.21    .617E+05        7.1         0.31     143.95
        0.60   218.41    .928E+05       14.0         0.41     110.33
        0.80   218.61    .124E+06       22.6         0.49      91.46
        1.00   218.81    .156E+06       32.8         0.57      79.15
        1.20   219.01    .188E+06       44.5         0.64      70.38
        1.40   219.21    .220E+06       57.5         0.70      63.77
        1.63   219.44    .413E+06       82.5         0.54      83.52
        1.87   219.68    .632E+06      120.9         0.51      87.03
        2.10   219.91    .858E+06      170.0         0.53      84.11
        2.33   220.14    .109E+07      228.7         0.56      79.62
        2.56   220.37    .134E+07      294.4         0.59      76.03
        2.80   220.61    .162E+07      371.1         0.61      72.75
        3.03   220.84    .192E+07      456.8         0.64      70.18
        3.26   221.07    .251E+07      552.1         0.59      75.74
        3.49   221.30    .333E+07      711.8         0.57      78.07
        3.73   221.54    .417E+07      907.0         0.58      76.62
        3.96   221.77    .502E+07     1134.1         0.61      73.70
        4.19   222.00    .587E+07     1390.9         0.64      70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   144.84   12.00  34.09      1.98      0.52
     OUTFLOW: ID= 1 (6240) *******   135.69   13.25  34.09      1.93      0.52


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-------------------
| CALIB           |
| NASHYD    (0240) |   Area    (ha)= 434.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   2.058

     PEAK FLOW       (cms)=   1.357 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  18.240
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0240):   434.37   1.357    12.00    18.24
       + ID2= 2 (6240): 19247.91 135.694    13.25    34.09
         ================================================
         ID = 3 (8182): 19682.28 136.993    13.25    33.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0242) |   Area    (ha)= 657.88   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.090

     PEAK FLOW       (cms)=   1.747 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  21.910
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0242):   657.88   1.747    12.75    21.91
       + ID2= 2 (8182): 19682.28 136.993    13.25    33.74
         ================================================
         ID = 3 (8184): 20340.16 138.737    13.25    33.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2441.0) ------>
              Distance      Elevation        Manning
                  0.00         225.00         0.0450
                  2.50         220.10         0.0450
                  3.00         220.06         0.0450
                  3.64         220.07         0.0450
                  7.28         220.08         0.0450
                 10.91         220.09         0.0450
                 14.55         219.81         0.0450
                 18.19         219.29         0.0450
                 24.13         219.21    0.0450 /0.0300  Main Channel
                 24.63         217.81         0.0300      Main Channel
                 69.13         217.81         0.0300      Main Channel
                114.13         217.81         0.0300      Main Channel
                115.13         219.21    0.0300 /0.0450  Main Channel
                120.06         219.25         0.0450
                123.70         219.32         0.0450
                127.34         219.77         0.0450
                130.98         219.88         0.0450
                134.61         219.99         0.0450
                350.00         220.18         0.0450
                360.18         225.00         0.0450

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.35   218.16    .108E+06        9.0         0.29     200.52
        0.70   218.51    .216E+06       28.4         0.45     126.89
        1.05   218.86    .325E+06       55.7         0.59      97.27
        1.40   219.21    .434E+06       89.7         0.71      80.65
        1.79   219.60    .574E+06      135.9         0.81      70.36
        2.17   219.98    .726E+06      190.8         0.90      63.38
        2.56   220.37    .111E+07      264.3         0.82      69.82
        2.94   220.75    .157E+07      371.7         0.81      70.36
        3.33   221.14    .203E+07      503.4         0.85      67.30
        3.72   221.53    .250E+07      656.6         0.90      63.40
        4.10   221.91    .296E+07      829.6         0.96      59.54
        4.49   222.30    .343E+07     1021.1         1.02      56.00
        4.87   222.68    .390E+07     1230.2         1.08      52.83
        5.26   223.07    .437E+07     1456.2         1.14      50.01
        5.65   223.46    .484E+07     1698.4         1.20      47.51
        6.03   223.84    .531E+07     1956.3         1.26      45.28
        6.42   224.23    .579E+07     2229.3         1.32      43.28
        6.80   224.61    .626E+07     2517.0         1.38      41.48
        7.19   225.00    .674E+07     2819.2         1.44      39.85

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******   138.74   13.25  33.36      1.81      0.82
     OUTFLOW: ID= 1 (6244) *******   134.63   14.25  33.36      1.77      0.81


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-------------------
| CALIB           |
| NASHYD    (0244) |   Area    (ha)=1908.71   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  14.812
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```
    PEAK FLOW      (cms)=  13.625 (i)
    TIME TO PEAK   (hrs)=   9.500
    RUNOFF VOLUME   (mm)=  28.265
    TOTAL RAINFALL  (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.319

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (0244):  1908.71  13.625    9.50    28.27
      + ID2= 2 (6244): 20340.16 134.635    14.25    33.36
        ==========================================
        ID = 3 (8186): 22248.87 143.859    14.00    32.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.00
-------------------  VOLUME    (mm)=  32.67
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
  Comments:

        HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
        ACTUAL PEAK FLOW: PEAK ( 184.91) + BASE (   0.00) =  184.91  (cms).
  TIME    FLOW |  TIME    FLOW |  TIME    FLOW |'  TIME    FLOW |  TIME    FLOW
   hrs     cms |   hrs     cms |   hrs     cms |'   hrs     cms |   hrs     cms
  0.00   0.000 | 66.00   2.413 |132.00   0.377 |198.00   0.054 |264.00   0.007
  0.25   0.000 | 66.25   2.396 |132.25   0.374 |198.25   0.054 |264.25   0.007
  0.50   0.000 | 66.50   2.379 |132.50   0.372 |198.50   0.053 |264.50   0.007
  0.75   0.000 | 66.75   2.363 |132.75   0.369 |198.75   0.053 |264.75   0.007
  1.00   0.066 | 67.00   2.346 |133.00   0.366 |199.00   0.052 |265.00   0.007
  1.25   0.227 | 67.25   2.330 |133.25   0.364 |199.25   0.052 |265.25   0.007
  1.50   0.360 | 67.50   2.313 |133.50   0.361 |199.50   0.052 |265.50   0.007
  1.75   0.470 | 67.75   2.297 |133.75   0.358 |199.75   0.051 |265.75   0.007
  2.00   0.560 | 68.00   2.281 |134.00   0.356 |200.00   0.051 |266.00   0.007
  2.25   0.670 | 68.25   2.265 |134.25   0.353 |200.25   0.050 |266.25   0.007
  2.50   0.769 | 68.50   2.250 |134.50   0.351 |200.50   0.050 |266.50   0.007
  2.75   0.866 | 68.75   2.234 |134.75   0.348 |200.75   0.050 |266.75   0.007
  3.00   0.966 | 69.00   2.218 |135.00   0.346 |201.00   0.049 |267.00   0.007
  3.25   1.151 | 69.25   2.203 |135.25   0.343 |201.25   0.049 |267.25   0.007
  3.50   1.351 | 69.50   2.188 |135.50   0.341 |201.50   0.049 |267.50   0.007
  3.75   1.576 | 69.75   2.173 |135.75   0.338 |201.75   0.048 |267.75   0.007
  4.00   1.826 | 70.00   2.158 |136.00   0.336 |202.00   0.048 |268.00   0.006
  4.25   2.282 | 70.25   2.143 |136.25   0.333 |202.25   0.048 |268.25   0.006
  4.50   2.803 | 70.50   2.128 |136.50   0.331 |202.50   0.047 |268.50   0.006
  4.75   3.600 | 70.75   2.113 |136.75   0.329 |202.75   0.047 |268.75   0.006
  5.00   4.525 | 71.00   2.099 |137.00   0.326 |203.00   0.046 |269.00   0.006
  5.25   6.018 | 71.25   2.084 |137.25   0.324 |203.25   0.046 |269.25   0.006
  5.50   7.811 | 71.50   2.070 |137.50   0.322 |203.50   0.046 |269.50   0.006
  5.75  14.446 | 71.75   2.055 |137.75   0.319 |203.75   0.045 |269.75   0.006
  6.00  37.810 | 72.00   2.041 |138.00   0.317 |204.00   0.045 |270.00   0.006
  6.25  56.299 | 72.25   2.027 |138.25   0.315 |204.25   0.045 |270.25   0.006
  6.50  74.311 | 72.50   2.013 |138.50   0.312 |204.50   0.044 |270.50   0.006
  6.75  85.240 | 72.75   1.999 |138.75   0.310 |204.75   0.044 |270.75   0.006
  7.00  94.756 | 73.00   1.985 |139.00   0.308 |205.00   0.044 |271.00   0.006
  7.25 103.047 | 73.25   1.972 |139.25   0.306 |205.25   0.043 |271.25   0.006
  7.50 111.399 | 73.50   1.958 |139.50   0.303 |205.50   0.043 |271.50   0.006
  7.75 119.900 | 73.75   1.945 |139.75   0.301 |205.75   0.043 |271.75   0.006
  8.00 128.605 | 74.00   1.931 |140.00   0.299 |206.00   0.042 |272.00   0.006
  8.25 136.903 | 74.25   1.918 |140.25   0.297 |206.25   0.042 |272.25   0.006
  8.50 143.804 | 74.50   1.905 |140.50   0.295 |206.50   0.042 |272.50   0.006
  8.75 149.056 | 74.75   1.892 |140.75   0.292 |206.75   0.042 |272.75   0.006
  9.00 154.312 | 75.00   1.879 |141.00   0.290 |207.00   0.041 |273.00   0.006
  9.25 159.495 | 75.25   1.866 |141.25   0.288 |207.25   0.041 |273.25   0.006
  9.50 164.480 | 75.50   1.853 |141.50   0.286 |207.50   0.041 |273.50   0.005
  9.75 169.146 | 75.75   1.840 |141.75   0.284 |207.75   0.040 |273.75   0.005
 10.00 173.362 | 76.00   1.828 |142.00   0.282 |208.00   0.040 |274.00   0.005
 10.25 176.789 | 76.25   1.815 |142.25   0.280 |208.25   0.040 |274.25   0.005
 10.50 179.616 | 76.50   1.802 |142.50   0.278 |208.50   0.039 |274.50   0.005
 10.75 181.896 | 76.75   1.790 |142.75   0.276 |208.75   0.039 |274.75   0.005
 11.00 183.693 | 77.00   1.778 |143.00   0.274 |209.00   0.039 |275.00   0.005
 11.25 184.204 | 77.25   1.765 |143.25   0.272 |209.25   0.039 |275.25   0.005
 11.50 184.573 | 77.50   1.753 |143.50   0.270 |209.50   0.038 |275.50   0.005
 11.75 184.804 | 77.75   1.741 |143.75   0.268 |209.75   0.038 |275.75   0.005
 12.00 184.909 | 78.00   1.729 |144.00   0.266 |210.00   0.038 |276.00   0.005
 12.25 184.558 | 78.25   1.717 |144.25   0.264 |210.25   0.037 |276.25   0.005
 12.50 183.963 | 78.50   1.706 |144.50   0.262 |210.50   0.037 |276.50   0.005
 12.75 183.100 | 78.75   1.694 |144.75   0.260 |210.75   0.037 |276.75   0.005
 13.00 182.083 | 79.00   1.682 |145.00   0.258 |211.00   0.037 |277.00   0.005
 13.25 180.918 | 79.25   1.670 |145.25   0.256 |211.25   0.036 |277.25   0.005
 13.50 179.616 | 79.50   1.659 |145.50   0.255 |211.50   0.036 |277.50   0.005
 13.75 178.189 | 79.75   1.648 |145.75   0.253 |211.75   0.036 |277.75   0.005
 14.00 176.647 | 80.00   1.636 |146.00   0.251 |212.00   0.035 |278.00   0.005
 14.25 175.002 | 80.25   1.625 |146.25   0.249 |212.25   0.035 |278.25   0.005
 14.50 173.265 | 80.50   1.614 |146.50   0.247 |212.50   0.035 |278.50   0.005
 14.75 171.444 | 80.75   1.603 |146.75   0.245 |212.75   0.035 |278.75   0.005
 15.00 169.546 | 81.00   1.592 |147.00   0.244 |213.00   0.034 |279.00   0.005
 15.25 167.581 | 81.25   1.581 |147.25   0.242 |213.25   0.034 |279.25   0.005
 15.50 165.491 | 81.50   1.570 |147.50   0.240 |213.50   0.034 |279.50   0.005
 15.75 163.234 | 81.75   1.559 |147.75   0.238 |213.75   0.034 |279.75   0.005
 16.00 160.828 | 82.00   1.548 |148.00   0.237 |214.00   0.033 |280.00   0.004
 16.25 158.280 | 82.25   1.538 |148.25   0.235 |214.25   0.033 |280.25   0.004
 16.50 155.597 | 82.50   1.527 |148.50   0.233 |214.50   0.033 |280.50   0.004
 16.75 152.796 | 82.75   1.517 |148.75   0.232 |214.75   0.033 |280.75   0.004
 17.00 149.747 | 83.00   1.506 |149.00   0.230 |215.00   0.032 |281.00   0.004
 17.25 145.823 | 83.25   1.496 |149.25   0.228 |215.25   0.032 |281.25   0.004
 17.50 141.953 | 83.50   1.485 |149.50   0.227 |215.50   0.032 |281.50   0.004
 17.75 138.154 | 83.75   1.475 |149.75   0.225 |215.75   0.032 |281.75   0.004
 18.00 134.431 | 84.00   1.465 |150.00   0.223 |216.00   0.031 |282.00   0.004
 18.25 130.790 | 84.25   1.455 |150.25   0.222 |216.25   0.031 |282.25   0.004
 18.50 127.236 | 84.50   1.445 |150.50   0.220 |216.50   0.031 |282.50   0.004
 18.75 123.771 | 84.75   1.435 |150.75   0.218 |216.75   0.031 |282.75   0.004
 19.00 120.394 | 85.00   1.425 |151.00   0.217 |217.00   0.030 |283.00   0.004
 19.25 117.086 | 85.25   1.415 |151.25   0.215 |217.25   0.030 |283.25   0.004
 19.50 113.835 | 85.50   1.405 |151.50   0.214 |217.50   0.030 |283.50   0.004
 19.75 110.649 | 85.75   1.396 |151.75   0.212 |217.75   0.030 |283.75   0.004
 20.00 107.542 | 86.00   1.386 |152.00   0.211 |218.00   0.030 |284.00   0.004
 20.25 104.527 | 86.25   1.377 |152.25   0.209 |218.25   0.029 |284.25   0.004
 20.50 101.607 | 86.50   1.367 |152.50   0.208 |218.50   0.029 |284.50   0.004
 20.75  98.786 | 86.75   1.358 |152.75   0.206 |218.75   0.029 |284.75   0.004
 21.00  96.063 | 87.00   1.348 |153.00   0.205 |219.00   0.029 |285.00   0.004
 21.25  93.433 | 87.25   1.339 |153.25   0.203 |219.25   0.028 |285.25   0.004
 21.50  90.892 | 87.50   1.330 |153.50   0.202 |219.50   0.028 |285.50   0.004
 21.75  88.437 | 87.75   1.320 |153.75   0.200 |219.75   0.028 |285.75   0.004
 22.00  85.337 | 88.00   1.311 |154.00   0.199 |220.00   0.028 |286.00   0.004
 22.25  82.030 | 88.25   1.302 |154.25   0.197 |220.25   0.028 |286.25   0.004
 22.50  79.122 | 88.50   1.293 |154.50   0.196 |220.50   0.027 |286.50   0.004
 22.75  76.521 | 88.75   1.284 |154.75   0.194 |220.75   0.027 |286.75   0.004
 23.00  74.162 | 89.00   1.275 |155.00   0.193 |221.00   0.027 |287.00   0.004
 23.25  71.994 | 89.25   1.267 |155.25   0.191 |221.25   0.027 |287.25   0.004
 23.50  69.980 | 89.50   1.258 |155.50   0.190 |221.50   0.027 |287.50   0.004
 23.75  68.092 | 89.75   1.249 |155.75   0.189 |221.75   0.026 |287.75   0.004
 24.00  66.307 | 90.00   1.240 |156.00   0.187 |222.00   0.026 |288.00   0.004
 24.25  64.527 | 90.25   1.232 |156.25   0.186 |222.25   0.026 |288.25   0.003
 24.50  62.596 | 90.50   1.223 |156.50   0.185 |222.50   0.026 |288.50   0.003
 24.75  60.496 | 90.75   1.215 |156.75   0.183 |222.75   0.026 |288.75   0.003
 25.00  58.310 | 91.00   1.206 |157.00   0.182 |223.00   0.025 |289.00   0.003
 25.25  56.096 | 91.25   1.198 |157.25   0.181 |223.25   0.025 |289.25   0.003
 25.50  53.892 | 91.50   1.190 |157.50   0.179 |223.50   0.025 |289.50   0.003
 25.75  51.725 | 91.75   1.181 |157.75   0.178 |223.75   0.025 |289.75   0.003
 26.00  49.613 | 92.00   1.173 |158.00   0.177 |224.00   0.025 |290.00   0.003
 26.25  47.567 | 92.25   1.165 |158.25   0.175 |224.25   0.025 |290.25   0.003
 26.50  45.594 | 92.50   1.157 |158.50   0.174 |224.50   0.024 |290.50   0.003
 26.75  43.699 | 92.75   1.149 |158.75   0.173 |224.75   0.024 |290.75   0.003
 27.00  41.883 | 93.00   1.141 |159.00   0.172 |225.00   0.024 |291.00   0.003
 27.25  40.150 | 93.25   1.133 |159.25   0.170 |225.25   0.024 |291.25   0.003
 27.50  38.497 | 93.50   1.125 |159.50   0.169 |225.50   0.024 |291.50   0.003
 27.75  36.923 | 93.75   1.117 |159.75   0.168 |225.75   0.023 |291.75   0.003
 28.00  35.422 | 94.00   1.110 |160.00   0.167 |226.00   0.023 |292.00   0.003
 28.25  33.992 | 94.25   1.102 |160.25   0.165 |226.25   0.023 |292.25   0.003
 28.50  32.629 | 94.50   1.094 |160.50   0.164 |226.50   0.023 |292.50   0.003
 28.75  31.330 | 94.75   1.087 |160.75   0.163 |226.75   0.023 |292.75   0.003
 29.00  30.092 | 95.00   1.079 |161.00   0.162 |227.00   0.023 |293.00   0.003
 29.25  28.911 | 95.25   1.072 |161.25   0.161 |227.25   0.022 |293.25   0.003
 29.50  27.785 | 95.50   1.064 |161.50   0.159 |227.50   0.022 |293.50   0.003
 29.75  26.712 | 95.75   1.057 |161.75   0.158 |227.75   0.022 |293.75   0.003
 30.00  25.689 | 96.00   1.049 |162.00   0.157 |228.00   0.022 |294.00   0.003
 30.25  24.714 | 96.25   1.042 |162.25   0.156 |228.25   0.022 |294.25   0.003
 30.50  23.783 | 96.50   1.035 |162.50   0.155 |228.50   0.022 |294.50   0.003
 30.75  22.896 | 96.75   1.028 |162.75   0.154 |228.75   0.021 |294.75   0.003
 31.00  22.050 | 97.00   1.020 |163.00   0.153 |229.00   0.021 |295.00   0.003
 31.25  21.243 | 97.25   1.013 |163.25   0.151 |229.25   0.021 |295.25   0.003
 31.50  20.473 | 97.50   1.006 |163.50   0.150 |229.50   0.021 |295.50   0.003
 31.75  19.738 | 97.75   0.999 |163.75   0.149 |229.75   0.021 |295.75   0.003
 32.00  19.037 | 98.00   0.992 |164.00   0.148 |230.00   0.021 |296.00   0.003
 32.25  18.368 | 98.25   0.985 |164.25   0.147 |230.25   0.020 |296.25   0.003
 32.50  17.729 | 98.50   0.978 |164.50   0.146 |230.50   0.020 |296.50   0.003
 32.75  17.119 | 98.75   0.971 |164.75   0.145 |230.75   0.020 |296.75   0.003
 33.00  16.537 | 99.00   0.965 |165.00   0.144 |231.00   0.020 |297.00   0.003
 33.25  15.980 | 99.25   0.958 |165.25   0.143 |231.25   0.020 |297.25   0.003
 33.50  15.449 | 99.50   0.951 |165.50   0.142 |231.50   0.020 |297.50   0.003
 33.75  14.942 | 99.75   0.945 |165.75   0.141 |231.75   0.020 |297.75   0.003
 34.00  14.457 |100.00   0.938 |166.00   0.140 |232.00   0.019 |298.00   0.003
 34.25  13.995 |100.25   0.931 |166.25   0.139 |232.25   0.019 |298.25   0.003
 34.50  13.552 |100.50   0.925 |166.50   0.138 |232.50   0.019 |298.50   0.003
 34.75  13.130 |100.75   0.918 |166.75   0.137 |232.75   0.019 |298.75   0.003
 35.00  12.727 |101.00   0.912 |167.00   0.136 |233.00   0.019 |299.00   0.002
 35.25  12.341 |101.25   0.906 |167.25   0.135 |233.25   0.019 |299.25   0.002
 35.50  11.972 |101.50   0.899 |167.50   0.134 |233.50   0.019 |299.50   0.002
 35.75  11.620 |101.75   0.893 |167.75   0.133 |233.75   0.018 |299.75   0.002
 36.00  11.284 |102.00   0.887 |168.00   0.132 |234.00   0.018 |300.00   0.002
 36.25  10.962 |102.25   0.881 |168.25   0.131 |234.25   0.018 |300.25   0.002
 36.50  10.655 |102.50   0.874 |168.50   0.130 |234.50   0.018 |300.50   0.002
 36.75  10.361 |102.75   0.868 |168.75   0.129 |234.75   0.018 |300.75   0.002
 37.00  10.080 |103.00   0.862 |169.00   0.128 |235.00   0.018 |301.00   0.002
 37.25   9.812 |103.25   0.856 |169.25   0.127 |235.25   0.018 |301.25   0.002
 37.50   9.555 |103.50   0.850 |169.50   0.126 |235.50   0.017 |301.50   0.002
 37.75   9.309 |103.75   0.844 |169.75   0.125 |235.75   0.017 |301.75   0.002
 38.00   9.074 |104.00   0.838 |170.00   0.124 |236.00   0.017 |302.00   0.002
 38.25   8.849 |104.25   0.832 |170.25   0.123 |236.25   0.017 |302.25   0.002
 38.50   8.634 |104.50   0.826 |170.50   0.122 |236.50   0.017 |302.50   0.002
 38.75   8.428 |104.75   0.821 |170.75   0.121 |236.75   0.017 |302.75   0.002
 39.00   8.230 |105.00   0.815 |171.00   0.120 |237.00   0.017 |303.00   0.002
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39.25	8.040	105.25	0.809	171.25	0.120	237.25	0.017	303.25	0.002
39.50	7.859	105.50	0.803	171.50	0.119	237.50	0.016	303.50	0.002
39.75	7.684	105.75	0.798	171.75	0.118	237.75	0.016	303.75	0.002
40.00	7.517	106.00	0.792	172.00	0.117	238.00	0.016	304.00	0.002
40.25	7.357	106.25	0.787	172.25	0.116	238.25	0.016	304.25	0.002
40.50	7.203	106.50	0.781	172.50	0.115	238.50	0.016	304.50	0.002
40.75	7.055	106.75	0.776	172.75	0.114	238.75	0.016	304.75	0.002
41.00	6.912	107.00	0.770	173.00	0.114	239.00	0.016	305.00	0.002
41.25	6.776	107.25	0.765	173.25	0.113	239.25	0.016	305.25	0.002
41.50	6.644	107.50	0.759	173.50	0.112	239.50	0.015	305.50	0.002
41.75	6.518	107.75	0.754	173.75	0.111	239.75	0.015	305.75	0.002
42.00	6.396	108.00	0.749	174.00	0.110	240.00	0.015	306.00	0.002
42.25	6.279	108.25	0.743	174.25	0.109	240.25	0.015	306.25	0.002
42.50	6.166	108.50	0.738	174.50	0.109	240.50	0.015	306.50	0.002
42.75	6.057	108.75	0.733	174.75	0.108	240.75	0.015	306.75	0.002
43.00	5.953	109.00	0.728	175.00	0.107	241.00	0.015	307.00	0.002
43.25	5.851	109.25	0.723	175.25	0.106	241.25	0.015	307.25	0.002
43.50	5.754	109.50	0.717	175.50	0.105	241.50	0.015	307.50	0.002
43.75	5.660	109.75	0.712	175.75	0.105	241.75	0.014	307.75	0.002
44.00	5.569	110.00	0.707	176.00	0.104	242.00	0.014	308.00	0.002
44.25	5.482	110.25	0.702	176.25	0.103	242.25	0.014	308.25	0.002
44.50	5.397	110.50	0.697	176.50	0.102	242.50	0.014	308.50	0.002
44.75	5.315	110.75	0.693	176.75	0.102	242.75	0.014	308.75	0.002
45.00	5.236	111.00	0.688	177.00	0.101	243.00	0.014	309.00	0.002
45.25	5.159	111.25	0.683	177.25	0.100	243.25	0.014	309.25	0.002
45.50	5.085	111.50	0.678	177.50	0.099	243.50	0.014	309.50	0.002
45.75	5.014	111.75	0.673	177.75	0.099	243.75	0.014	309.75	0.002
46.00	4.944	112.00	0.668	178.00	0.098	244.00	0.013	310.00	0.002
46.25	4.877	112.25	0.664	178.25	0.097	244.25	0.013	310.25	0.002
46.50	4.812	112.50	0.659	178.50	0.096	244.50	0.013	310.50	0.002
46.75	4.749	112.75	0.654	178.75	0.096	244.75	0.013	310.75	0.002
47.00	4.687	113.00	0.650	179.00	0.095	245.00	0.013	311.00	0.002
47.25	4.628	113.25	0.645	179.25	0.094	245.25	0.013	311.25	0.002
47.50	4.570	113.50	0.640	179.50	0.094	245.50	0.013	311.50	0.002
47.75	4.514	113.75	0.636	179.75	0.093	245.75	0.013	311.75	0.002
48.00	4.459	114.00	0.631	180.00	0.092	246.00	0.013	312.00	0.002
48.25	4.406	114.25	0.627	180.25	0.092	246.25	0.013	312.25	0.002
48.50	4.355	114.50	0.623	180.50	0.091	246.50	0.012	312.50	0.002
48.75	4.304	114.75	0.618	180.75	0.090	246.75	0.012	312.75	0.002
49.00	4.255	115.00	0.614	181.00	0.090	247.00	0.012	313.00	0.002
49.25	4.208	115.25	0.609	181.25	0.089	247.25	0.012	313.25	0.002
49.50	4.162	115.50	0.605	181.50	0.088	247.50	0.012	313.50	0.002
49.75	4.116	115.75	0.601	181.75	0.088	247.75	0.012	313.75	0.002
50.00	4.072	116.00	0.596	182.00	0.087	248.00	0.012	314.00	0.002
50.25	4.029	116.25	0.592	182.25	0.086	248.25	0.012	314.25	0.002
50.50	3.987	116.50	0.588	182.50	0.086	248.50	0.012	314.50	0.002
50.75	3.946	116.75	0.584	182.75	0.085	248.75	0.012	314.75	0.002
51.00	3.906	117.00	0.580	183.00	0.084	249.00	0.012	315.00	0.002
51.25	3.867	117.25	0.576	183.25	0.084	249.25	0.011	315.25	0.002
51.50	3.829	117.50	0.572	183.50	0.083	249.50	0.011	315.50	0.002
51.75	3.792	117.75	0.567	183.75	0.083	249.75	0.011	315.75	0.001
52.00	3.755	118.00	0.563	184.00	0.082	250.00	0.011	316.00	0.001
52.25	3.719	118.25	0.559	184.25	0.081	250.25	0.011	316.25	0.001
52.50	3.684	118.50	0.555	184.50	0.081	250.50	0.011	316.50	0.001
52.75	3.650	118.75	0.551	184.75	0.080	250.75	0.011	316.75	0.001
53.00	3.616	119.00	0.548	185.00	0.080	251.00	0.011	317.00	0.001
53.25	3.583	119.25	0.544	185.25	0.079	251.25	0.011	317.25	0.001
53.50	3.551	119.50	0.540	185.50	0.078	251.50	0.011	317.50	0.001
53.75	3.519	119.75	0.536	185.75	0.078	251.75	0.011	317.75	0.001
54.00	3.488	120.00	0.532	186.00	0.077	252.00	0.011	318.00	0.001
54.25	3.457	120.25	0.528	186.25	0.077	252.25	0.010	318.25	0.001
54.50	3.427	120.50	0.525	186.50	0.076	252.50	0.010	318.50	0.001
54.75	3.398	120.75	0.521	186.75	0.075	252.75	0.010	318.75	0.001
55.00	3.369	121.00	0.517	187.00	0.075	253.00	0.010	319.00	0.001
55.25	3.340	121.25	0.513	187.25	0.074	253.25	0.010	319.25	0.001
55.50	3.312	121.50	0.510	187.50	0.074	253.50	0.010	319.50	0.001
55.75	3.285	121.75	0.506	187.75	0.073	253.75	0.010	319.75	0.001
56.00	3.258	122.00	0.503	188.00	0.073	254.00	0.010	320.00	0.001
56.25	3.231	122.25	0.499	188.25	0.072	254.25	0.010	320.25	0.001
56.50	3.204	122.50	0.495	188.50	0.072	254.50	0.010	320.50	0.001
56.75	3.179	122.75	0.492	188.75	0.071	254.75	0.010	320.75	0.001
57.00	3.153	123.00	0.488	189.00	0.071	255.00	0.010	321.00	0.001
57.25	3.128	123.25	0.485	189.25	0.070	255.25	0.010	321.25	0.001
57.50	3.103	123.50	0.481	189.50	0.070	255.50	0.009	321.50	0.001
57.75	3.079	123.75	0.478	189.75	0.069	255.75	0.009	321.75	0.001
58.00	3.055	124.00	0.475	190.00	0.069	256.00	0.009	322.00	0.001
58.25	3.031	124.25	0.471	190.25	0.068	256.25	0.009	322.25	0.001
58.50	3.007	124.50	0.468	190.50	0.068	256.50	0.009	322.50	0.001
58.75	2.984	124.75	0.464	190.75	0.067	256.75	0.009	322.75	0.001
59.00	2.961	125.00	0.461	191.00	0.067	257.00	0.009	323.00	0.001
59.25	2.939	125.25	0.458	191.25	0.066	257.25	0.009	323.25	0.001
59.50	2.916	125.50	0.455	191.50	0.066	257.50	0.009	323.50	0.001
59.75	2.894	125.75	0.451	191.75	0.065	257.75	0.009	323.75	0.001
60.00	2.873	126.00	0.448	192.00	0.065	258.00	0.009	324.00	0.001
60.25	2.851	126.25	0.445	192.25	0.064	258.25	0.009	324.25	0.001
60.50	2.830	126.50	0.442	192.50	0.064	258.50	0.009	324.50	0.001
60.75	2.809	126.75	0.439	192.75	0.063	258.75	0.009	324.75	0.001
61.00	2.788	127.00	0.435	193.00	0.063	259.00	0.009	325.00	0.001
61.25	2.767	127.25	0.432	193.25	0.062	259.25	0.008	325.25	0.001
61.50	2.747	127.50	0.429	193.50	0.062	259.50	0.008	325.50	0.001
61.75	2.727	127.75	0.426	193.75	0.061	259.75	0.008	325.75	0.001
62.00	2.707	128.00	0.423	194.00	0.061	260.00	0.008	326.00	0.001
62.25	2.687	128.25	0.420	194.25	0.060	260.25	0.008	326.25	0.001
62.50	2.668	128.50	0.417	194.50	0.060	260.50	0.008	326.50	0.001
62.75	2.648	128.75	0.414	194.75	0.059	260.75	0.008	326.75	0.001
63.00	2.629	129.00	0.411	195.00	0.059	261.00	0.008	327.00	0.001
63.25	2.610	129.25	0.408	195.25	0.059	261.25	0.008	327.25	0.001
63.50	2.592	129.50	0.405	195.50	0.058	261.50	0.008	327.50	0.001
63.75	2.573	129.75	0.402	195.75	0.058	261.75	0.008	327.75	0.001
64.00	2.555	130.00	0.399	196.00	0.057	262.00	0.008	328.00	0.001
64.25	2.536	130.25	0.396	196.25	0.057	262.25	0.008	328.25	0.001
64.50	2.518	130.50	0.394	196.50	0.056	262.50	0.008	328.50	0.001
64.75	2.500	130.75	0.391	196.75	0.056	262.75	0.008	328.75	0.001
65.00	2.483	131.00	0.388	197.00	0.056	263.00	0.008		
65.25	2.465	131.25	0.385	197.25	0.055	263.25	0.007		
65.50	2.448	131.50	0.382	197.50	0.055	263.50	0.007		
65.75	2.430	131.75	0.380	197.75	0.054	263.75	0.007		

ADD HYD (8188)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8186):	22248.87	143.859	14.00	32.92
+ ID2= 2 (8190):	1908.71	13.625	9.50	28.27
ID = 3 (8188):	24157.57	153.790	13.50	32.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (4462)	Area	(ha)=1366.10	Curve Number	(CN)= 61.0	
ID= 1 DT=15.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)=	4.22			

Unit Hyd Qpeak (cms)= 5.524

PEAK FLOW	(cms)=	5.826 (i)
TIME TO PEAK	(hrs)=	12.000
RUNOFF VOLUME	(mm)=	28.321
TOTAL RAINFALL	(mm)=	88.500
RUNOFF COEFFICIENT	=	0.320

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (4461)	Area	(ha)= 108.90			
ID= 1 DT=15.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)=	30.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	54.45	54.45	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	852.06	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		116.82	76.62	
over (min)		15.00	30.00	
Storage Coeff. (min)=		10.69 (ii)	22.59 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.09	0.04	
				TOTALS
PEAK FLOW	(cms)=	8.77	5.56	12.306 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	35.90	51.08
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.41	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5446)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.6700	2.9494
	0.3690	1.4413	1.8200	3.3343
	0.5700	1.6830	1.9700	3.7111
	1.0600	2.1139	2.3700	3.7211
	1.3800	2.4971	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4461)		108.900	12.306	6.00	51.08
OUTFLOW: ID= 1 (5446)		108.900	1.828	7.25	51.07
	PEAK FLOW REDUCTION [Qout/Qin](%)=			14.85	
	TIME SHIFT OF PEAK FLOW (min)=			75.00	
	MAXIMUM STORAGE USED (ha.m.)=			3.3560	

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| ADD HYD   (8192) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1366.10   5.826    12.00    28.32
       + ID2= 2 (5446):   108.90   1.828     7.25    51.07
         ==========================================================
         ID = 3 (8192):  1475.00   7.003    10.50    30.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 24157.57 153.790    13.50    32.55
       + ID2= 2 (8192):  1475.00   7.003    10.50    30.00
         ==========================================================
         ID = 3 (8194): 25632.58 160.032    13.50    32.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.783 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.459
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   2.661 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.335
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.886 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.821
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   2.626 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.543
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.782 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.775
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):   56.64   0.782     6.50    17.78
       + ID2= 2 (0436):  187.51   2.626     7.00    23.54
         ==========================================================
         ID = 3 (8206):  244.15   3.390     6.75    22.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                  0.00         256.00        0.0600
                  9.23         255.50        0.0600
                 27.69         255.00        0.0600
                 50.77         254.90        0.0600
                 64.62         254.85        0.0600
                 78.47         252.26        0.0600
                 96.93         249.44        0.0600
                129.24         245.94        0.0600
                145.40         245.76        0.0600
                146.20         245.80    0.0600 /0.0350  Main Channel
                146.70         245.30        0.0350      Main Channel
                147.70         245.30        0.0350      Main Channel
                148.20         245.80    0.0350 /0.0600  Main Channel
                150.01         245.78        0.0600
                152.32         245.79        0.0600
                163.86         246.72        0.0600
                175.40         249.07        0.0600
                186.94         253.15        0.0600
                196.17         255.38        0.0600
                228.48         255.55        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   245.80    .221E+04       0.9         1.02       40.44
        1.01   246.31    .352E+05      14.0         0.99       41.77
        1.53   246.83    .841E+05      47.3         1.39       29.61
        2.04   247.34    .144E+06     102.0         1.76       23.49
        2.55   247.85    .213E+06     177.3         2.07       19.99
        3.07   248.37    .291E+06     274.4         2.34       17.66
        3.58   248.88    .378E+06     394.6         2.58       15.97
        4.09   249.39    .474E+06     541.4         2.83       14.60
        4.61   249.91    .578E+06     719.9         3.08       13.38
        5.12   250.42    .688E+06     923.8         3.33       12.40
        5.63   250.93    .803E+06    1153.3         3.56       11.61
        6.14   251.44    .925E+06    1408.6         3.77       10.95
        6.66   251.96    .105E+07    1690.6         3.98       10.38
        7.17   252.47    .119E+07    2002.3         4.18        9.88
        7.68   252.98    .133E+07    2345.4         4.38        9.43
        8.20   253.50    .147E+07    2710.1         4.56        9.05
        8.71   254.01    .162E+07    3101.0         4.73        8.72
        9.22   254.52    .178E+07    3521.8         4.90        8.43
        9.74   255.04    .195E+07    3467.6         4.39        9.39

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)  (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     3.39    6.75  22.21      0.60      1.01
    OUTFLOW: ID= 1 (6438)  244.15     2.96    7.75  22.21      0.58      1.02

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| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):  130.70   1.886     6.75    20.82
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       + ID2= 2 (6438):   244.15   2.963     7.75    22.21
         ================================================
         ID = 3 (8208):   374.85   4.587     7.25    21.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   2.661     7.50    27.34
       + ID2= 2 (8208):   374.85   4.587     7.25    21.72
         ================================================
         ID = 3 (8210):   601.20   7.236     7.50    23.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   1.026 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  22.408
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.253

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   2.049 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  23.287
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.841 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  20.682
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.234

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   3.300 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.056
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   1.282 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  25.630
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   1.282     6.50    25.63
       + ID2= 2 (0426):   247.17   3.300     7.25    28.06
         ================================================
         ID = 3 (8198):   296.74   4.328     6.75    27.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (4281.0) ------>
                  Distance      Elevation        Manning
                     0.00         246.54         0.0900
                     8.80         246.29         0.0900
                    30.78         246.03         0.0900
                    41.78         243.97         0.0900
                    63.77         237.16         0.0900
                    85.76         232.53         0.0900
                    96.75         230.16         0.0900
                   109.94         228.40         0.0900
                   112.14         228.28    0.0900 /0.0450  Main Channel
                   112.84         228.00         0.0450      Main Channel
                   113.34         227.50         0.0450      Main Channel
                   114.34         227.50         0.0450      Main Channel
                   114.84         228.00         0.0450      Main Channel
                   116.54         228.29    0.0450 /0.0900  Main Channel
                   118.74         228.40         0.0900
                   120.94         228.52         0.0900
                   149.52         229.51         0.0900
                   169.31         230.69         0.0900
                   186.00         234.27         0.0900
                   217.69         243.56         0.0900

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.78   228.28    .205E+04       1.6          0.97       21.60
       1.58   229.08    .202E+05      16.6          1.02       20.37
       2.39   229.89    .665E+05      64.8          1.22       17.11
       3.19   230.69    .133E+06     158.1          1.49       14.05
       4.00   231.50    .213E+06     308.6          1.82       11.48
       4.80   232.30    .299E+06     504.9          2.11        9.89
       5.61   233.11    .394E+06     746.6          2.37        8.79
       6.41   233.91    .496E+06    1034.5          2.61        7.99
       7.21   234.71    .605E+06    1373.3          2.84        7.35
       8.02   235.52    .722E+06    1763.3          3.06        6.82
       8.82   236.32    .844E+06    2202.0          3.27        6.39
       9.63   237.13    .974E+06    2690.5          3.46        6.03
      10.43   237.93    .111E+07    3239.5          3.66        5.71
      11.23   238.73    .125E+07    3839.0          3.84        5.43
      12.04   239.54    .140E+07    4489.1          4.03        5.18
      12.84   240.34    .155E+07    5190.5          4.20        4.97
      13.65   241.15    .170E+07    5943.8          4.36        4.78
      14.45   241.95    .187E+07    6749.8          4.53        4.61
      15.26   242.76    .204E+07    7609.4          4.68        4.46

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     4.33    6.75  27.65      0.93      0.98
     OUTFLOW: ID= 1 (6428)  296.74     4.16    7.25  27.65      0.92      0.98

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.841     6.50    20.68
       + ID2= 2 (6428):   296.74   4.156     7.25    27.65
         ================================================
         ID = 3 (8200):   347.27   4.864     7.25    26.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0430):   111.64   2.049     6.50    23.29
      + ID2= 2 (8200):   347.27   4.864     7.25    26.64
        ================================================
        ID = 3 (8202):   458.91   6.730     7.00    25.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation        Manning
                 0.00         221.00         0.0600
                15.29         219.85         0.0600
                45.86         219.86         0.0600
                76.44         219.96         0.0600
               110.84         220.23         0.0600
               112.00         220.15         0.0600
               114.66         220.09         0.0600
               118.48         219.73         0.0600
               120.80         219.70    0.0600 /0.0350  Main Channel
               121.30         219.20         0.0350      Main Channel
               122.30         219.20         0.0350      Main Channel
               122.80         219.70    0.0350 /0.0600  Main Channel
               129.95         220.11         0.0600
               175.81         220.24         0.0600
               214.03         220.55         0.0600
               252.25         220.61         0.0600
               290.47         220.70         0.0600
               328.69         221.04         0.0600
               347.80         221.08         0.0600
               378.37         221.04         0.0600

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.08    219.28    .185E+03       0.0          0.23     149.38
     0.17    219.37    .399E+03       0.1          0.34     100.62
     0.25    219.45    .641E+03       0.1          0.42      80.98
     0.33    219.53    .911E+03       0.2          0.49      69.79
     0.42    219.62    .121E+04       0.3          0.55      62.35
     0.50    219.70    .154E+04       0.5          0.60      56.91
     0.61    219.81    .267E+04       0.7          0.56      61.28
     0.71    219.91    .901E+04       1.3          0.30     112.96
     0.82    220.02    .249E+05       3.4          0.28     122.71
     0.92    220.12    .452E+05       6.8          0.31     109.98
     1.03    220.23    .747E+05      12.2          0.33     102.05
     1.14    220.34    .112E+06      21.3          0.39      87.59
     1.24    220.44    .153E+06      33.0          0.44      77.01
     1.35    220.55    .196E+06      47.2          0.49      69.22
     1.46    220.66    .248E+06      62.3          0.51      66.48
     1.56    220.76    .310E+06      83.4          0.55      62.06
     1.67    220.87    .376E+06     108.8          0.59      57.56
     1.77    220.97    .444E+06     137.7          0.64      53.77
     1.88    221.08    .517E+06     163.6          0.65      52.70

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8202)  458.91    6.73    7.00  25.82      0.92      0.31
    OUTFLOW: ID= 1 (6432)  458.91    4.41    9.00  25.82      0.85      0.29
```

```
--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0432):   114.21   1.026     7.75    22.41
      + ID2= 2 (6432):   458.91   4.414     9.00    25.82
        ================================================
        ID = 3 (8204):   573.12   5.371     8.75    25.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8204):   573.12   5.371     8.75    25.14
      + ID2= 2 (8210):   601.20   7.236     7.50    23.84
        ================================================
        ID = 3 (8212):  1174.32  12.072     8.00    24.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation        Manning
                 0.00         221.00         0.0350
                26.73         220.80         0.0350
                53.47         220.60         0.0350
                66.83         220.40         0.0350
                80.20         220.20         0.0350
               347.52         220.00         0.0350
               354.21         219.59         0.0350
               360.89         219.50         0.0350
               367.57         219.08         0.0350
               368.76         219.00    0.0350 /0.0300  Main Channel
               369.26         218.50         0.0300      Main Channel
               374.26         218.50         0.0300      Main Channel
               374.76         219.00    0.0300 /0.0350  Main Channel
               380.94         220.33         0.0350
               387.62         219.62         0.0350
               394.31         219.23         0.0350
               454.45         219.07         0.0350
               514.60         219.09         0.0350
               660.00         219.19         0.0350
               661.63         221.00         0.0350

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.12    218.62    .100E+04       0.2          0.28      92.89
     0.25    218.75    .205E+04       0.6          0.43      60.09
     0.37    218.87    .315E+04       1.1          0.55      46.99
     0.50    219.00    .430E+04       1.8          0.66      39.67
     0.63    219.13    .141E+05       3.4          0.37      69.99
     0.77    219.27    .652E+05      13.7          0.33      79.14
     0.90    219.40    .124E+06      35.5          0.45      58.02
     1.03    219.53    .183E+06      65.7          0.56      46.45
     1.17    219.67    .245E+06     103.8          0.66      39.30
     1.30    219.80    .307E+06     149.3          0.76      34.30
     1.43    219.93    .371E+06     201.6          0.85      30.65
     1.57    220.07    .440E+06     256.5          0.91      28.56
     1.70    220.20    .541E+06     325.7          0.94      27.70
     1.83    220.33    .663E+06     415.2          0.98      26.62
     1.97    220.47    .787E+06     520.3          1.03      25.21
     2.10    220.60    .913E+06     638.5          1.09      23.82
     2.23    220.73    .104E+07     767.2          1.15      22.62
     2.37    220.87    .117E+07     908.0          1.21      21.54
     2.50    221.00    .131E+07    1060.7          1.27      20.57

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8212) 1174.32    12.07    8.00  24.47      0.75      0.34
    OUTFLOW: ID= 1 (6442) 1174.32    10.36    9.50  24.47      0.72      0.34
```

```
--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0442):   117.26   0.783     7.75    16.46
      + ID2= 2 (6442):  1174.32  10.360     9.50    24.47
        ================================================
        ID = 3 (8214):  1291.58  11.029     9.50    23.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8194): 25632.58 160.032    13.50    32.41
      + ID2= 2 (8214):  1291.58  11.029     9.50    23.75
        ================================================
        ID = 3 (8196): 26924.15 166.925    13.25    31.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (8444) |   Area     (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

    Unit Hyd Qpeak  (cms)=   3.656

    PEAK FLOW       (cms)=   2.441 (i)
    TIME TO PEAK    (hrs)=   7.500
```

```
     RUNOFF VOLUME    (mm)=  24.392
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   2.441     7.50    24.39
       + ID2= 2 (8196): 26924.15 166.925    13.25    31.99
         ================================================
         ID = 3 (8216): 27145.80 167.692    13.25    31.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
================================================================================================
```

EXISTING
EAST HOLLAND RIVER REGIONAL STORM (RF1000)

```
================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\b8b87b6c-95e8-4f32-be02-029672ef5e41\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\b8b87b6c-95e8-4f32-be02-029672ef5e41\Scenario.sum


DATE: 08/22/2012                          TIME: 02:18:26

USER:


COMMENTS: _____________________________________________________


--------------------------------------------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              b8b87b6c-95e8-4f32-be02-029672ef5e41\7f992cf3
| Ptotal=212.00 mm |    Comments: 12-Hour Hurricane Hazel
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    6.00 |  3.25   13.00 |  6.25   23.00 |  9.25   53.00
                0.50    6.00 |  3.50   13.00 |  6.50   23.00 |  9.50   53.00
                0.75    6.00 |  3.75   13.00 |  6.75   23.00 |  9.75   53.00
                1.00    6.00 |  4.00   13.00 |  7.00   23.00 | 10.00   53.00
                1.25    4.00 |  4.25   17.00 |  7.25   13.00 | 10.25   38.00
                1.50    4.00 |  4.50   17.00 |  7.50   13.00 | 10.50   38.00
                1.75    4.00 |  4.75   17.00 |  7.75   13.00 | 10.75   38.00
                2.00    4.00 |  5.00   17.00 |  8.00   13.00 | 11.00   38.00
                2.25    6.00 |  5.25   13.00 |  8.25   13.00 | 11.25   13.00
                2.50    6.00 |  5.50   13.00 |  8.50   13.00 | 11.50   13.00
                2.75    6.00 |  5.75   13.00 |  8.75   13.00 | 11.75   13.00
                3.00    6.00 |  6.00   13.00 |  9.00   13.00 | 12.00   13.00

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-------------------
| CALIB            |
| STANDHYD  (2021) |   Area    (ha)=  91.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  24.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.48         54.72
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     779.74         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         65.39
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.90 (ii)    26.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.19          8.76        11.930 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00        182.67        189.23
     TOTAL RAINFALL   (mm)=     212.00        212.00        212.00
     RUNOFF COEFFICIENT   =       0.99          0.86          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.4    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (2022)	Area (ha)= 377.30				
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 34.00			
	IMPERVIOUS	PERVIOUS (i)			
Surface Area (ha)=	215.06	162.24			
Dep. Storage (mm)=	2.00	5.00			
Average Slope (%)=	0.50	0.50			
Length (m)=	1585.98	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	53.00	79.83			
over (min)	15.00	45.00			
Storage Coeff. (min)=	21.29 (ii)	32.99 (ii)			
Unit Hyd. Tpeak (min)=	15.00	45.00			
Unit Hyd. peak (cms)=	0.06	0.03			
			TOTALS		
PEAK FLOW (cms)=	18.04	29.96	45.821 (iii)		
TIME TO PEAK (hrs)=	10.00	10.50	10.00		
RUNOFF VOLUME (mm)=	210.00	187.33	195.04		
TOTAL RAINFALL (mm)=	212.00	212.00	212.00		
RUNOFF COEFFICIENT =	0.99	0.88	0.92		

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8110)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (2021):	91.20	11.930	10.00	189.23	
+ ID2= 2 (2022):	377.30	45.821	10.00	195.04	
ID = 3 (8110):	468.50	57.751	10.00	193.91	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0102)	Area (ha)= 466.00				
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 9.00			
	IMPERVIOUS	PERVIOUS (i)			
Surface Area (ha)=	107.18	358.82			
Dep. Storage (mm)=	2.00	5.00			
Average Slope (%)=	0.50	0.50			
Length (m)=	1762.57	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	53.00	53.09			
over (min)	30.00	45.00			
Storage Coeff. (min)=	22.68 (ii)	36.46 (ii)			
Unit Hyd. Tpeak (min)=	30.00	45.00			
Unit Hyd. peak (cms)=	0.04	0.03			
			TOTALS		
PEAK FLOW (cms)=	5.66	42.62	47.639 (iii)		
TIME TO PEAK (hrs)=	10.00	10.50	10.50		
RUNOFF VOLUME (mm)=	210.00	142.06	148.17		
TOTAL RAINFALL (mm)=	212.00	212.00	212.00		
RUNOFF COEFFICIENT =	0.99	0.67	0.70		

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0100)	Area (ha)= 693.84	Curve Number (CN)= 59.7	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.95		

Unit Hyd Qpeak (cms)= 6.087

PEAK FLOW (cms)= 23.121 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 112.790
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.532

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8000)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0100):	693.84	23.121	12.00	112.79	
+ ID2= 2 (0102):	466.00	47.639	10.50	148.17	
ID = 3 (8000):	1159.84	65.982	11.00	127.01	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6104)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	
	<------ DATA FOR SECTION (1041.0) ------>	
	Distance Elevation Manning	
	0.00 330.16 0.0450	
	50.03 328.36 0.0450	
	89.34 326.33 0.0450	
	117.94 324.30 0.0450	
	160.82 322.75 0.0450	
	178.34 319.96 0.0450	
	183.34 319.81 0.0450	
	184.34 319.38 0.0450 /0.0300 Main Channel	
	185.09 318.78 0.0300 Main Channel	
	185.84 318.72 0.0300 Main Channel	
	186.84 319.32 0.0300 /0.0450 Main Channel	
	193.84 319.70 0.0450	
	198.84 320.38 0.0450	
	200.13 320.81 0.0450	
	218.00 322.49 0.0450	
	239.44 323.49 0.0450	
	250.17 323.96 0.0450	
	275.18 325.20 0.0450	
	310.92 326.47 0.0450	
	353.81 330.00 0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	319.02	.624E+03	0.1	0.45	73.00
0.60	319.32	.181E+04	0.6	0.67	49.46
1.23	319.95	.128E+05	4.9	0.77	43.38
1.86	320.58	.396E+05	19.1	0.96	34.50
2.48	321.20	.757E+05	43.5	1.15	28.98
3.11	321.83	.125E+06	81.2	1.30	25.58
3.74	322.46	.187E+06	135.9	1.45	22.92
4.37	323.09	.269E+06	195.6	1.45	22.90
5.00	323.72	.387E+06	287.8	1.48	22.44
5.63	324.35	.545E+06	428.4	1.56	21.22
6.25	324.97	.735E+06	630.5	1.71	19.42
6.88	325.60	.952E+06	876.1	1.83	18.12
7.51	326.23	.120E+07	1177.0	1.95	17.03
8.14	326.86	.149E+07	1554.4	2.08	15.93
8.77	327.49	.179E+07	2009.7	2.23	14.88
9.40	328.12	.213E+07	2533.9	2.37	13.99
10.02	328.74	.249E+07	3112.6	2.49	13.31
10.65	329.37	.288E+07	3760.9	2.60	12.75
11.28	330.00	.330E+07	4494.8	2.71	12.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8000)	1159.84	65.98	11.00	127.01	2.86	1.23
OUTFLOW: ID= 1 (6104)	1159.84	63.65	11.25	127.01	2.81	1.22

CALIB			
NASHYD (0104)	Area (ha)= 527.81	Curve Number (CN)= 62.6	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.34		

Unit Hyd Qpeak (cms)= 6.735

PEAK FLOW (cms)= 23.631 (i)
TIME TO PEAK (hrs)= 11.750
RUNOFF VOLUME (mm)= 118.649
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.560

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0104):   527.81  23.631    11.75   118.65
       + ID2= 2 (6104):  1159.84  63.646    11.25   127.01
         ====================================================
         ID = 3 (8002):  1687.65  86.922    11.25   124.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0106) |   Area    (ha)= 259.52   Curve Number   (CN)= 74.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   3.614

     PEAK FLOW       (cms)=  14.485 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 144.001
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.679

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0106):   259.52  14.485    11.50   144.00
       + ID2= 2 (8002):  1687.65  86.922    11.25   124.39
         ====================================================
         ID = 3 (8004):  1947.17 101.361    11.25   127.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1081.0) ------>
               Distance      Elevation       Manning
                  0.00         326.06        0.0400
                 12.06         325.74        0.0400
                 30.15         324.28        0.0400
                 59.27         320.35        0.0400
                 72.37         317.60        0.0400
                 87.45         314.52        0.0400
                 93.48         313.91        0.0400
                105.54         313.55        0.0400
                106.17         313.40    0.0400 /0.0300  Main Channel
                110.62         313.04        0.0300      Main Channel
                110.82         312.97        0.0300      Main Channel
                111.57         313.08        0.0300      Main Channel
                111.67         313.48    0.0300 /0.0400  Main Channel
                129.66         316.62        0.0400
                150.77         318.95        0.0400
                180.92         319.61        0.0400
                205.04         321.23        0.0400
                232.18         322.09        0.0400
                268.37         322.31        0.0400
                298.52         326.00        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
        0.43   313.40    .244E+04         0.7         0.59      58.83
        1.09   314.06    .214E+05        10.4         1.01      34.24
        1.76   314.73    .600E+05        40.2         1.39      24.89
        2.42   315.39    .109E+06        92.1         1.75      19.80
        3.08   316.05    .169E+06       166.5         2.05      16.88
        3.75   316.72    .237E+06       264.4         2.31      14.97
        4.41   317.38    .318E+06       386.3         2.52      13.72
        5.07   318.04    .411E+06       539.3         2.72      12.71
        5.74   318.71    .517E+06       725.5         2.91      11.88
        6.40   319.37    .642E+06       909.2         2.94      11.77
        7.06   320.03    .806E+06      1179.3         3.04      11.38
        7.72   320.69    .989E+06      1515.9         3.18      10.87
        8.39   321.36    .119E+07      1895.5         3.30      10.49
        9.05   322.02    .143E+07      2310.2         3.36      10.30
        9.71   322.68    .172E+07      2763.2         3.33      10.39
       10.38   323.35    .205E+07      3477.6         3.53       9.81
       11.04   324.01    .238E+07      4284.3         3.73       9.27
       11.70   324.67    .274E+07      5154.0         3.91       8.85
       12.37   325.34    .311E+07      6104.0         4.08       8.48

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (8004) 1947.17   101.36   11.25 127.01      2.50      1.78
     OUTFLOW: ID= 1 (6108) 1947.17    99.83   11.50 127.01      2.49      1.78

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--------------------
| CALIB            |
| NASHYD    (0108) |   Area    (ha)= 207.05   Curve Number   (CN)= 45.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.432

     PEAK FLOW       (cms)=   7.761 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)=  82.796
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0108):   207.05   7.761    11.50    82.80
       + ID2= 2 (6108):  1947.17  99.827    11.50   127.01
         ====================================================
         ID = 3 (8006):  2154.22 107.588    11.50   122.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0110) |   Area    (ha)= 323.92   Curve Number   (CN)= 70.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   4.087

     PEAK FLOW       (cms)=  16.234 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 135.883
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.641

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0110):   323.92  16.234    11.75   135.88
       + ID2= 2 (8006):  2154.22 107.588    11.50   122.76
         ====================================================
         ID = 3 (8008):  2478.14 123.796    11.50   124.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                  0.00         320.59        0.0400
                 13.48         317.93        0.0400
                 40.45         311.52        0.0400
                 64.04         307.68        0.0400
                 74.15         307.01        0.0400
                 91.00         307.22        0.0400
                107.86         305.21        0.0400
                111.23         304.86        0.0400
                113.32         304.60    0.0400 /0.0300  Main Channel
                117.77         304.24        0.0300      Main Channel
                117.97         304.17        0.0300      Main Channel
                118.72         304.28        0.0300      Main Channel
                118.82         304.68    0.0300 /0.0400  Main Channel
                124.71         304.76        0.0400
                171.90         306.30        0.0400
                205.60         307.24        0.0400
                239.31         308.24        0.0400
                262.90         310.64        0.0400
                289.86         314.34        0.0400
                333.68         317.66        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)        (m/s)      (min)
```

0.43	304.60	.372E+04	0.6	0.54	97.65
1.12	305.29	.463E+05	12.5	0.85	61.89
1.80	305.97	.149E+06	53.0	1.13	46.85
2.49	306.66	.311E+06	134.2	1.37	38.62
3.18	307.35	.554E+06	261.6	1.50	35.27
3.87	308.04	.894E+06	490.7	1.74	30.37
4.55	308.72	.129E+07	833.0	2.05	25.75
5.24	309.41	.171E+07	1269.8	2.36	22.39
5.93	310.10	.215E+07	1789.0	2.64	20.01
6.62	310.79	.261E+07	2392.7	2.90	18.21
7.30	311.47	.310E+07	3087.8	3.16	16.74
7.99	312.16	.361E+07	3873.6	3.40	15.52
8.68	312.85	.413E+07	4741.0	3.64	14.52
9.37	313.54	.467E+07	5689.3	3.86	13.69
10.05	314.22	.523E+07	6718.4	4.07	12.97
10.74	314.91	.581E+07	7770.7	4.24	12.46
11.43	315.60	.641E+07	8897.5	4.40	12.01
12.12	316.29	.704E+07	10113.2	4.55	11.61
12.80	316.97	.770E+07	11420.1	4.70	11.24

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8008)	2478.14	123.80	11.50	124.47	2.40	1.33
OUTFLOW:	ID= 1 (6112)	2478.14	116.99	12.00	124.47	2.35	1.31

CALIB				
NASHYD	(0112)	Area (ha)= 414.89	Curve Number (CN)= 49.9	
ID= 1 DT=15.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
		U.H. Tp(hrs)= 1.91		

Unit Hyd Qpeak (cms)= 3.699

PEAK FLOW (cms)= 11.571 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 92.383
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(8010)				
1 +	2 =	3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1	(0112):	414.89	11.571	12.00	92.38
+ ID2=	2	(6112):	2478.14	116.991	12.00	124.47
ID =	3	(8010):	2893.03	128.562	12.00	119.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN	(6114)		
IN= 2--->	OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (1141.0) ------>

Distance	Elevation	Manning	
0.00	312.27	0.0500	
14.07	309.70	0.0500	
28.14	306.51	0.0500	
35.17	305.81	0.0500	
42.20	304.95	0.0500	
52.75	304.24	0.0500	
77.37	303.61	0.0500	
98.47	301.33	0.0500	
131.76	300.40	0.0500 /0.0300	Main Channel
136.21	300.04	0.0300	Main Channel
136.41	299.97	0.0300	Main Channel
137.16	300.08	0.0300	Main Channel
137.26	300.48	0.0300 /0.0500	Main Channel
140.68	300.53	0.0500	
179.36	302.20	0.0500	
214.53	303.82	0.0500	
242.66	305.27	0.0500	
288.38	307.66	0.0500	
316.52	311.76	0.0500	
348.17	313.48	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	300.40	.366E+04	0.7	0.59	88.31
1.05	301.02	.505E+05	12.1	0.75	69.49
1.68	301.65	.165E+06	52.7	0.99	52.28
2.30	302.27	.324E+06	130.3	1.26	41.40
2.93	302.90	.520E+06	247.1	1.48	35.08
3.55	303.52	.754E+06	406.8	1.68	30.91
4.18	304.15	.104E+07	586.1	1.76	29.55
4.80	304.77	.138E+07	856.0	1.93	26.96
5.43	305.40	.177E+07	1201.1	2.12	24.56
6.05	306.02	.219E+07	1612.2	2.30	22.63
6.68	306.65	.264E+07	2090.6	2.47	21.07
7.30	307.27	.313E+07	2653.0	2.64	19.65
7.93	307.90	.364E+07	3303.9	2.83	18.36
8.55	308.52	.417E+07	4053.9	3.03	17.14
9.18	309.15	.471E+07	4871.9	3.22	16.12
9.80	309.77	.527E+07	5756.2	3.41	15.25
10.43	310.40	.584E+07	6699.8	3.58	14.52
11.05	311.02	.642E+07	7710.5	3.74	13.89
11.68	311.65	.702E+07	8788.5	3.90	13.32

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8010)	2893.03	128.56	12.00	119.87	2.29	1.25
OUTFLOW:	ID= 1 (6114)	2893.03	122.65	12.50	119.87	2.24	1.22

CALIB				
NASHYD	(0114)	Area (ha)= 287.65	Curve Number (CN)= 69.3	
ID= 1 DT=15.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
		U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 4.389

PEAK FLOW (cms)= 15.808 (i)
TIME TO PEAK (hrs)= 11.250
RUNOFF VOLUME (mm)= 132.945
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.627

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(8012)				
1 +	2 =	3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1	(0114):	287.65	15.808	11.25	132.95
+ ID2=	2	(6114):	2893.03	122.654	12.50	119.87
ID =	3	(8012):	3180.68	136.686	12.50	121.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD	(0116)	Area (ha)= 206.43	Curve Number (CN)= 81.3	
ID= 1 DT=15.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
		U.H. Tp(hrs)= 0.80		

Unit Hyd Qpeak (cms)= 4.394

PEAK FLOW (cms)= 15.661 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 159.152
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.751

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(8014)				
1 +	2 =	3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1	(0116):	206.43	15.661	11.00	159.15
+ ID2=	2	(8012):	3180.68	136.686	12.50	121.05
ID =	3	(8014):	3387.11	148.961	12.25	123.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN	(6118)		
IN= 2--->	OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (1181.0) ------>

Distance	Elevation	Manning
0.00	307.18	0.0450
24.89	299.75	0.0450
37.34	296.39	0.0450
71.57	292.75	0.0450
96.46	291.12	0.0450
108.90	289.43	0.0450
112.02	288.86	0.0450
115.13	288.46	0.0450

```
                117.24        288.32    0.0450 /0.0350  Main Channel
                117.49        288.15        0.0350      Main Channel
                118.24        288.00        0.0350      Main Channel
                118.99        288.20        0.0350      Main Channel
                119.24        288.36    0.0350 /0.0450  Main Channel
                121.35        288.40        0.0450
                149.35        289.36        0.0450
                171.14        290.47        0.0450
                208.47        293.14        0.0450
                236.48        295.17        0.0450
                280.04        299.48        0.0450
                308.04        307.00        0.0450

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.32   288.32    .116E+04         0.2         0.62      81.92
        1.30   289.30    .631E+05        22.2         1.07      47.43
        2.29   290.29    .218E+06       117.5         1.64      30.95
        3.27   291.27    .448E+06       314.6         2.15      23.72
        4.25   292.25    .756E+06       625.6         2.53      20.13
        5.24   293.24    .115E+07      1093.2         2.91      17.50
        6.22   294.22    .161E+07      1731.6         3.28      15.50
        7.20   295.20    .214E+07      2547.4         3.63      14.01
        8.19   296.19    .274E+07      3584.9         4.00      12.72
        9.17   297.17    .338E+07      4859.1         4.39      11.60
       10.15   298.15    .407E+07      6341.5         4.76      10.70
       11.13   299.13    .480E+07      8024.6         5.11       9.97
       12.12   300.12    .556E+07     10006.6         5.49       9.27
       13.10   301.10    .635E+07     12244.6         5.89       8.64
       14.08   302.08    .716E+07     14681.7         6.26       8.13
       15.07   303.07    .799E+07     17316.5         6.62       7.69
       16.05   304.05    .884E+07     20148.1         6.96       7.31
       17.03   305.03    .971E+07     23176.2         7.29       6.98
       18.02   306.02    .106E+08     26400.8         7.61       6.69

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11   148.96   12.25 123.37      2.44      1.71
     OUTFLOW: ID= 1 (6118) 3387.11   145.42   12.75 123.37      2.42      1.70


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0118) |   Area     (ha)= 340.53   Curve Number   (CN)= 64.6
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=  17.459 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 122.703
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.579

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0118):   340.53  17.459    11.50   122.70
        + ID2= 2 (6118):  3387.11 145.423    12.75   123.37
          ==========================================================
          ID = 3 (8016):  3727.64 160.104    12.50   123.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.50   259.80    .626E+04         2.5         1.23      41.35
        1.41   260.71    .462E+05        21.8         1.44      35.27
        2.31   261.61    .149E+06        79.6         1.63      31.19
        3.22   262.52    .340E+06       200.1         1.80      28.34
        4.12   263.42    .636E+06       446.8         2.15      23.71
        5.03   264.33    .995E+06       819.9         2.52      20.23
        5.93   265.23    .141E+07      1337.0         2.90      17.56
        6.84   266.14    .187E+07      1984.8         3.25      15.67
        7.74   267.04    .237E+07      2766.0         3.57      14.26
        8.65   267.95    .292E+07      3596.9         3.76      13.53
        9.55   268.85    .355E+07      4575.4         3.93      12.95
       10.46   269.76    .427E+07      5814.9         4.16      12.23
       11.36   270.66    .503E+07      7319.0         4.44      11.46
       12.27   271.57    .584E+07      9009.7         4.71      10.81
       13.17   272.47    .670E+07     10886.3         4.96      10.26
       14.08   273.38    .761E+07     12893.2         5.17       9.84
       14.98   274.28    .858E+07     15098.1         5.37       9.48
       15.89   275.19    .961E+07     17527.6         5.57       9.14
       16.79   276.09    .107E+08     20190.3         5.76       8.83

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64   160.10   12.50 123.31      2.92      1.74
     OUTFLOW: ID= 1 (6122) 3727.64   156.58   13.00 123.31      2.89      1.73


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--------------------
| CALIB            |
| STANDHYD  (1221) |   Area     (ha)=  17.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.37         11.33
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     343.51         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         48.94
               over (min)        15.00         30.00
     Storage Coeff. (min)=       8.50 (ii)   22.74 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.49          1.36          1.838 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.25          10.00
     RUNOFF VOLUME    (mm)=    210.00        116.69         134.42
     TOTAL RAINFALL   (mm)=    212.00        212.00         212.00
     RUNOFF COEFFICIENT   =      0.99          0.55           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (1222) |   Area     (ha)= 347.20   Curve Number   (CN)= 60.6
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   3.887

     PEAK FLOW       (cms)=  13.912 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 114.514
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.540

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1221):    17.70   1.838    10.00   134.42
```

```
       + ID2= 2 (1222):   347.20  13.912    12.00   114.51
         ==================================================
         ID = 3 (8018):   364.90  14.643    11.25   115.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64 156.583    13.00   123.31
       + ID2= 2 (8018):   364.90  14.643    11.25   115.48
         ==================================================
         ID = 3 (8020):  4092.54 169.052    13.00   122.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1261) |   Area    (ha)=  50.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.00        32.00
     Dep.  Storage    (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     577.35        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        51.13
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.61 (ii)   25.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.91         3.97         5.825 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25        10.00
     RUNOFF VOLUME    (mm)=     210.00       138.87       157.36
     TOTAL RAINFALL   (mm)=     212.00       212.00       212.00
     RUNOFF COEFFICIENT   =       0.99         0.66         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  68.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (1262) |   Area    (ha)=  83.50   Curve Number   (CN)= 75.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   2.523

     PEAK FLOW       (cms)=   6.883 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 144.982
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.684

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1261):    50.00   5.825    10.00   157.36
       + ID2= 2 (1262):    83.50   6.883    11.00   144.98
         ==================================================
         ID = 3 (8024):   133.50  11.741    11.00   149.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 63.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   8.855 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 117.847
     TOTAL RAINFALL   (mm)= 212.000

     RUNOFF COEFFICIENT   =   0.556

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   8.855    11.00   117.85
       + ID2= 2 (8024):   133.50  11.741    11.00   149.62
         ==================================================
         ID = 3 (8026):   254.93  20.597    11.00   134.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                   0.00         270.58        0.0400
                   7.71         270.36        0.0400
                  15.43         269.48        0.0400
                  23.14         265.88        0.0400
                  42.43         261.83        0.0400
                  61.71         258.31        0.0400
                  75.21         256.62        0.0400
                  90.64         255.35        0.0400
                  92.49         255.00   0.0400 /0.0300  Main Channel
                  93.49         254.00        0.0300     Main Channel
                  94.49         253.90        0.0300     Main Channel
                  94.99         253.80        0.0300     Main Channel
                  95.49         253.70        0.0300     Main Channel
                  95.99         253.80        0.0300     Main Channel
                  98.49         255.00   0.0300 /0.0400  Main Channel
                 100.28         255.44        0.0400
                 134.99         257.45        0.0400
                 148.49         259.67        0.0400
                 167.77         263.42        0.0400
                 190.92         270.00        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.65    254.35    .439E+04        2.0         1.24       36.10
       1.30    255.00    .131E+05        9.4         1.92       23.39
       2.18    255.88    .433E+05       37.0         2.30       19.54
       3.06    256.76    .131E+06      113.3         2.34       19.20
       3.95    257.65    .273E+06      273.8         2.70       16.64
       4.83    258.53    .453E+06      538.5         3.21       14.01
       5.71    259.41    .658E+06      902.9         3.70       12.14
       6.59    260.29    .886E+06     1368.4         4.16       10.79
       7.48    261.18    .114E+07     1936.3         4.59        9.79
       8.36    262.06    .141E+07     2610.9         4.99        9.01
       9.24    262.94    .171E+07     3398.7         5.37        8.36
      10.12    263.82    .202E+07     4309.6         5.75        7.81
      11.01    264.71    .235E+07     5347.5         6.13        7.33
      11.89    265.59    .270E+07     6501.0         6.48        6.93
      12.77    266.47    .307E+07     7808.6         6.86        6.55
      13.65    267.35    .345E+07     9250.5         7.23        6.21
      14.54    268.24    .384E+07    10808.3         7.59        5.92
      15.42    269.12    .424E+07    12482.5         7.94        5.66
      16.30    270.00    .466E+07    14127.4         8.18        5.49

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.93   20.60   11.00 134.48      1.66      2.06
     OUTFLOW: ID= 1 (6128)  254.93   19.87   11.00 134.48      1.64      2.05


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-------------------
| CALIB             |
| NASHYD    (0128) |   Area    (ha)= 240.24   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=  15.900 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 154.028
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.727

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8028) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   240.24  15.900    11.25   154.03
       + ID2= 2 (6128):   254.93  19.873    11.00   134.48
         ================================================
         ID = 3 (8028):   495.17  35.722    11.00   143.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.54 169.052    13.00   122.62
       + ID2= 2 (8028):   495.17  35.722    11.00   143.97
         ================================================
         ID = 3 (8022):  4587.71 190.592    12.75   124.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)=  86.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  14.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         55.04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     757.19         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         61.34
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.66 (ii)    26.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.76          8.17          9.802 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00        145.75        154.74
     TOTAL RAINFALL   (mm)=     212.00        212.00        212.00
     RUNOFF COEFFICIENT   =       0.99          0.69          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  67.9    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (1202) |   Area    (ha)= 161.00   Curve Number   (CN)= 75.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.932

     PEAK FLOW       (cms)=  12.223 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 145.706
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.687

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1201):    86.00   9.802    10.00   154.74
       + ID2= 2 (1202):   161.00  12.223    11.00   145.71
         ================================================
         ID = 3 (8030):   247.00  20.664    11.00   148.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.71 190.592    12.75   124.92
       + ID2= 2 (8030):   247.00  20.664    11.00   148.85
         ================================================
         ID = 3 (8032):  4834.71 200.104    12.50   126.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (1301.0) ------>
                Distance      Elevation        Manning
                   0.00         257.18         0.0350
                  62.45         254.70         0.0350
                 109.29         252.74         0.0350
                 150.92         251.55         0.0350
                 192.56         248.96         0.0350
                 239.39         247.16         0.0350
                 291.84         246.00         0.0350
                 296.84         245.00         0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60         0.0300      Main Channel
                 301.84         244.60         0.0300      Main Channel
                 303.44         244.60         0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00         0.0350
                 309.84         246.00         0.0350
                 317.46         247.22         0.0350
                 348.68         254.83         0.0350
                 359.09         256.70         0.0350
                 452.76         258.23         0.0350
                 515.22         258.33         0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   245.00    .870E+04       1.2          0.64     124.12
      1.04   245.64    .468E+05       9.5          0.96      81.81
      1.68   246.28    .109E+06      25.6          1.11      70.86
      2.32   246.92    .257E+06      63.5          1.17      67.51
      2.96   247.56    .498E+06     142.7          1.36      58.18
      3.61   248.21    .800E+06     266.7          1.58      50.01
      4.25   248.85    .116E+07     437.4          1.78      44.24
      4.89   249.49    .157E+07     669.1          2.01      39.20
      5.53   250.13    .203E+07     954.9          2.23      35.36
      6.17   250.77    .252E+07    1294.4          2.43      32.42
      6.81   251.41    .305E+07    1689.6          2.62      30.07
      7.45   252.05    .363E+07    2090.7          2.73      28.93
      8.09   252.69    .429E+07    2553.1          2.82      27.98
      8.73   253.33    .501E+07    3138.4          2.96      26.60
      9.37   253.97    .579E+07    3803.8          3.11      25.36
     10.02   254.62    .662E+07    4549.3          3.25      24.25
     10.66   255.26    .751E+07    5364.9          3.38      23.32
     11.30   255.90    .845E+07    6265.7          3.51      22.49
     11.94   256.54    .946E+07    7260.1          3.63      21.72

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.71   200.10   12.50 126.14      3.26      1.45
     OUTFLOW: ID= 1 (6130) 4834.71   189.83   13.25 126.14      3.21      1.43

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| CALIB             |
| STANDHYD  (1301) |   Area    (ha)= 228.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.39         79.91
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1233.69         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         78.80
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      18.31 (ii)    30.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      15.35         14.84         29.249 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00        187.56        198.10
     TOTAL RAINFALL   (mm)=     212.00        212.00        212.00
     RUNOFF COEFFICIENT   =       0.99          0.88          0.93

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.7    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB           |
| NASHYD   (1302) |   Area    (ha)= 157.80   Curve Number   (CN)= 88.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.82

     Unit Hyd Qpeak  (cms)=   1.479

     PEAK FLOW       (cms)=   8.249 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 178.508
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.842

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1301):   228.30  29.249    10.00   198.10
       + ID2= 2 (1302):   157.80   8.249    12.00   178.51
         ================================================
         ID = 3 (8036):   386.10  35.168    10.00   190.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.71 189.834    13.25   126.14
       + ID2= 2 (8036):   386.10  35.168    10.00   190.10
         ================================================
         ID = 3 (8034):  5220.81 198.568    13.00   130.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0188) |   Area    (ha)= 308.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.50       182.03
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1434.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        61.65
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      32.48 (ii)   53.52 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.72        23.10        31.864 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.75         10.75
     RUNOFF VOLUME    (mm)=     209.00       162.09        173.82
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.76          0.82


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0186) |   Area    (ha)= 351.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  22.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75       204.04
     Dep. Storage     (mm)=       3.00         5.00
     Average Slope     (%)=       0.10         0.10
     Length            (m)=    1531.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        62.85
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      33.78 (ii)   54.66 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.03         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.68        26.21        34.971 (iii)
     TIME TO PEAK    (hrs)=      10.25        11.00         10.75
     RUNOFF VOLUME    (mm)=     209.00       152.98        165.31
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.72          0.78


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0186):   351.79  34.971    10.75   165.31
       + ID2= 2 (0188):   308.53  31.864    10.75   173.82
         ================================================
         ID = 3 (8068):   660.32  66.835    10.75   169.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        65.38
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.78 (ii)   27.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.76        10.59         13.197 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00       153.83        163.38
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.73          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 75.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   3.182 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 145.213
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.685

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1821):   111.80  13.197    10.00   163.38
       + ID2= 2 (1822):    44.40   3.182    11.00   145.21
         ================================================
         ID = 3 (8062):   156.20  15.644    10.00   158.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1841) |   Area    (ha)= 144.40
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|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.31         75.09
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     981.16         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         76.69
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.96 (ii)    27.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.97         13.93      17.727 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25       10.00
     RUNOFF VOLUME    (mm)=     210.00        165.30      173.79
     TOTAL RAINFALL   (mm)=     212.00        212.00      212.00
     RUNOFF COEFFICIENT   =       0.99          0.78        0.82

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1842) |   Area    (ha)= 118.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.60         68.50
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     887.32         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         69.73
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.02 (ii)    27.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.91         11.57      14.353 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25       10.00
     RUNOFF VOLUME    (mm)=     210.00        162.04      170.19
     TOTAL RAINFALL   (mm)=     212.00        212.00      212.00
     RUNOFF COEFFICIENT   =       0.99          0.76        0.80

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1841):   144.40  17.727    10.00   173.79
       + ID2= 2 (1842):   118.10  14.353    10.00   170.19
         ================================================
         ID = 3 (8060):   262.50  32.080    10.00   172.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.50  32.080    10.00   172.17
       + ID2= 2 (8062):   156.20  15.644    10.00   158.21
         ================================================
         ID = 3 (8064):   418.70  47.724    10.00   166.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1781) |   Area    (ha)=  14.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.00          7.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     305.51         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         72.86
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.92 (ii)    20.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.62          1.32        1.939 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00       10.00
     RUNOFF VOLUME    (mm)=     210.00        187.44      194.20
     TOTAL RAINFALL   (mm)=     212.00        212.00      212.00
     RUNOFF COEFFICIENT   =       0.99          0.88        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (1782) |   Area    (ha)= 261.40   Curve Number   (CN)= 89.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.15

     Unit Hyd Qpeak  (cms)=   3.867

     PEAK FLOW       (cms)=  17.878 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 180.180
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.850

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8046) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1781):    14.00   1.939    10.00   194.20
       + ID2= 2 (1782):   261.40  17.878    11.25   180.18
         ================================================
         ID = 3 (8046):   275.40  19.234    11.00   180.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 81.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=  14.175 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 160.833
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.759

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   226.65  14.175    11.25   160.83
       + ID2= 2 (8046):   275.40  19.234    11.00   180.89
         ================================================
         ID = 3 (8050):   502.05  33.242    11.00   171.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=      19.70        36.60
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     612.64       40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        63.15
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.03 (ii)   24.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.48         5.69          7.176 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     210.00       170.16        177.33
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.80          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 85.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   6.977 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 168.537
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.795

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8044) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1741):    56.30   7.176    10.00   177.33
      + ID2= 2 (1742):    82.80   6.977    11.00   168.54
        ================================================
        ID = 3 (8044):   139.10  12.962    10.25   172.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 90.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=  15.793 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 180.678
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.852

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 70.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=  17.048 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 134.645
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.635

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=  12.751 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 160.768
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.758

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0168):    247.13  17.048    11.00   134.65
      + ID2= 2 (0170):    166.91  12.751    11.00   160.77
        ================================================
        ID = 3 (8040):   414.04  29.799    11.00   145.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8042) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0172):    202.23  15.793    11.00   180.68
      + ID2= 2 (8040):    414.04  29.799    11.00   145.18
        ================================================
        ID = 3 (8042):   616.27  45.592    11.00   156.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                  <------ DATA FOR SECTION (1741.0) ------>
                 Distance      Elevation        Manning
                    0.00         296.00         0.0450
                   13.36         288.94         0.0450
                   26.71         288.64         0.0450
                   51.19         287.96         0.0450
                   73.45         287.32         0.0450
                   86.81         286.48         0.0450
                  102.39         285.08         0.0450
                  110.73         282.76         0.0450
                  115.73         281.06    0.0450 /0.0350  Main Channel
                  115.74         280.35         0.0350      Main Channel
                  120.73         280.35         0.0350      Main Channel
                  120.74         281.10    0.0350 /0.0450  Main Channel
                  125.74         282.64         0.0450
                  135.78         286.87         0.0450
                  149.13         289.58         0.0450
                  162.49         292.29         0.0450
                  175.84         293.95         0.0450
                  195.88         295.13         0.0450
                  213.68         296.02         0.0450
                  220.36         296.09         0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.71   281.06    .136E+05       6.0          1.69      37.89
       1.50   281.85    .358E+05      22.5          2.42      26.43
       2.28   282.63    .726E+05      53.8          2.85      22.47
       3.07   283.42    .124E+06     104.1          3.24      19.79
       3.86   284.21    .189E+06     176.7          3.60      17.81
       4.64   284.99    .268E+06     274.9          3.94      16.26
       5.43   285.78    .369E+06     390.8          4.07      15.73
       6.21   286.56    .501E+06     551.6          4.23      15.15
       7.00   287.35    .674E+06     750.5          4.28      14.97
       7.79   288.14    .920E+06     993.3          4.15      15.44
       8.57   288.92    .126E+07    1361.5          4.14      15.47
       9.36   289.71    .167E+07    1986.0          4.56      14.04
      10.15   290.50    .210E+07    2739.7          5.02      12.76
      10.93   291.28    .254E+07    3615.0          5.47      11.70
      11.72   292.07    .300E+07    4608.8          5.91      10.83
      12.50   292.85    .347E+07    5693.3          6.30      10.16
      13.29   293.64    .397E+07    6892.9          6.67       9.60
      14.08   294.43    .450E+07    8150.4          6.97       9.19
      14.86   295.21    .506E+07    9525.0          7.23       8.86

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8042)  616.27    45.59   11.00 156.83      2.08      2.72
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     OUTFLOW: ID= 1 (6174)  616.27    44.20   11.50 156.83      2.04      2.70


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-------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27  44.205    11.50   156.83
       + ID2= 2 (8044):   139.10  12.962    10.25   172.10
         ================================================
         ID = 3 (8048):   755.37  55.662    11.25   159.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37  55.662    11.25   159.64
       + ID2= 2 (8050):   502.05  33.242    11.00   171.84
         ================================================
         ID = 3 (8052):  1257.42  88.805    11.25   164.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.42  88.805    11.25   164.51
       + ID2= 2 (8064):   418.70  47.724    10.00   166.96
         ================================================
         ID = 3 (8058):  1676.12 130.407    11.00   165.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     42.12       119.88
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1039.23        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        58.29
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.52 (ii)   29.79 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.57        16.68         18.921 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.25          10.00
     RUNOFF VOLUME    (mm)=    210.00       160.08         165.57
     TOTAL RAINFALL   (mm)=    212.00       212.00         212.00
     RUNOFF COEFFICIENT   =      0.99         0.76           0.78

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.3     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     24.40        24.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    570.38        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        78.99
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.52 (ii)   23.28 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.50         4.82          6.318 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=    210.00       170.33         178.66
     TOTAL RAINFALL   (mm)=    212.00       212.00         212.00
     RUNOFF COEFFICIENT   =      0.99         0.80           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1761):    48.80   6.318    10.00   178.66
       + ID2= 2 (1762):   162.00  18.921    10.00   165.57
         ================================================
         ID = 3 (8056):   210.80  25.239    10.00   168.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80  25.239    10.00   168.60
       + ID2= 2 (8058):  1676.12 130.407    11.00   165.12
         ================================================
         ID = 3 (8066):  1886.92 152.158    11.00   165.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.92 152.158    11.00   165.51
       + ID2= 2 (8068):   660.32  66.835    10.75   169.29
         ================================================
         ID = 3 (8070):  2547.24 218.510    11.00   166.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                    <------ DATA FOR SECTION (1901.0) ------>
                  Distance      Elevation        Manning
                     0.00         261.34         0.0600
                    19.76         261.64         0.0600
                    59.28         261.29         0.0600
                    79.04         261.09         0.0600
                   103.74         255.99         0.0600
                   153.13         253.42         0.0600
                   192.65         252.78         0.0600
                   212.29         249.80         0.0600
                   217.29         249.50    0.0600 /0.0350  Main Channel
                   217.30         249.05         0.0350      Main Channel
                   222.29         249.05         0.0350      Main Channel
                   222.30         249.50    0.0350 /0.0600  Main Channel
                   227.30         249.80         0.0600
                   232.17         252.31         0.0600
                   276.63         253.53         0.0600
                   326.03         256.97         0.0600
                   355.67         257.30         0.0600
                   400.12         260.08         0.0600
                   469.28         261.25         0.0600
                   489.04         262.53         0.0600

          <---------- TRAVEL TIME TABLE ---------->
           DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
           0.45   249.50    .436E+04        1.0          0.43      75.97
           1.07   250.12    .205E+05        5.4          0.51      62.96
           1.70   250.75    .451E+05       14.8          0.64      50.78
           2.32   251.37    .762E+05       29.2          0.74      43.46
           2.94   251.99    .114E+06       49.1          0.84      38.61
           3.57   252.62    .161E+06       70.2          0.85      38.18
           4.19   253.24    .248E+06       93.4          0.73      44.29
           4.81   253.86    .398E+06      154.9          0.76      42.79
           5.44   254.49    .576E+06      246.1          0.83      38.99
           6.06   255.11    .779E+06      362.7          0.90      35.79
           6.68   255.73    .101E+07      506.5          0.98      33.15
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  7.30   256.35    .126E+07     687.6          1.06      30.52
  7.93   256.98    .153E+07     902.8          1.15      28.18
  8.55   257.60    .183E+07    1114.3          1.18      27.39
  9.17   258.22    .216E+07    1407.8          1.26      25.55
  9.80   258.85    .250E+07    1735.4          1.35      24.03
 10.42   259.47    .286E+07    2097.5          1.42      22.73
 11.04   260.09    .324E+07    2492.3          1.49      21.63
 11.67   260.72    .364E+07    2837.8          1.51      21.39

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8070) 2547.24   218.51   11.00 166.49      5.25      0.81
OUTFLOW: ID= 1 (6190) 2547.24   197.72   11.25 166.49      5.10      0.79


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (6190) |   Area    (ha)= 287.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    146.87       141.12
     Dep. Storage     (mm)=      3.00         5.00
     Average Slope     (%)=      0.10         0.10
     Length            (m)=   1385.62        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        76.81
               over (min)       30.00        60.00
     Storage Coeff.  (min)=     31.81 (ii)   51.08 (ii)
     Unit Hyd. Tpeak (min)=     30.00        60.00
     Unit Hyd. peak  (cms)=      0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.84        22.69         31.529 (iii)
     TIME TO PEAK    (hrs)=     10.25        10.75         10.75
     RUNOFF VOLUME    (mm)=    209.00       183.61        190.46
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.87          0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.


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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0190):   287.99  31.529    10.75   190.46
       + ID2= 2 (6190):  2547.24 197.721    11.25   166.49
         ==========================================================
         ID = 3 (8072):  2835.23 227.194    11.00   168.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1921.0) ------>
                Distance      Elevation       Manning
                    0.00         264.40        0.0500
                    3.64         263.94        0.0500
                   14.54         261.05        0.0500
                   29.08         256.78        0.0500
                   36.36         254.96        0.0500
                   50.90         252.20        0.0500
                   65.44         249.78        0.0500
                   76.35         246.86        0.0500
                   77.24         245.90        0.0500
                   82.24         245.45    0.0500 /0.0350  Main Channel
                   82.25         244.90        0.0350      Main Channel
                   87.25         244.90        0.0350      Main Channel
                   87.26         245.45    0.0350 /0.0500  Main Channel
                   94.53         246.89        0.0500
                  170.87         247.16        0.0500
                  218.13         248.69        0.0500
                  265.40         249.22        0.0500
                  301.75         250.78        0.0500
                  338.11         253.47        0.0500
                  359.92         264.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.55   245.45    .345E+04       2.0          0.71      29.20
        1.53   246.43    .174E+05      14.6          1.05      19.92
        2.50   247.40    .767E+05      52.8          0.86      24.20
        3.48   248.38    .224E+06     199.8          1.11      18.71
        4.46   249.36    .429E+06     441.2          1.29      16.19
        5.43   250.33    .691E+06     874.3          1.58      13.18
        6.41   251.31    .987E+06    1468.3          1.86      11.20
        7.38   252.28    .131E+07    2224.8          2.13       9.79
        8.36   253.26    .165E+07    3132.4          2.37       8.78
        9.34   254.24    .201E+07    4256.4          2.65       7.87
       10.31   255.21    .238E+07    5551.0          2.92       7.15
       11.29   256.19    .276E+07    6996.8          3.17       6.57
       12.27   257.17    .314E+07    8585.9          3.42       6.10
       13.24   258.14    .353E+07   10315.9          3.65       5.71
       14.22   259.12    .393E+07   12180.7          3.87       5.38
       15.19   260.09    .434E+07   14178.2          4.09       5.10
       16.17   261.07    .475E+07   16306.5          4.29       4.85
       17.15   262.05    .517E+07   18558.6          4.49       4.64
       18.12   263.02    .559E+07   20939.7          4.68       4.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8072) 2835.23   227.19   11.00 168.92      3.59      1.13
OUTFLOW: ID= 1 (6192) 2835.23   222.52   11.25 168.92      3.57      1.13


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--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  30.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     14.74        15.96
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    452.40        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        70.35
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.03 (ii)   22.34 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.08         2.81          3.892 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       158.68        171.00
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.75          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 215.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  14.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     58.29       157.61
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1199.72        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        54.72
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     18.00 (ii)   31.62 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.33        19.88         23.352 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.50         10.25
     RUNOFF VOLUME    (mm)=    210.00       149.29        157.79
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.70          0.74

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8074) |
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|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1921):    30.70   3.892    10.00   171.00
       + ID2= 2 (1922):   215.90  23.352    10.25   157.79
         ==================================================
         ID = 3 (8074):   246.60  26.990    10.25   159.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.23 222.517    11.25   168.92
       + ID2= 2 (8074):   246.60  26.990    10.25   159.43
         ==================================================
         ID = 3 (8076):  3081.83 244.105    11.25   168.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0196)  |   Area    (ha)=  41.47   Curve Number   (CN)= 84.5
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   4.379 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)= 155.096
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.732

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0194)  |   Area    (ha)= 256.09   Curve Number   (CN)= 84.4
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.458

     PEAK FLOW       (cms)=  21.501 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 165.665
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.781

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0194):   256.09  21.501    11.00   165.66
       + ID2= 2 (0196):    41.47   4.379    10.00   155.10
         ==================================================
         ID = 3 (8078):   297.56  25.505    11.00   164.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1981.0) ------>
              Distance      Elevation       Manning
                 0.00         267.15        0.0500
                22.99         265.94        0.0500
                51.73         261.39        0.0500
                74.72         258.75        0.0500
                94.83         257.79        0.0500
               114.95         254.36        0.0500
               126.44         254.06        0.0500
               132.19         253.68        0.0500
               135.06         253.35        0.0500
               137.94         252.93    0.0500 /0.0300  Main Channel
               140.81         252.41        0.0300      Main Channel
               143.69         251.89        0.0300      Main Channel
               146.56         252.51        0.0300      Main Channel
               149.43         253.36    0.0300 /0.0500  Main Channel
               158.05         255.89        0.0500
               172.42         256.25        0.0500
               204.03         259.15        0.0500
               229.90         260.36        0.0500
               252.89         260.46        0.0500
               284.50         260.45        0.0500

              <---------- TRAVEL TIME TABLE ---------->
               DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
                (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
               0.35    252.24    .111E+04        0.6         0.97       31.07
               0.69    252.58    .442E+04        3.8         1.55       19.42
               1.04    252.93    .974E+04       11.1         2.06       14.65
               1.51    253.40    .203E+05       31.2         2.77       10.87
               1.98    253.87    .357E+05       65.0         3.30        9.14
               2.45    254.34    .596E+05      112.9         3.43        8.80
               2.92    254.81    .935E+05      186.8         3.62        8.34
               3.39    255.28    .131E+06      282.1         3.89        7.75
               3.86    255.75    .172E+06      398.2         4.18        7.22
               4.33    256.22    .221E+06      527.0         4.31        6.99
               4.80    256.69    .282E+06      697.3         4.47        6.75
               5.27    257.16    .350E+06      898.5         4.64        6.50
               5.74    257.63    .425E+06     1131.4         4.82        6.26
               6.21    258.10    .508E+06     1367.4         4.88        6.19
               6.68    258.57    .603E+06     1635.6         4.91        6.14
               7.15    259.04    .709E+06     1977.2         5.04        5.98
               7.62    259.51    .826E+06     2360.5         5.17        5.83
               8.09    259.98    .954E+06     2790.7         5.29        5.70
               8.56    260.45    .110E+07     3179.6         5.25        5.74

                                          <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH   MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)       (m)       (m/s)
     INFLOW : ID= 2 (8078)  297.56    25.51   11.00 164.19      1.38      2.53
     OUTFLOW: ID= 1 (6198)  297.56    25.18   11.00 164.19      1.37      2.51

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-------------------
| CALIB             |
| STANDHYD  (1981)  |   Area    (ha)= 104.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  44.00   Dir. Conn.(%)=  20.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       46.07         58.63
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      835.46         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       53.00         70.14
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       14.49 (ii)    26.82 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.05         10.00        12.960 (iii)
     TIME TO PEAK    (hrs)=       10.00         10.25        10.00
     RUNOFF VOLUME    (mm)=      210.00        164.26       173.41
     TOTAL RAINFALL   (mm)=      212.00        212.00       212.00
     RUNOFF COEFFICIENT   =        0.99          0.77         0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| NASHYD    (1982)  |   Area    (ha)= 285.90   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   6.048

     PEAK FLOW       (cms)=  21.778 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 160.789
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.758

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1981):   104.70  12.960    10.00   173.41
       + ID2= 2 (1982):   285.90  21.778    11.00   160.79
         ==================================================
         ID = 3 (8080):   390.60  32.648    11.00   164.17
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6198):   297.56  25.181    11.00   164.19
      + ID2= 2 (8080):   390.60  32.648    11.00   164.17
        ================================================
        ID = 3 (8082):   688.16  57.830    11.00   164.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8076):  3081.83 244.105    11.25   168.16
      + ID2= 2 (8082):   688.16  57.830    11.00   164.18
        ================================================
        ID = 3 (8084):  3769.99 299.326    11.25   167.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                  <------ DATA FOR SECTION (2001.0) ------>
                 Distance      Elevation      Manning
                    0.00         252.47        0.0500
                   10.38         252.29        0.0500
                   20.76         252.28        0.0500
                   41.52         247.66        0.0500
                   62.28         247.47        0.0500
                   80.45         247.34        0.0500
                   90.83         246.85        0.0500
                  103.81         245.51        0.0500
                  106.00         244.50        0.0500
                  108.99         244.05    0.0500 /0.0300  Main Channel
                  109.00         243.50        0.0300      Main Channel
                  114.00         243.50        0.0300      Main Channel
                  114.01         244.05    0.0300 /0.0500  Main Channel
                  118.99         244.50        0.0500
                  132.36         245.09        0.0500
                  150.52         245.83        0.0500
                  199.83         249.24        0.0500
                  207.62         250.16        0.0500
                  236.16         253.11        0.0500
                  256.92         253.83        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.28   243.77    .365E+04         0.7          0.54      81.42
        0.55   244.05    .730E+04         2.2          0.81      54.59
        1.05   244.55    .197E+05         7.2          0.97      45.51
        1.54   245.04    .463E+05        17.2          0.99      44.76
        2.04   245.54    .895E+05        34.8          1.03      42.81
        2.53   246.03    .152E+06        62.8          1.09      40.43
        3.03   246.53    .232E+06       104.7          1.20      36.91
        3.52   247.02    .328E+06       159.7          1.29      34.19
        4.02   247.52    .450E+06       223.4          1.32      33.56
        4.51   248.01    .627E+06       326.9          1.38      31.99
        5.01   248.51    .820E+06       463.0          1.50      29.52
        5.50   249.00    .103E+07       626.0          1.62      27.30
        6.00   249.50    .124E+07       820.1          1.75      25.24
        6.49   249.99    .147E+07      1044.4          1.89      23.42
        6.99   250.49    .170E+07      1292.6          2.01      21.95
        7.48   250.98    .195E+07      1565.6          2.13      20.71
        7.98   251.48    .220E+07      1864.5          2.25      19.65
        8.47   251.97    .246E+07      2189.4          2.36      18.73
        8.97   252.47    .274E+07      2427.5          2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99   299.33   11.25 167.44      4.38      1.36
     OUTFLOW: ID= 1 (6200) 3769.99   282.22   11.50 167.44      4.30      1.35


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--------------------
| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=   6.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.00         3.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     200.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        78.99
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.15 (ii)   17.90 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.62          0.826 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00       180.21         187.06
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.85           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)= 109.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        85.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     853.62        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        57.99
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.68 (ii)   27.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.59        11.97         13.439 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25          10.00
     RUNOFF VOLUME    (mm)=     210.00       171.27         175.14
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.81           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2001):     6.00   0.826    10.00   187.06
      + ID2= 2 (2002):   109.30  13.439    10.00   175.14
        ================================================
        ID = 3 (8086):   115.30  14.264    10.00   175.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6200):  3769.99 282.220    11.50   167.44
      + ID2= 2 (8086):   115.30  14.264    10.00   175.76
        ================================================
        ID = 3 (8088):  3885.29 289.780    11.50   167.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8034):  5220.81 198.568    13.00   130.87
      + ID2= 2 (8088):  3885.29 289.780    11.50   167.68
        ================================================
        ID = 3 (8038):  9106.10 466.285    11.75   146.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (1362.0) ------>

Distance	Elevation	Manning	
0.00	252.00	0.0400	
2.35	244.60	0.0400	
39.94	243.14	0.0400	
58.74	242.65	0.0400	
91.63	242.03	0.0400	
101.03	241.69	0.0400	
103.38	241.66	0.0400	
105.73	240.76	0.0400	
105.93	240.59	0.0400	
109.18	240.28	0.0400 /0.0300	Main Channel
110.43	239.81	0.0300	Main Channel
111.68	239.81	0.0300	Main Channel
113.43	240.09	0.0300 /0.0400	Main Channel
118.43	240.50	0.0400	
138.62	241.68	0.0400	
152.72	241.60	0.0400	
166.82	242.68	0.0400	
185.62	249.09	0.0400	
197.36	251.00	0.0400	
232.61	252.28	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	240.09	.118E+04	0.1	0.20	142.09
0.91	240.72	.114E+05	2.4	0.35	79.92
1.53	241.34	.352E+05	9.4	0.45	62.17
2.16	241.97	.831E+05	22.8	0.46	60.69
2.79	242.60	.172E+06	54.2	0.53	52.74
3.41	243.22	.297E+06	111.4	0.63	44.49
4.04	243.85	.445E+06	194.1	0.74	38.22
4.67	244.48	.612E+06	301.1	0.83	33.88
5.29	245.10	.793E+06	443.0	0.94	29.82
5.92	245.73	.976E+06	611.3	1.06	26.60
6.55	246.36	.116E+07	802.0	1.17	24.12
7.18	246.99	.135E+07	1014.0	1.27	22.16
7.80	247.61	.154E+07	1246.2	1.37	20.56
8.43	248.24	.173E+07	1498.0	1.46	19.24
9.06	248.87	.192E+07	1768.8	1.55	18.12
9.68	249.49	.212E+07	2049.6	1.63	17.24
10.31	250.12	.232E+07	2344.7	1.71	16.49
10.94	250.75	.252E+07	2658.5	1.78	15.83
11.56	251.37	.274E+07	2931.2	1.81	15.56

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> <-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8038)	9106.10	466.28	11.75	146.58	5.38	0.96
OUTFLOW:	ID= 1 (1365)	9106.10	445.61	12.25	146.58	5.32	0.95

```
-------------------
| CALIB             |
| STANDHYD  (1321) |   Area    (ha)=  41.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  35.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.94	18.77
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	527.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	53.00 15.00	74.30 30.00
Storage Coeff.	(min)=	10.99 (ii)	23.04 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	2.14 3.51 5.653 (iii)
TIME TO PEAK	(hrs)=	10.00 10.00 10.00
RUNOFF VOLUME	(mm)=	210.00 181.34 191.37
TOTAL RAINFALL	(mm)=	212.00 212.00 212.00
RUNOFF COEFFICIENT	=	0.99 0.86 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB             |
| NASHYD    (1322) |   Area    (ha)= 249.10   Curve Number   (CN)= 87.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

    Unit Hyd Qpeak  (cms)=   5.130

    PEAK FLOW       (cms)=  19.675 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 173.516
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.818

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1321):	41.70	5.653	10.00	191.37
+ ID2= 2 (1322):	249.10	19.675	11.00	173.52
ID = 3 (8090):	290.80	24.112	11.00	176.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB             |
| NASHYD    (0134) |   Area    (ha)= 155.95   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

    Unit Hyd Qpeak  (cms)=   4.167

    PEAK FLOW       (cms)=  12.996 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 157.783
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.744

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0134):	155.95	12.996	11.00	157.78
+ ID2= 2 (8090):	290.80	24.112	11.00	176.08
ID = 3 (8092):	446.75	37.108	11.00	169.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (1361.0) ------>

Distance	Elevation	Manning	
0.00	262.81	0.0400	
37.23	260.54	0.0400	
79.12	256.98	0.0400	
111.70	254.74	0.0400	
172.20	252.76	0.0400	
251.32	248.82	0.0400	
255.97	248.75	0.0400	
260.43	248.76	0.0400	
265.43	248.49	0.0400	
268.68	248.18	0.0400 /0.0300	Main Channel
269.93	247.71	0.0300	Main Channel
271.18	247.71	0.0300	Main Channel
272.93	247.99	0.0300	Main Channel
277.93	248.40	0.0300 /0.0400	Main Channel
283.90	248.88	0.0400	
307.17	249.60	0.0400	
321.13	251.59	0.0400	
363.01	257.08	0.0400	
400.25	257.58	0.0400	
460.75	261.91	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	248.18	.881E+04	1.3	0.76	114.66
1.19	248.90	.742E+05	17.3	1.22	71.44
1.92	249.63	.278E+06	78.3	1.48	59.26
2.64	250.35	.589E+06	210.3	1.87	46.69
3.36	251.07	.974E+06	414.3	2.23	39.19

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      4.08   251.79    .143E+07     696.2          2.55      34.32
      4.81   252.52    .197E+07    1063.0          2.83      30.86
      5.53   253.24    .259E+07    1505.7          3.06      28.62
      6.25   253.96    .331E+07    2051.3          3.26      26.85
      6.97   254.68    .413E+07    2720.9          3.46      25.30
      7.70   255.41    .504E+07    3584.5          3.73      23.43
      8.42   256.13    .601E+07    4580.9          4.00      21.87
      9.14   256.85    .704E+07    5707.9          4.25      20.57
      9.86   257.57    .818E+07    6636.1          4.26      20.53
     10.59   258.30    .945E+07    8115.0          4.50      19.42
     11.31   259.02    .108E+08    9759.2          4.74      18.45
     12.03   259.74    .122E+08   11569.5          4.96      17.61
     12.75   260.46    .137E+08   13550.6          5.18      16.87
     13.48   261.19    .153E+08   15636.4          5.37      16.29

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8092)  446.75    37.11   11.00 169.69      1.43      1.30
OUTFLOW: ID= 1 (1366)  446.75    31.61   11.75 169.69      1.36      1.27


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| CALIB           |
| STANDHYD  (1362) |   Area    (ha)= 410.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  11.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      86.12       323.98
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1653.48        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        55.91
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      21.83 (ii)   35.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.32        41.16         46.320 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.50          10.50
     RUNOFF VOLUME    (mm)=     210.00       166.94         171.68
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.79           0.81

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (1361) |   Area    (ha)= 102.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  27.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.27        46.03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     825.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        82.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.39 (ii)   25.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.02         9.37          13.379 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25          10.00
     RUNOFF VOLUME    (mm)=     210.00       178.89         187.29
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.84           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1361):   102.30  13.379    10.00   187.29
        + ID2= 2 (1362):   410.10  46.320    10.50   171.68
          ==========================================================
          ID = 3 (8096):   512.40  58.816    10.25   174.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1366):   446.75  31.607    11.75   169.69
        + ID2= 2 (8096):   512.40  58.816    10.25   174.80
          ==========================================================
          ID = 3 (8094):   959.15  84.009    11.00   172.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1365):  9106.10 445.614    12.25   146.58
        + ID2= 2 (8094):   959.15  84.009    11.00   172.42
          ==========================================================
          ID = 3 (8098): 10065.25 508.068    11.75   149.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0142) |   Area    (ha)= 396.54   Curve Number   (CN)= 79.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   5.133

     PEAK FLOW       (cms)=  22.695 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 156.413
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.738

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0138) |   Area    (ha)= 414.79   Curve Number   (CN)= 42.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   5.087

     PEAK FLOW       (cms)=  12.049 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  76.344
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.360

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (0140) |   Area    (ha)= 158.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  21.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.06       120.52
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1028.20        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        39.86
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.41 (ii)   31.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.81        11.13         14.915 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.50          10.25
     RUNOFF VOLUME    (mm)=     210.00       117.48         136.91
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.55           0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.7    Ia = Dep. Storage  (Above)
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(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8102)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0138):		414.79	12.049	12.00	76.34
+ ID2= 2 (0140):		158.58	14.915	10.25	136.91
ID = 3 (8102):		573.37	25.356	11.00	93.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6142)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1421.0) ------>

Distance	Elevation	Manning	
0.00	295.50	0.0400	
7.25	295.36	0.0400	
14.50	295.22	0.0400	
21.75	295.22	0.0400	
29.00	294.23	0.0400	
52.56	286.45	0.0400	
67.06	281.44	0.0400	
77.94	278.28	0.0400	
82.81	277.20	0.0400 /0.0300	Main Channel
83.21	276.80	0.0300	Main Channel
88.81	276.80	0.0300	Main Channel
96.41	276.80	0.0300	Main Channel
96.81	277.20	0.0300 /0.0400	Main Channel
103.31	278.96	0.0400	
108.75	280.16	0.0400	
117.81	282.73	0.0400	
135.94	290.30	0.0400	
159.50	292.14	0.0400	
174.00	293.07	0.0400	
179.44	293.37	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	277.20	.238E+05	6.9	1.27	57.28
1.25	278.05	.889E+05	50.9	2.50	29.13
2.10	278.90	.179E+06	133.4	3.26	22.36
2.95	279.75	.293E+06	256.7	3.83	19.03
3.80	280.60	.432E+06	426.0	4.31	16.90
4.66	281.46	.593E+06	644.3	4.75	15.35
5.51	282.31	.776E+06	915.3	5.16	14.12
6.36	283.16	.978E+06	1242.2	5.55	13.12
7.21	284.01	.120E+07	1626.2	5.94	12.27
8.06	284.86	.143E+07	2065.6	6.30	11.57
8.91	285.71	.169E+07	2562.4	6.64	10.97
9.76	286.56	.196E+07	3118.0	6.97	10.46
10.61	287.41	.224E+07	3733.3	7.28	10.02
11.46	288.26	.255E+07	4411.9	7.57	9.62
12.31	289.11	.287E+07	5155.6	7.86	9.27
13.17	289.97	.321E+07	5966.6	8.14	8.96
14.02	290.82	.357E+07	6705.0	8.22	8.87
14.87	291.67	.398E+07	7494.3	8.24	8.85
15.72	292.52	.444E+07	8405.3	8.28	8.80

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8102)	573.37	25.36	11.00	93.10	0.76	1.60
OUTFLOW: ID= 1 (6142)	573.37	22.96	11.25	93.10	0.71	1.55

ADD HYD (8104)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0142):		396.54	22.695	11.50	156.41
+ ID2= 2 (6142):		573.37	22.960	11.25	93.10
ID = 3 (8104):		969.91	45.531	11.25	118.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0144)	Area (ha)= 135.69	Curve Number (CN)= 87.6		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.71			

Unit Hyd Qpeak (cms)= 3.240

PEAK FLOW (cms)= 11.438 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 173.409
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.818

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8106)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0144):		135.69	11.438	11.00	173.41
+ ID2= 2 (8104):		969.91	45.531	11.25	118.98
ID = 3 (8106):		1105.60	56.676	11.25	125.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6146)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1461.0) ------>

Distance	Elevation	Manning	
0.00	262.00	0.0350	
39.58	257.13	0.0350	
123.69	257.51	0.0350	
183.07	256.83	0.0350	
202.86	255.73	0.0350	
212.75	254.73	0.0350	
222.65	252.86	0.0350	
232.44	250.70	0.0350 /0.0300	Main Channel
236.44	250.20	0.0300	Main Channel
236.84	249.80	0.0300	Main Channel
242.44	249.80	0.0300	Main Channel
250.04	249.80	0.0300	Main Channel
250.44	250.20	0.0300	Main Channel
252.33	250.57	0.0300 /0.0350	Main Channel
286.97	253.52	0.0350	
331.50	255.80	0.0350	
380.98	255.55	0.0350	
445.30	258.40	0.0350	
455.19	259.82	0.0350	
489.83	262.22	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	250.19	.169E+05	5.4	1.04	52.00
0.77	250.57	.373E+05	16.6	1.44	37.46
1.44	251.24	.911E+05	60.3	2.14	25.19
2.11	251.91	.169E+06	136.3	2.61	20.64
2.79	252.59	.270E+06	249.7	2.99	18.05
3.46	253.26	.396E+06	405.4	3.31	16.28
4.13	253.93	.549E+06	603.3	3.56	15.15
4.80	254.60	.737E+06	857.8	3.77	14.31
5.48	255.28	.963E+06	1174.6	3.95	13.67
6.15	255.95	.128E+07	1449.5	3.66	14.74
6.82	256.62	.173E+07	2046.4	3.83	14.07
7.49	257.29	.227E+07	2665.2	3.81	14.17
8.17	257.97	.310E+07	3705.2	3.87	13.93
8.84	258.64	.400E+07	5127.4	4.15	12.99
9.51	259.31	.492E+07	6858.6	4.51	11.95
10.18	259.98	.587E+07	8815.5	4.86	11.09
10.86	260.66	.684E+07	10954.6	5.18	10.41
11.53	261.33	.785E+07	13324.3	5.49	9.82
12.20	262.00	.890E+07	15923.2	5.79	9.31

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8106)	1105.60	56.68	11.25	125.66	1.39	2.06
OUTFLOW: ID= 1 (6146)	1105.60	56.10	11.50	125.66	1.38	2.04

CALIB			
STANDHYD (1461)	Area (ha)= 70.50		
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 15.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.38	45.12
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	685.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	53.00	68.57

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              over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.87 (ii)   25.31 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.55         7.64          9.190 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=    210.00       182.91        186.97
     TOTAL RAINFALL   (mm)=    212.00       212.00        212.00
     RUNOFF COEFFICIENT   =      0.99         0.86          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 125.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  12.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.25         88.75
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     912.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         63.78
              over (min)       15.00         30.00
     Storage Coeff.  (min)=     15.28 (ii)   28.09 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.18         13.74         15.807 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=    210.00        181.07        184.54
     TOTAL RAINFALL   (mm)=    212.00        212.00        212.00
     RUNOFF COEFFICIENT   =      0.99          0.85          0.87

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1461):    70.50   9.190    10.00   186.97
       + ID2= 2 (1462):   125.00  15.807    10.00   184.54
         ==========================================================
         ID = 3 (8099):   195.50  24.997    10.00   185.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.60  56.099    11.50   125.66
       + ID2= 2 (8099):   195.50  24.997    10.00   185.42
         ==========================================================
         ID = 3 (8108):  1301.10  72.949    11.00   134.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.25 508.068    11.75   149.04
       + ID2= 2 (8108):  1301.10  72.949    11.00   134.64
         ==========================================================
         ID = 3 (8100): 11366.35 574.816    11.50   147.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                  0.00         245.48        0.0400
                 29.68         242.80        0.0400
                 74.20         240.39        0.0400
                155.81         237.12        0.0400
                200.33         234.48        0.0400
                244.85         234.67        0.0400
                259.69         233.96        0.0400
                274.53         233.84        0.0400
                281.68         233.40        0.0400
                285.78         232.40    0.0400 /0.0300  Main Channel
                286.78         231.40        0.0300      Main Channel
                296.78         231.40        0.0300      Main Channel
                299.78         232.40    0.0300 /0.0400  Main Channel
                311.62         233.74        0.0400
                333.88         234.34        0.0400
                497.11         235.32        0.0400
                571.31         237.32        0.0400
                675.18         239.10        0.0400
                704.86         242.71        0.0400
                734.54         242.62        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.50   231.90    .221E+05        4.7         0.85       78.67
       1.00   232.40    .482E+05       15.3         1.28       52.40
       1.60   233.00    .913E+05       38.3         1.68       39.77
       2.20   233.60    .154E+06       72.9         1.90       35.24
       2.80   234.20    .278E+06      124.2         1.79       37.30
       3.40   234.80    .599E+06      214.3         1.44       46.59
       4.01   235.41    .125E+07      445.0         1.43       46.90
       4.61   236.01    .205E+07      838.4         1.64       40.81
       5.21   236.61    .293E+07     1361.6         1.86       35.89
       5.81   237.21    .389E+07     2011.2         2.08       32.23
       6.41   237.81    .494E+07     2753.5         2.24       29.91
       7.01   238.41    .612E+07     3635.0         2.39       28.04
       7.61   239.01    .741E+07     4672.5         2.53       26.43
       8.21   239.61    .880E+07     5999.3         2.74       24.44
       8.82   240.22    .102E+08     7510.0         2.94       22.72
       9.42   240.82    .117E+08     9201.9         3.15       21.23
      10.02   241.42    .132E+08    11059.7         3.35       19.95
      10.62   242.02    .148E+08    13073.4         3.54       18.87
      11.22   242.62    .164E+08    15242.1         3.73       17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
   INFLOW : ID= 2 (8100) *******   574.82   11.50 147.39      4.20      1.49
   OUTFLOW: ID= 1 (6202) *******   543.85   12.25 147.39      4.16      1.47

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--------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.35 543.852    12.25   147.39
       + ID2= 2 (8110):   468.50  57.751    10.00   193.91
         ==========================================================
         ID = 3 (8112): 11834.85 561.495    12.00   149.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 158.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  30.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      91.70         66.40
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1026.65         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         86.80
              over (min)       15.00         30.00
     Storage Coeff.  (min)=     16.40 (ii)   27.72 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      6.85         14.04         20.818 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=    210.00        188.30        194.81
     TOTAL RAINFALL   (mm)=    212.00        212.00        212.00
     RUNOFF COEFFICIENT   =      0.99          0.89          0.92
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 276.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.64        165.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope    (%)=       0.50          0.50
     Length            (m)=    1357.94         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         67.95
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      19.39 (ii)    31.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.26         26.21         33.279 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.50          10.25
     RUNOFF VOLUME    (mm)=     210.00        182.69         188.42
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.86           0.89


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (1661):   276.60  33.279    10.25   188.42
      + ID2= 2 (1662):   158.10  20.818    10.00   194.81
        ================================================
        ID = 3 (8134):   434.70  53.459    10.00   190.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 132.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.50        106.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope    (%)=       0.50          0.50
     Length            (m)=     939.86         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         53.94
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.55 (ii)    29.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.88         13.76         16.461 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25          10.00
     RUNOFF VOLUME    (mm)=     210.00        174.76         180.04
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.82           0.85

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 101.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  52.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      71.19         30.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope    (%)=       0.50          0.50
     Length            (m)=     823.41         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         83.02
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.37 (ii)    25.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.70          6.23         13.930 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00        186.05         198.50
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.88           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (1641):   101.70  13.930    10.00   198.50
      + ID2= 2 (1642):   132.50  16.461    10.00   180.04
        ================================================
        ID = 3 (8132):   234.20  30.390    10.00   188.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0162) |   Area    (ha)= 190.14   Curve Number   (CN)= 81.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   4.104

     PEAK FLOW       (cms)=  14.489 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 158.645
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.748

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0160) |   Area    (ha)= 318.82   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.45

     Unit Hyd Qpeak  (cms)=   3.754

     PEAK FLOW       (cms)=  16.939 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 152.875
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.721

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 76.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   8.500 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 149.204
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.704

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0148) |   Area    (ha)= 417.89   Curve Number   (CN)= 43.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18
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```
     Unit Hyd Qpeak  (cms)=   6.067

     PEAK FLOW       (cms)=  13.949 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)=  79.563
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.375

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0150) |   Area    (ha)= 105.88   Curve Number    (CN)= 33.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.138

     PEAK FLOW       (cms)=   3.900 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)=  58.110
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0148):   417.89  13.949    11.75    79.56
      + ID2= 2 (0150):   105.88   3.900    11.00    58.11
        ================================================
        ID = 3 (8116):   523.77  17.584    11.25    75.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1521.0) ------>
             Distance      Elevation        Manning
                0.00         290.00        0.0500
               15.34         286.87        0.0500
               46.03         284.84        0.0500
               88.22         283.07        0.0500
              126.57         282.11        0.0500
              153.42         280.34        0.0500
              157.26         280.07        0.0500
              161.09         279.72        0.0500
              167.76         278.94    0.0500 /0.0300  Main Channel
              168.01         278.60        0.0300      Main Channel
              168.76         278.60        0.0300      Main Channel
              169.51         278.60        0.0300      Main Channel
              169.76         278.90    0.0300 /0.0500  Main Channel
              173.76         279.40        0.0500
              180.27         279.69        0.0500
              184.11         279.93        0.0500
              218.62         281.86        0.0500
              260.82         283.20        0.0500
              360.54         289.25        0.0500
              379.72         289.80        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)       (cms)        (m/s)       (min)
       0.30   278.90    .114E+04         0.4          0.80       45.70
       0.87   279.47    .932E+04         4.2          0.98       37.22
       1.45   280.05    .353E+05        17.5          1.09       33.68
       2.02   280.62    .831E+05        47.8          1.26       29.01
       2.59   281.19    .155E+06       102.9          1.46       25.06
       3.17   281.77    .250E+06       189.3          1.66       22.03
       3.74   282.34    .375E+06       298.5          1.75       20.91
       4.32   282.92    .547E+06       456.5          1.83       19.98
       4.89   283.49    .767E+06       705.7          2.02       18.12
       5.46   284.06    .102E+07      1038.0          2.24       16.34
       6.04   284.64    .130E+07      1444.1          2.45       14.98
       6.61   285.21    .161E+07      1940.1          2.66       13.79
       7.18   285.78    .194E+07      2522.6          2.86       12.80
       7.76   286.36    .229E+07      3187.4          3.06       11.98
       8.33   286.93    .267E+07      3942.3          3.25       11.28
       8.91   287.51    .306E+07      4824.9          3.46       10.58
       9.48   288.08    .347E+07      5795.7          3.67        9.99
      10.05   288.65    .390E+07      6855.4          3.86        9.48
      10.63   289.23    .434E+07      8005.0          4.05        9.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77    17.58   11.25  75.23      1.45      1.09
     OUTFLOW: ID= 1 (6152)  523.77    16.91   12.00  75.23      1.42      1.08

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0152):   124.37   8.500    11.00   149.20
      + ID2= 2 (6152):   523.77  16.911    12.00    75.23
        ================================================
        ID = 3 (8122):   648.14  24.854    11.75    89.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number    (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=  12.027 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 152.069
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.717

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number    (CN)= 65.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   5.849 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 122.694
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.579

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0154) |   Area    (ha)= 200.32   Curve Number    (CN)= 57.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   9.854 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 106.551
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.503

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0154):   200.32   9.854    11.25   106.55
      + ID2= 2 (0156):    83.49   5.849    11.00   122.69
        ================================================
        ID = 3 (8118):   283.81  15.612    11.00   111.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (1581.0) ------>
             Distance      Elevation        Manning
                0.00         290.00        0.0400
               19.20         288.88        0.0400
               48.00         288.26        0.0400
              119.99         283.68        0.0400
              167.99         282.07        0.0400
              196.79         281.32        0.0400
              210.79         280.90        0.0400
              219.79         280.38    0.0400 /0.0300  Main Channel
```

220.04	279.65	0.0300	Main Channel
220.79	279.65	0.0300	Main Channel
221.54	279.65	0.0300	Main Channel
221.79	280.39	0.0300 /0.0400	Main Channel
225.79	280.59	0.0400	
235.19	280.88	0.0400	
254.39	281.50	0.0400	
273.58	282.56	0.0400	
302.38	283.42	0.0400	
359.98	284.03	0.0400	
436.77	289.37	0.0400	
475.17	290.37	0.0400	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8118)	283.81	15.61	11.00	111.30	1.42	0.98
OUTFLOW: ID= 1 (6158)	283.81	14.89	11.50	111.30	1.41	0.98

ADD HYD (8120)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	178.59	12.027	11.00	152.07
+ ID2= 2 (6158):	283.81	14.891	11.50	111.30
ID = 3 (8120):	462.40	26.734	11.50	127.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8124)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8120):	462.40	26.734	11.50	127.05
+ ID2= 2 (8122):	648.14	24.854	11.75	89.42
ID = 3 (8124):	1110.54	51.435	11.50	105.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1601.0) ------>

Distance	Elevation	Manning	
0.00	261.02	0.0400	
29.89	254.30	0.0400	
40.75	252.58	0.0400	
62.49	251.30	0.0400	
114.11	250.94	0.0400	
130.41	248.58	0.0400	
141.28	247.50	0.0400	
154.86	246.87	0.0400	
155.20	246.70	0.0400	
160.20	246.30	0.0400 /0.0300	Main Channel
160.30	245.30	0.0300	Main Channel
165.20	245.30	0.0300	Main Channel
165.30	246.30	0.0300 /0.0400	Main Channel
168.45	246.96	0.0400	
195.62	249.20	0.0400	
203.77	250.82	0.0400	
225.50	256.78	0.0400	
244.52	261.14	0.0400	
255.39	261.95	0.0400	
268.97	261.92	0.0400	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.120E+05	2.9	1.18	68.31
1.00	246.30	.242E+05	8.5	1.70	47.47
1.92	247.22	.825E+05	31.7	1.86	43.34
2.84	248.14	.248E+06	102.5	2.00	40.39
3.76	249.06	.506E+06	247.7	2.37	34.03
4.68	249.98	.832E+06	486.8	2.83	28.49
5.60	250.90	.121E+07	814.9	3.27	24.71
6.52	251.82	.180E+07	1157.1	3.11	25.97
7.44	252.74	.253E+07	1840.2	3.52	22.92
8.36	253.66	.331E+07	2727.1	3.98	20.25
9.29	254.59	.414E+07	3782.6	4.43	18.22
10.21	255.51	.499E+07	5010.7	4.86	16.61
11.13	256.43	.589E+07	6397.4	5.26	15.33
12.05	257.35	.681E+07	7932.8	5.64	14.31
12.97	258.27	.777E+07	9621.2	5.99	13.46
13.89	259.19	.877E+07	11469.4	6.33	12.74
14.81	260.11	.980E+07	13478.4	6.66	12.12
15.73	261.03	.109E+08	15651.7	6.97	11.58
16.65	261.95	.120E+08	17492.5	7.07	11.42

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8124)	1110.54	51.43	11.50	105.09	2.18	1.90
OUTFLOW: ID= 1 (6160)	1110.54	48.54	12.25	105.09	2.13	1.89

ADD HYD (8126)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0160):	318.82	16.939	11.75	152.88
+ ID2= 2 (6166):	1110.54	48.540	12.25	105.09
ID = 3 (8126):	1429.36	65.050	12.25	115.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8128)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0162):	190.14	14.489	11.00	158.64
+ ID2= 2 (8126):	1429.36	65.050	12.25	115.75
ID = 3 (8128):	1619.50	77.698	12.00	120.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8128):	1619.50	77.698	12.00	120.78
+ ID2= 2 (8132):	234.20	30.390	10.00	188.06
ID = 3 (8130):	1853.70	94.554	11.00	129.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6166)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1661.0) ------>

Distance	Elevation	Manning	
0.00	248.36	0.0500	
41.67	246.98	0.0500	
95.82	244.93	0.0500	
149.98	242.42	0.0500	
191.64	241.88	0.0500	
224.97	239.90	0.0500	
229.13	239.35	0.0500	
233.30	237.77	0.0500	
237.47	236.57	0.0500	
240.63	235.60	0.0500 /0.0300	Main Channel
241.63	234.10	0.0300	Main Channel
247.13	234.10	0.0300	Main Channel
247.53	235.60	0.0300 /0.0500	Main Channel
254.13	236.25	0.0500	
266.63	236.77	0.0500	
283.29	237.84	0.0500	
291.63	238.89	0.0500	

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                329.12        244.66        0.0500
                370.78        249.55        0.0500
                412.44        253.17        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.75   234.85    .130E+05         6.0          1.36      36.45
        1.50   235.60    .276E+05        18.1          1.95      25.41
        2.25   236.35    .544E+05        40.0          2.18      22.69
        3.00   237.10    .117E+06        80.1          2.04      24.32
        3.75   237.85    .213E+06       148.9          2.07      23.89
        4.50   238.60    .334E+06       255.1          2.27      21.85
        5.25   239.35    .473E+06       395.8          2.49      19.90
        6.00   240.10    .631E+06       563.8          2.65      18.66
        6.75   240.85    .824E+06       773.2          2.79      17.77
        7.50   241.60    .106E+07      1037.9          2.92      16.97
        8.26   242.36    .135E+07      1326.7          2.92      16.94
        9.01   243.11    .173E+07      1758.5          3.01      16.44
        9.76   243.86    .217E+07      2285.9          3.13      15.81
       10.51   244.61    .265E+07      2909.5          3.26      15.17
       11.26   245.36    .318E+07      3610.1          3.37      14.67
       12.01   246.11    .377E+07      4417.4          3.48      14.21
       12.76   246.86    .441E+07      5348.0          3.60      13.75
       13.51   247.61    .512E+07      6394.0          3.71      13.34
       14.26   248.36    .589E+07      7580.3          3.82      12.95

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8130) 1853.70    94.55   11.00 129.28      3.16      2.04
     OUTFLOW: ID= 1 (6166) 1853.70    90.42   11.50 129.28      3.11      2.04


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| ADD HYD   (8136) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6166):  1853.70  90.419    11.50   129.28
      + ID2= 2 (8134):   434.70  53.459    10.00   190.75
        ================================================
        ID = 3 (8136):  2288.40 133.764    11.00   140.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8112): 11834.85 561.495    12.00   149.23
      + ID2= 2 (8136):  2288.40 133.764    11.00   140.96
        ================================================
        ID = 3 (8114): 14123.25 672.198    12.00   147.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 250.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  39.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    155.31         95.19
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1292.28         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00         83.82
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     18.83 (ii)    30.31 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.06          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=     13.94         18.79        31.533 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=    210.00        189.83        197.70
     TOTAL RAINFALL   (mm)=    212.00        212.00        212.00
     RUNOFF COEFFICIENT   =      0.99          0.90          0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  25.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  60.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.25          1.75
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    408.25         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00        302.44
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.43 (ii)    16.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.21          1.42          3.621 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.00          10.00
     RUNOFF VOLUME    (mm)=    210.00        205.40         208.16
     TOTAL RAINFALL   (mm)=    212.00        212.00         212.00
     RUNOFF COEFFICIENT   =      0.99          0.97           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2061):    25.00   3.621    10.00   208.16
      + ID2= 2 (2062):   250.50  31.533    10.00   197.70
        ================================================
        ID = 3 (8144):   275.50  35.154    10.00   198.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 122.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  33.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     73.74         49.16
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    905.17         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00         84.46
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     15.20 (ii)    26.65 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.07          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.88         10.14         15.966 (iii)
     TIME TO PEAK    (hrs)=     10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=    210.00        173.51        185.55
     TOTAL RAINFALL   (mm)=    212.00        212.00        212.00
     RUNOFF COEFFICIENT   =      0.99          0.82          0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 201.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  20.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     72.54        128.96
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=   1159.02         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     53.00         61.20
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     17.64 (ii)    30.65 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.06          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.78         18.36         23.198 (iii)
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     TIME TO PEAK    (hrs)=      10.00        10.50          10.25
     RUNOFF VOLUME    (mm)=     210.00       163.07         172.45
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.77           0.81

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8140) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2041):   201.50  23.198    10.25   172.45
      + ID2= 2 (2042):   122.90  15.966    10.00   185.55
        ================================================
        ID = 3 (8140):   324.40  38.738    10.00   177.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2061.0) ------>
             Distance       Elevation       Manning
                0.00          253.07        0.0350
               13.98          252.89        0.0350
               27.95          251.99        0.0350
               34.94          252.18        0.0350
               41.93          252.02        0.0350
               73.38          250.35        0.0350
               94.34          247.09        0.0350
              111.81          244.79        0.0350
              115.31          244.24        0.0350
              117.55          244.20    0.0350 /0.0300  Main Channel
              118.80          243.60        0.0300      Main Channel
              122.30          243.60        0.0300      Main Channel
              122.55          244.60    0.0300 /0.0350  Main Channel
              146.76          244.74        0.0350
              164.23          247.26        0.0350
              213.15          248.92        0.0350
              241.10          249.51        0.0350
              272.55          250.87        0.0350
              300.50          252.26        0.0350
              345.93          253.67        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.30   243.90    .310E+04         1.4           1.23      36.25
        0.60   244.20    .676E+04         4.6           1.81      24.64
        1.12   244.72    .221E+05        17.1           2.07      21.60
        1.64   245.24    .754E+05        64.1           2.28      19.60
        2.17   245.77    .139E+06       149.8           2.88      15.50
        2.69   246.29    .214E+06       273.3           3.43      13.04
        3.21   246.81    .299E+06       436.1           3.91      11.43
        3.73   247.33    .395E+06       632.6           4.30      10.40
        4.25   247.85    .511E+06       836.4           4.39      10.18
        4.77   248.37    .653E+06      1114.9           4.58       9.76
        5.30   248.90    .822E+06      1472.1           4.81       9.30
        5.82   249.42    .102E+07      1872.2           4.91       9.10
        6.34   249.94    .126E+07      2444.6           5.22       8.56
        6.86   250.46    .151E+07      3113.1           5.52       8.09
        7.38   250.98    .180E+07      3843.5           5.74       7.79
        7.90   251.50    .211E+07      4717.8           6.00       7.45
        8.43   252.03    .245E+07      5701.4           6.24       7.16
        8.95   252.55    .284E+07      6727.5           6.36       7.03
        9.47   253.07    .326E+07      7885.3           6.48       6.90

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.40    38.74   10.00 177.42      1.36      2.16
     OUTFLOW: ID= 1 (6206)  324.40    36.50   10.50 177.42      1.34      2.15


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| ADD HYD   (8142) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6206):   324.40  36.502    10.50   177.42
      + ID2= 2 (8144):   275.50  35.154    10.00   198.65
        ================================================
        ID = 3 (8142):   599.90  69.147    10.25   187.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8114): 14123.25 672.198    12.00   147.89
      + ID2= 2 (8142):   599.90  69.147    10.25   187.17
        ================================================
        ID = 3 (8138): 14723.15 709.429    11.50   149.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2081.0) ------>
             Distance       Elevation       Manning
                0.00          249.19        0.1000
               73.11          244.13        0.1000
              121.86          243.39        0.1000
              243.71          240.01        0.1000
              353.38          238.75        0.1000
              450.87          235.40        0.1000
              499.61          231.40        0.1000
              511.80          230.96        0.1000
              523.98          230.12        0.1000
              534.50          227.80    0.1000 /0.0500  Main Channel
              536.50          226.70        0.0500      Main Channel
              546.50          226.70        0.0500      Main Channel
              548.50          227.80    0.0500 /0.1000  Main Channel
              572.72          230.25        0.1000
              682.40          230.50        0.1000
              804.25          233.95        0.1000
              926.11          235.83        0.1000
             1047.96          240.70        0.1000
             1145.45          243.26        0.1000
             1206.38          247.03        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.55   227.25    .111E+05         2.0           0.33      92.44
        1.10   227.80    .242E+05         6.5           0.50      61.56
        2.23   228.93    .700E+05        26.0           0.68      44.91
        3.36   230.06    .150E+06        60.8           0.74      41.04
        4.49   231.19    .446E+06       130.8           0.54      56.83
        5.62   232.32    .925E+06       287.4           0.57      53.66
        6.76   233.46    .152E+07       522.9           0.63      48.32
        7.89   234.59    .223E+07       827.2           0.68      44.91
        9.02   235.72    .312E+07      1219.5           0.72      42.61
       10.15   236.85    .418E+07      1780.6           0.78      39.11
       11.28   237.98    .537E+07      2479.2           0.85      36.07
       12.41   239.11    .669E+07      3282.9           0.90      33.95
       13.54   240.24    .824E+07      4228.6           0.94      32.47
       14.67   241.37    .997E+07      5384.6           0.99      30.87
       15.81   242.51    .119E+08      6698.4           1.03      29.56
       16.94   243.64    .140E+08      8235.2           1.08      28.25
       18.07   244.77    .162E+08     10104.2           1.14      26.73
       19.20   245.90    .185E+08     12251.5           1.21      25.21
       20.33   247.03    .209E+08     14597.0           1.28      23.89

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) ******* 709.43   11.50 149.49      7.45      0.66
     OUTFLOW: ID= 1 (6208) *******  659.64   12.25 149.49      7.27      0.65


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-------------------
| CALIB            |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    273.02       153.58
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1686.42        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     53.00        90.86
           over (min)          15.00        45.00
     Storage Coeff.  (min)=    22.09 (ii)   33.20 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
     Unit Hyd. peak  (cms)=     0.06         0.03

                                                    *TOTALS*
     PEAK FLOW        (cms)=    22.08        32.24         51.934 (iii)
     TIME TO PEAK     (hrs)=    10.00        10.50          10.00
```

```
     RUNOFF VOLUME    (mm)=     210.00       186.64         195.28
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.88           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2081)  |   Area    (ha)= 265.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      93.00       172.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1330.91        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        62.81
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      19.16 (ii)   32.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.57        25.15         31.576 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.50          10.25
     RUNOFF VOLUME    (mm)=     210.00       177.36         183.89
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.84           0.87

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2081):   265.70  31.576    10.25   183.89
      + ID2= 2 (2082):   426.60  51.934    10.00   195.28
        ================================================
        ID = 3 (8148):   692.30  83.086    10.25   190.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6208): 14723.15 659.640    12.25   149.49
      + ID2= 2 (8148):   692.30  83.086    10.25   190.91
        ================================================
        ID = 3 (8146): 15415.45 694.057    12.00   151.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2101.0) ------>
              Distance      Elevation       Manning
                 0.00         241.81        0.0800
                28.43         241.78        0.0800
                85.30         237.04        0.0800
               149.27         231.32        0.0800
               170.60         230.10        0.0800
               255.89         229.37        0.0800
               277.22         228.68        0.0800
               284.33         228.42        0.0800
               291.43         228.16        0.0800
               297.76         227.00    0.0800 /0.0350  Main Channel
               298.76         225.00        0.0350      Main Channel
               312.76         225.00        0.0350      Main Channel
               313.76         227.00    0.0350 /0.0800  Main Channel
               326.97         229.50        0.0800
               348.30         230.29        0.0800
               376.73         229.76        0.0800
               490.46         235.75        0.0800
               568.65         236.24        0.0800
               661.06         241.85        0.0800
               703.71         246.04        0.0800

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.67   225.67    .141E+05       6.6          0.69      35.86
      1.33   226.33    .289E+05      20.4          1.04      23.65
      2.00   227.00    .443E+05      39.3          1.31      18.81
      2.93   227.93    .730E+05      77.8          1.57      15.64
      3.85   228.85    .123E+06     131.1          1.57      15.65
      4.78   229.78    .228E+06     205.6          1.33      18.51
      5.70   230.70    .503E+06     356.7          1.05      23.49
      6.63   231.63    .846E+06     608.7          1.06      23.17
      7.55   232.55    .123E+07     946.4          1.14      21.65
      8.48   233.48    .165E+07    1367.0          1.22      20.13
      9.41   234.41    .211E+07    1871.8          1.31      18.80
     10.33   235.33    .261E+07    2463.2          1.40      17.65
     11.26   236.26    .317E+07    2999.4          1.40      17.63
     12.18   237.18    .384E+07    3848.3          1.48      16.63
     13.11   238.11    .454E+07    4806.0          1.56      15.75
     14.03   239.03    .528E+07    5876.9          1.64      14.97
     14.96   239.96    .605E+07    7062.7          1.72      14.29
     15.88   240.88    .687E+07    8365.0          1.80      13.68
     16.81   241.81    .771E+07    9506.9          1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   694.06   12.00 151.35      6.86      1.08
     OUTFLOW: ID= 1 (6210) *******   681.04   12.25 151.35      6.82      1.08


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0210)  |   Area    (ha)= 218.27   Curve Number   (CN)= 91.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   3.454

     PEAK FLOW       (cms)=  15.594 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 182.915
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.863

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0210):   218.27  15.594    11.25   182.92
      + ID2= 2 (6210): 15415.45 681.044    12.25   151.35
        ================================================
        ID = 3 (8150): 15633.72 695.155    12.25   151.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0218)  |   Area    (ha)= 152.25   Curve Number   (CN)= 84.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   3.278

     PEAK FLOW       (cms)=  11.927 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 165.604
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.781

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0216)  |   Area    (ha)= 145.77   Curve Number   (CN)= 88.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   4.768

     PEAK FLOW       (cms)=  13.676 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 172.603
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.814
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB           |
| STANDHYD  (2121) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  93.00   Dir. Conn.(%)=  75.00
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	52.08	3.92
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	611.01	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	53.00	188.05
over (min)	15.00	30.00
Storage Coeff. (min)=	12.01 (ii)	20.32 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.05

		TOTALS
PEAK FLOW (cms)=	6.15	1.91	8.062 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	197.96	206.99
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.93	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB           |
| STANDHYD  (2122) |   Area    (ha)= 272.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  23.00
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	79.00	193.40
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1347.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	53.00	54.48
over (min)	15.00	45.00
Storage Coeff. (min)=	19.31 (ii)	32.94 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.06	0.03

		TOTALS
PEAK FLOW (cms)=	8.91	24.28	31.777 (iii)
TIME TO PEAK (hrs)=	10.00	10.50	10.25
RUNOFF VOLUME (mm)=	210.00	170.90	179.89
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.81	0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (8152) |
|   1 +  2 =  3    |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2121):	56.00	8.062	10.00	206.99
+ ID2= 2 (2122):	272.40	31.777	10.25	179.89
ID = 3 (8152):	328.40	39.312	10.00	184.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (2141.0) ------>

Distance	Elevation	Manning
0.00	259.29	0.0500
15.33	258.91	0.0500
38.33	258.57	0.0500
65.16	257.93	0.0500
95.82	253.44	0.0500
111.15	251.21	0.0500
130.32	249.67	0.0500
149.48	248.51	0.0500	
150.66	248.50	0.0500 /0.0370	Main Channel
150.81	247.50	0.0370	Main Channel
154.66	247.50	0.0370	Main Channel
155.66	248.50	0.0370 /0.0500	Main Channel
160.98	248.50	0.0500	
187.81	249.78	0.0500	
199.31	252.13	0.0500	
245.30	254.04	0.0500	
264.46	253.99	0.0500	
298.96	255.23	0.0500	
329.62	257.02	0.0500	
379.45	258.82	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	248.00	.648E+04	2.1	1.00	52.30
1.00	248.50	.139E+05	6.4	1.44	36.35
1.61	249.11	.570E+05	22.6	1.24	42.01
2.21	249.71	.143E+06	63.6	1.39	37.61
2.82	250.32	.263E+06	142.9	1.70	30.69
3.43	250.93	.403E+06	257.2	2.00	26.11
4.04	251.54	.562E+06	410.4	2.29	22.82
4.64	252.14	.735E+06	601.3	2.56	20.37
5.25	252.75	.933E+06	791.0	2.66	19.67
5.86	253.36	.117E+07	1038.0	2.79	18.74
6.46	253.96	.144E+07	1344.4	2.93	17.82
7.07	254.57	.178E+07	1664.1	2.93	17.83
7.68	255.18	.217E+07	2140.2	3.10	16.87
8.28	255.78	.259E+07	2722.9	3.30	15.83
8.89	256.39	.304E+07	3387.1	3.50	14.94
9.50	257.00	.351E+07	4132.7	3.69	14.16
10.11	257.61	.402E+07	4913.0	3.83	13.64
10.71	258.21	.458E+07	5648.3	3.87	13.50
11.32	258.82	.521E+07	6343.1	3.82	13.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8152)	328.40	39.31	10.00	184.51	1.85	1.30
OUTFLOW: ID= 1 (6214)	328.40	34.32	11.00	184.51	1.78	1.28

```
| CALIB           |
| STANDHYD  (8214) |   Area    (ha)= 316.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	79.24	237.71
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1453.62	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	53.00	59.77
over (min)	15.00	45.00
Storage Coeff. (min)=	20.20 (ii)	33.35 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.06	0.03

		TOTALS
PEAK FLOW (cms)=	4.04	32.61	35.849 (iii)
TIME TO PEAK (hrs)=	10.00	10.50	10.50
RUNOFF VOLUME (mm)=	210.00	164.82	168.88
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.78	0.80

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (8154) |
|   1 +  2 =  3    |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8214):	316.95	35.849	10.50	168.88
+ ID2= 2 (6214):	328.40	34.323	11.00	184.51
ID = 3 (8154):	645.35	68.345	10.50	176.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8156) |
```

```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0216):   145.77  13.676    11.00   172.60
      + ID2= 2 (8154):   645.35  68.345    10.50   176.84
        ================================================
        ID = 3 (8156):   791.12  81.502    10.75   176.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (2181.0) ------>
             Distance      Elevation       Manning
                0.00         256.38        0.0450
                7.70         254.85        0.0450
               15.40         253.20        0.0450
               19.25         252.29        0.0450
               23.10         251.17        0.0450
               78.94         236.16        0.0450
               80.87         235.80        0.0450
               82.79         235.45        0.0450
               84.57         234.60    0.0450 /0.0300  Main Channel
               85.07         233.60        0.0300      Main Channel
               88.57         233.60        0.0300      Main Channel
               93.57         233.60        0.0300      Main Channel
               94.07         234.60    0.0300 /0.0450  Main Channel
               96.27         235.13        0.0450
               98.19         235.20        0.0450
              100.12         235.32        0.0450
              138.63         239.95        0.0450
              180.98         244.80        0.0450
              188.69         245.00        0.0450
              190.61         256.00        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       1.00   234.60    .181E+05      6.0          0.66       50.64
       2.13   235.73    .518E+05     23.8          0.93       36.27
       3.25   236.85    .119E+06     60.0          1.02       33.03
       4.38   237.98    .217E+06    120.6          1.12       29.99
       5.51   239.11    .346E+06    210.5          1.23       27.39
       6.63   240.23    .506E+06    334.1          1.33       25.22
       7.76   241.36    .697E+06    495.6          1.43       23.44
       8.88   242.48    .920E+06    699.8          1.53       21.91
      10.01   243.61    .117E+07    950.8          1.63       20.59
      11.14   244.74    .146E+07   1252.5          1.73       19.45
      12.26   245.86    .178E+07   1619.6          1.83       18.37
      13.39   246.99    .212E+07   2078.5          1.97       17.01
      14.52   248.12    .247E+07   2589.0          2.11       15.88
      15.64   249.24    .282E+07   3149.7          2.25       14.94
      16.77   250.37    .319E+07   3759.8          2.37       14.14
      17.89   251.49    .356E+07   4419.5          2.50       13.44
      19.02   252.62    .395E+07   5126.4          2.61       12.84
      20.15   253.75    .435E+07   5871.6          2.72       12.34
      21.27   254.87    .476E+07   6663.2          2.82       11.89

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8156)  791.12    81.50   10.75 176.06      3.65      1.05
    OUTFLOW: ID= 1 (6218)  791.12    74.98   11.00 176.06      3.54      1.04


-------------------------------------------------------------------------------
------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0218):   152.25  11.927    11.00   165.60
      + ID2= 2 (6218):   791.12  74.976    11.00   176.06
        ================================================
        ID = 3 (8158):   943.37  86.903    11.00   174.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8150): 15633.72 695.155    12.25   151.79
      + ID2= 2 (8158):   943.37  86.903    11.00   174.37
        ================================================
        ID = 3 (8151): 16577.09 762.042    12.00   153.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```

```
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (2201.0) ------>
             Distance      Elevation       Manning
                0.00         245.59        0.0600
                5.76         245.45        0.0600
               23.03         242.27        0.0600
               57.58         232.35        0.0600
               86.37         226.18        0.0600
              109.41         224.31        0.0600
              115.17         223.86        0.0600
              120.92         222.78        0.0600
              126.68         221.93        0.0600
              128.06         221.50    0.0600 /0.0300  Main Channel
              129.56         220.00        0.0300      Main Channel
              141.56         220.00        0.0300      Main Channel
              143.06         221.50    0.0300 /0.0600  Main Channel
              149.72         223.77        0.0600
              155.47         225.09        0.0600
              253.36         229.21        0.0600
              333.98         227.50        0.0600
              454.90         229.25        0.0600
              500.97         233.11        0.0600
              570.07         237.42        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   220.75    .262E+05      5.5          0.57       79.44
       1.50   221.50    .555E+05     17.5          0.86       52.89
       2.44   222.44    .103E+06     42.7          1.14       40.03
       3.37   223.37    .171E+06     79.4          1.27       35.98
       4.31   224.31    .263E+06    128.1          1.33       34.22
       5.25   225.25    .393E+06    191.7          1.34       34.19
       6.18   226.18    .594E+06    276.7          1.28       35.77
       7.12   227.12    .872E+06    399.9          1.26       36.33
       8.06   228.06    .127E+07    542.7          1.17       38.92
       8.99   228.99    .199E+07    770.0          1.06       43.01
       9.93   229.93    .297E+07   1151.8          1.06       42.95
      10.86   230.86    .400E+07   1652.9          1.13       40.33
      11.80   231.80    .507E+07   2251.8          1.22       37.53
      12.74   232.74    .618E+07   2946.5          1.31       34.97
      13.67   233.67    .733E+07   3726.8          1.39       32.79
      14.61   234.61    .853E+07   4591.0          1.48       30.96
      15.55   235.55    .977E+07   5544.1          1.55       29.37
      16.48   236.48    .111E+08   6586.7          1.63       27.99
      17.42   237.42    .124E+08   7719.2          1.71       26.77

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA     QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8151) *******   762.04   12.00 153.08      8.96      1.07
    OUTFLOW: ID= 1 (6220) *******   700.18   12.50 153.08      8.72      1.09


-------------------------------------------------------------------------------
------------------
| CALIB            |
| NASHYD    (0220) |   Area    (ha)= 169.10   Curve Number   (CN)= 86.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.923

     PEAK FLOW       (cms)=   9.727 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 173.713
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.819

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0220):   169.10   9.727    11.75   173.71
      + ID2= 2 (6220): 16577.09 700.182    12.50   153.08
        ================================================
        ID = 3 (8160): 16746.19 709.374    12.50   153.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| CALIB            |
| NASHYD    (0226) |   Area    (ha)= 237.58   Curve Number   (CN)= 88.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   3.852
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     PEAK FLOW      (cms)=  16.809 (i)
     TIME TO PEAK   (hrs)=  11.250
     RUNOFF VOLUME   (mm)= 176.368
     TOTAL RAINFALL  (mm)= 212.000
     RUNOFF COEFFICIENT  =   0.832

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (2221) |   Area    (ha)= 145.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.27        92.93
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        65.59
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.98 (ii)   28.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.99        14.76        18.621 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00       184.67        189.49
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.87          0.89

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2222) |   Area    (ha)=  74.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  41.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.95        16.35
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     703.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00       141.33
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.07 (ii)   22.39 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.45         5.89         10.337 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00       198.40         203.16
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.94           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8164) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2221):   145.20  18.621    10.00   189.49
       + ID2= 2 (2222):    74.30  10.337    10.00   203.16
         ==========================================
         ID = 3 (8164):   219.50  28.958    10.00   194.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0224) |   Area    (ha)= 140.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  26.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.75        92.70
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     967.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        58.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.83 (ii)   29.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.28        13.09         18.253 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25          10.00
     RUNOFF VOLUME    (mm)=     210.00       187.32         193.22
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.88           0.91

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0224):   140.45  18.253    10.00   193.22
       + ID2= 2 (8164):   219.50  28.958    10.00   194.11
         ==========================================
         ID = 3 (8166):   359.95  47.211    10.00   193.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2261.0) ------>
              Distance      Elevation        Manning
                 0.00         245.35         0.0600
                 8.27         242.72         0.0600
                16.54         240.01         0.0600
                31.02         235.31         0.0600
                41.36         233.14         0.0600
                90.99         227.73         0.0600
                93.06         227.50         0.0600
                95.13         227.27         0.0600
                95.83         227.00         0.0600
               100.83         226.50    0.0600 /0.0350  Main Channel
               101.33         225.50         0.0350     Main Channel
               101.83         226.50    0.0350 /0.0600  Main Channel
               105.83         227.00         0.0600
               107.54         227.39         0.0600
               109.60         227.62         0.0600
               111.67         227.86         0.0600
               146.83         231.76         0.0600
               173.71         234.77         0.0600
               186.12         238.23         0.0600
               202.67         238.35         0.0600

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
     0.50   226.00    .403E+03        0.0         0.16     330.59
     1.00   226.50    .161E+04        0.1         0.26     208.26
     1.70   227.20    .173E+05        1.5         0.27     195.72
     2.39   227.89    .541E+05        5.9         0.35     152.27
     3.09   228.59    .119E+06       16.0         0.43     124.08
     3.79   229.29    .212E+06       33.8         0.51     104.65
     4.49   229.99    .334E+06       61.2         0.59      90.97
     5.18   230.68    .484E+06       99.7         0.66      80.88
     5.88   231.38    .663E+06      151.0         0.73      73.13
     6.58   232.08    .870E+06      216.5         0.80      66.95
     7.27   232.77    .111E+07      297.5         0.87      61.91
     7.97   233.47    .137E+07      398.1         0.94      57.29
     8.67   234.17    .165E+07      518.9         1.01      53.12
     9.36   234.86    .196E+07      658.9         1.08      49.59
    10.06   235.56    .228E+07      827.0         1.17      46.02
    10.76   236.26    .262E+07     1015.4         1.25      42.96
    11.46   236.96    .296E+07     1221.2         1.33      40.41
    12.15   237.65    .332E+07     1444.6         1.40      38.26
    12.85   238.35    .368E+07     1598.2         1.40      38.42

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK    TPEAK   R.V.    MAX DEPTH  MAX VEL
                            (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8166)  359.95   47.21    10.00 193.76      4.13      0.55
    OUTFLOW: ID= 1 (6226)  359.95   32.72    11.00 193.76      3.75      0.51
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| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0226):   237.58  16.809    11.25   176.37
       + ID2= 2 (6226):   359.95  32.720    11.00   193.76
         ==========================================
         ID = 3 (8168):   597.53  49.479    11.00   186.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8162) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8160): 16746.19 709.374    12.50   153.29
       + ID2= 2 (8168):   597.53  49.479    11.00   186.84
         ==========================================
         ID = 3 (8162): 17343.72 744.520    12.25   154.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2281.0) ------>
             Distance       Elevation       Manning
                0.00          245.00        0.0600
               18.60          244.74        0.0600
               37.20          242.47        0.0600
               93.01          233.71        0.0600
              125.57          226.95        0.0600
              213.93          221.63        0.0600
              218.58          221.15        0.0600
              223.23          220.45        0.0600
              225.03          220.55    0.0600 /0.0300  Main Channel
              225.53          218.05        0.0300      Main Channel
              232.53          218.05        0.0300      Main Channel
              240.03          218.05        0.0300      Main Channel
              241.03          220.55    0.0300 /0.0600  Main Channel
              246.48          221.00        0.0600
              251.13          221.27        0.0600
              255.78          221.22        0.0600
              325.54          225.25        0.0600
              367.40          228.91        0.0600
              404.60          231.75        0.0600
              460.41          245.00        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.25   219.30   .338E+05       16.0        0.86      35.15
       2.50   220.55   .696E+05       48.3        1.26      24.02
       3.94   221.99   .168E+06      116.0        1.26      24.14
       5.38   223.43   .392E+06      247.5        1.15      26.37
       6.81   224.86   .743E+06      472.6        1.16      26.20
       8.25   226.30   .122E+07      821.6        1.23      24.67
       9.69   227.74   .179E+07     1320.1        1.34      22.59
      11.13   229.18   .243E+07     1965.7        1.47      20.58
      12.57   230.62   .313E+07     2744.2        1.59      19.02
      14.01   232.06   .390E+07     3683.4        1.72      17.66
      15.44   233.49   .472E+07     4824.1        1.86      16.30
      16.88   234.93   .557E+07     6092.4        1.99      15.23
      18.32   236.37   .646E+07     7503.3        2.11      14.35
      19.76   237.81   .739E+07     9061.2        2.23      13.59
      21.20   239.25   .836E+07    10767.6        2.34      12.94
      22.64   240.69   .937E+07    12624.8        2.45      12.37
      24.07   242.12   .104E+08    14634.9        2.56      11.87
      25.51   243.56   .115E+08    16762.8        2.65      11.45
      26.95   245.00   .127E+08    18699.9        2.69      11.28

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   744.52   12.25 154.44      7.94      1.21
     OUTFLOW: ID= 1 (6228) *******   718.75   13.00 154.44      7.85      1.21


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-------------------
| CALIB             |
| NASHYD    (0228)  |   Area    (ha)= 310.54   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   4.751

     PEAK FLOW       (cms)=  19.165 (i)

     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 152.445
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.719

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0228):   310.54  19.165    11.25   152.45
       + ID2= 2 (6228): 17343.72 718.748    13.00   154.44
         ==========================================
         ID = 3 (8170): 17654.26 734.174    12.50   154.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2302)  |   Area    (ha)= 126.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.14         97.56
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      919.06         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         59.79
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.34 (ii)    28.49 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.65         14.10         15.593 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.25         10.00
     RUNOFF VOLUME    (mm)=     210.00        173.78        177.04
     TOTAL RAINFALL   (mm)=     212.00        212.00        212.00
     RUNOFF COEFFICIENT   =       0.99          0.82          0.84

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2301)  |   Area    (ha)=  78.80
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  19.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       39.40         39.40
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      724.80         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      53.00         83.55
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.31 (ii)    24.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.19          8.17         10.355 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00          10.00
     RUNOFF VOLUME    (mm)=     210.00        182.95         188.09
     TOTAL RAINFALL   (mm)=     212.00        212.00         212.00
     RUNOFF COEFFICIENT   =       0.99          0.86           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (2301):    78.80  10.355    10.00   188.09
        + ID2= 2 (2302):   126.70  15.593    10.00   177.04
          ================================================
          ID = 3 (8172):   205.50  25.948    10.00   181.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0232) |   Area     (ha)= 314.80   Curve Number   (CN)= 77.3
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   5.391

     PEAK FLOW       (cms)=  20.468 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 150.609
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.710

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0232):   314.80  20.468    11.25   150.61
        + ID2= 2 (8172):   205.50  25.948    10.00   181.28
          ================================================
          ID = 3 (8173):   520.30  42.272    11.00   162.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8170): 17654.26 734.174    12.50   154.41
        + ID2= 2 (8173):   520.30  42.272    11.00   162.72
          ================================================
          ID = 3 (8174): 18174.56 758.520    12.25   154.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                   0.00         228.00        0.0550
                  42.86         223.21        0.0550
                  85.72         219.56        0.0550
                 107.15         219.42        0.0550
                 128.58         219.39        0.0550
                 214.30         219.30        0.0550
                 225.02         219.26        0.0550
                 235.73         219.24        0.0550
                 255.16         219.20    0.0550 /0.0350  Main Channel
                 257.16         217.20        0.0350      Main Channel
                 303.16         217.20        0.0350      Main Channel
                 305.16         219.20    0.0350 /0.0550  Main Channel
                 310.74         219.28        0.0550
                 321.45         219.27        0.0550
                 332.17         219.26        0.0550
                 396.46         219.29        0.0550
                 782.20         222.91        0.0550
                 878.64         227.43        0.0550
                 964.36         227.80        0.0550
                1060.79         228.00        0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   217.70    .887E+05       7.2         0.31     206.54
       1.00   218.20    .179E+06      22.7         0.48     131.74
       1.50   218.70    .272E+06      44.5         0.62     101.75
       2.00   219.20    .366E+06      71.8         0.75      84.97
       2.59   219.79    .993E+06     136.1         0.52     121.59
       3.17   220.37    .189E+07     258.6         0.52     121.80
       3.76   220.96    .294E+07     434.7         0.56     112.82
       4.35   221.55    .415E+07     665.9         0.61     103.88
       4.93   222.13    .551E+07     955.0         0.66      96.22
       5.52   222.72    .703E+07    1305.1         0.71      89.80
       6.11   223.31    .868E+07    1744.9         0.77      82.91
       6.69   223.89    .104E+08    2261.4         0.83      76.46
       7.28   224.48    .121E+08    2838.0         0.89      71.12
       7.87   225.07    .139E+08    3472.9         0.95      66.63
       8.45   225.65    .157E+08    4165.0         1.01      62.82
       9.04   226.24    .176E+08    4913.5         1.07      59.54
       9.63   226.83    .194E+08    5717.7         1.12      56.68
      10.21   227.41    .214E+08    6577.1         1.17      54.18
      10.80   228.00    .235E+08    6919.5         1.12      56.61

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)   (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   758.52   12.25 154.65      4.53      0.63
     OUTFLOW: ID= 1 (6234) *******   654.80   13.75 154.65      4.31      0.61

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-------------------
| CALIB           |
| STANDHYD  (0234) |   Area     (ha)= 267.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       58.78        208.38
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1334.57         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       53.00         46.93
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       19.19 (ii)    33.67 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.04         22.07        24.494 (iii)
     TIME TO PEAK    (hrs)=       10.00         10.50         10.50
     RUNOFF VOLUME    (mm)=      210.00        120.77        127.91
     TOTAL RAINFALL   (mm)=      212.00        212.00        212.00
     RUNOFF COEFFICIENT   =        0.99          0.57          0.60

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0234):   267.16  24.494    10.50   127.91
        + ID2= 2 (6234): 18174.56 654.799    13.75   154.65
          ================================================
          ID = 3 (8176): 18441.72 655.562    13.75   154.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0238) |   Area     (ha)= 311.70   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=  14.547 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 138.280
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.652

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0236) |   Area     (ha)= 494.49   Curve Number   (CN)= 72.5
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   6.830

     PEAK FLOW       (cms)=  26.862 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 140.203
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.661

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2381.0) ------>
               Distance      Elevation       Manning
                  0.00         241.54        0.0380
                602.55         227.00        0.0380
               1702.00         224.50        0.0380
               1721.25         223.00        0.0380
               1725.10         222.60        0.0380
               1780.94         222.50        0.0380
               1782.87         222.45        0.0380
               1784.79         222.40    0.0380 /0.0300  Main Channel
               1786.57         221.75        0.0300      Main Channel
               1787.07         220.75        0.0300      Main Channel
               1787.57         220.75        0.0300      Main Channel
               1791.57         220.75        0.0300      Main Channel
               1794.07         221.75        0.0300      Main Channel
               1798.27         222.00        0.0300      Main Channel
               1800.19         222.35    0.0300 /0.0380  Main Channel
               1802.12         222.47        0.0380
               1840.63         223.00        0.0380
               1900.00         225.00        0.0380
               1950.00         226.00        0.0380
               2242.61         240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.80   221.55    .101E+05         5.2          1.14        32.36
       1.60   222.35    .296E+05        18.7          1.40        26.36
       2.64   223.39    .249E+06       151.8          1.35        27.33
       3.68   224.43    .613E+06       512.2          1.85        19.94
       4.71   225.46    .152E+07      1066.8          1.55        23.80
       5.75   226.50    .359E+07      2824.9          1.75        21.16
       6.79   227.54    .663E+07      6528.0          2.18        16.93
       7.83   228.58    .994E+07     12158.6          2.71        13.62
       8.87   229.62    .134E+08     19268.8          3.19        11.58
       9.91   230.66    .170E+08     27785.3          3.63        10.19
      10.94   231.69    .207E+08     37667.1          4.03         9.18
      11.98   232.73    .246E+08     48891.7          4.40         8.40
      13.02   233.77    .287E+08     61448.0          4.75         7.78
      14.06   234.81    .329E+08     75332.7          5.08         7.28
      15.10   235.85    .372E+08     90547.8          5.39         6.85
      16.14   236.89    .417E+08     *******          5.69         6.49
      17.17   237.92    .464E+08     *******          5.98         6.18
      18.21   238.96    .512E+08     *******          6.25         5.91
      19.25   240.00    .561E+08     *******          6.52         5.67

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0236)  494.49    26.86   11.50 140.20      1.66      1.40
     OUTFLOW: ID= 1 (6238)  494.49    26.35   12.00 140.20      1.66      1.40


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--------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0238):   311.70  14.547    12.00   138.28
       + ID2= 2 (6238):   494.49  26.346    12.00   140.20
         ================================================
         ID = 3 (8180):   806.19  40.893    12.00   139.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18441.72 655.562    13.75   154.26
       + ID2= 2 (8180):   806.19  40.893    12.00   139.46
         ================================================
         ID = 3 (8178): 19247.91 687.352    13.75   153.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                  0.00         222.00        0.0450
                 11.46         221.00        0.0450
                208.98         221.00        0.0450
                404.04         220.97        0.0450
                808.08         220.83        0.0450
                905.60         220.17        0.0450
                919.53         219.43        0.0450
                933.47         219.22        0.0450
                945.26         219.21    0.0450 /0.0300  Main Channel
                946.26         217.81        0.0300      Main Channel
                975.26         217.81        0.0300      Main Channel
               1003.26         217.81        0.0300      Main Channel
               1005.26         219.21    0.0300 /0.0450  Main Channel
               1017.06         219.28        0.0450
               1030.99         219.26        0.0450
               1044.92         219.23        0.0450
               1058.86         219.23        0.0450
               1253.91         219.22        0.0450
               1323.57         221.05        0.0450
               1379.30         222.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.20   218.01    .307E+05         2.2          0.20      227.52
       0.40   218.21    .617E+05         7.1          0.31      143.95
       0.60   218.41    .928E+05        14.0          0.41      110.33
       0.80   218.61    .124E+06        22.6          0.49       91.46
       1.00   218.81    .156E+06        32.8          0.57       79.15
       1.20   219.01    .188E+06        44.5          0.64       70.38
       1.40   219.21    .220E+06        57.5          0.70       63.77
       1.63   219.44    .413E+06        82.5          0.54       83.52
       1.87   219.68    .632E+06       120.9          0.51       87.03
       2.10   219.91    .858E+06       170.0          0.53       84.11
       2.33   220.14    .109E+07       228.7          0.56       79.62
       2.56   220.37    .134E+07       294.4          0.59       76.03
       2.80   220.61    .162E+07       371.1          0.61       72.75
       3.03   220.84    .192E+07       456.8          0.64       70.18
       3.26   221.07    .251E+07       552.1          0.59       75.74
       3.49   221.30    .333E+07       711.8          0.57       78.07
       3.73   221.54    .417E+07       907.0          0.58       76.62
       3.96   221.77    .502E+07      1134.1          0.61       73.70
       4.19   222.00    .587E+07      1390.9          0.64       70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   687.35   13.75 153.64      3.46      0.58
     OUTFLOW: ID= 1 (6240) *******   626.30   14.75 153.64      3.37      0.58


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| CALIB            |
| NASHYD    (0240) |   Area     (ha)= 434.37   Curve Number   (CN)= 65.5
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   2.058

     PEAK FLOW       (cms)=   9.581 (i)
     TIME TO PEAK    (hrs)=  13.250
     RUNOFF VOLUME    (mm)= 125.546
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.592

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0240):   434.37   9.581    13.25   125.55
       + ID2= 2 (6240): 19247.91 626.303    14.75   153.64
         ================================================
         ID = 3 (8182): 19682.28 635.522    14.75   153.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0242) |   Area     (ha)= 657.88   Curve Number   (CN)= 70.6
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.090

     PEAK FLOW       (cms)=  10.917 (i)
     TIME TO PEAK    (hrs)=  14.750
     RUNOFF VOLUME    (mm)= 136.883
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.646

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8184) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0242):   657.88  10.917    14.75   136.88
       + ID2= 2 (8182): 19682.28 635.522    14.75   153.02
         ================================================
         ID = 3 (8184): 20340.16 646.439    14.75   152.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2441.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0450
                   2.50         220.10        0.0450
                   3.00         220.06        0.0450
                   3.64         220.07        0.0450
                   7.28         220.08        0.0450
                  10.91         220.09        0.0450
                  14.55         219.81        0.0450
                  18.19         219.29        0.0450
                  24.13         219.21    0.0450 /0.0300  Main Channel
                  24.63         217.81        0.0300      Main Channel
                  69.13         217.81        0.0300      Main Channel
                 114.13         217.81        0.0300      Main Channel
                 115.13         219.21    0.0300 /0.0450  Main Channel
                 120.06         219.25        0.0450
                 123.70         219.32        0.0450
                 127.34         219.77        0.0450
                 130.98         219.88        0.0450
                 134.61         219.99        0.0450
                 350.00         220.18        0.0450
                 360.18         225.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35   218.16    .108E+06        9.0        0.29     200.52
       0.70   218.51    .216E+06       28.4        0.45     126.89
       1.05   218.86    .325E+06       55.7        0.59      97.27
       1.40   219.21    .434E+06       89.7        0.71      80.65
       1.79   219.60    .574E+06      135.9        0.81      70.36
       2.17   219.98    .726E+06      190.8        0.90      63.38
       2.56   220.37    .111E+07      264.3        0.82      69.82
       2.94   220.75    .157E+07      371.7        0.81      70.36
       3.33   221.14    .203E+07      503.4        0.85      67.30
       3.72   221.53    .250E+07      656.6        0.90      63.40
       4.10   221.91    .296E+07      829.6        0.96      59.54
       4.49   222.30    .343E+07     1021.1        1.02      56.00
       4.87   222.68    .390E+07     1230.2        1.08      52.83
       5.26   223.07    .437E+07     1456.2        1.14      50.01
       5.65   223.46    .484E+07     1698.4        1.20      47.51
       6.03   223.84    .531E+07     1956.3        1.26      45.28
       6.42   224.23    .579E+07     2229.3        1.32      43.28
       6.80   224.61    .626E+07     2517.0        1.38      41.48
       7.19   225.00    .674E+07     2819.2        1.44      39.85

                                   <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******   646.44   14.75 152.50      3.69      0.90
     OUTFLOW: ID= 1 (6244) *******   618.27   15.75 152.50      3.62      0.89

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--------------------
| CALIB            |
| NASHYD    (0244) |   Area     (ha)=1908.71   Curve Number   (CN)= 78.3
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  14.812

     PEAK FLOW       (cms)=  77.149 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 153.983
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.726

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0244):  1908.71  77.149    12.00   153.98
       + ID2= 2 (6244): 20340.16 618.266    15.75   152.50
         ================================================
         ID = 3 (8186): 22248.87 672.190    15.25   152.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| READ HYD  (8190) |   AREA      (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.00
--------------------   VOLUME      (mm)= 158.54
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Exis
  Comments:

         HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
         ACTUAL PEAK FLOW: PEAK ( 500.76) + BASE (   0.00) =  500.76  (cms).
  TIME     FLOW |  TIME     FLOW |  TIME     FLOW |' TIME     FLOW |  TIME     FLOW
   hrs      cms |   hrs      cms |   hrs      cms |'  hrs      cms |   hrs      cms
  0.00    0.000 | 76.00    8.988 |152.00    1.007 |228.00    0.105 |304.00    0.010
  0.25    0.000 | 76.25    8.918 |152.25    1.000 |228.25    0.104 |304.25    0.010
  0.50    0.332 | 76.50    8.848 |152.50    0.993 |228.50    0.103 |304.50    0.010
  0.75    0.771 | 76.75    8.780 |152.75    0.985 |228.75    0.102 |304.75    0.010
  1.00    1.201 | 77.00    8.713 |153.00    0.978 |229.00    0.101 |305.00    0.010
  1.25    1.492 | 77.25    8.646 |153.25    0.971 |229.25    0.101 |305.25    0.010
  1.50    1.846 | 77.50    8.580 |153.50    0.964 |229.50    0.100 |305.50    0.010
  1.75    2.241 | 77.75    8.515 |153.75    0.957 |229.75    0.099 |305.75    0.010
  2.00    2.705 | 78.00    8.451 |154.00    0.950 |230.00    0.098 |306.00    0.010
  2.25    3.507 | 78.25    8.387 |154.25    0.943 |230.25    0.098 |306.25    0.010
  2.50    4.499 | 78.50    8.325 |154.50    0.936 |230.50    0.097 |306.50    0.010
  2.75    5.741 | 78.75    8.263 |154.75    0.929 |230.75    0.096 |306.75    0.009
  3.00    7.214 | 79.00    8.201 |155.00    0.923 |231.00    0.096 |307.00    0.009
  3.25   10.063 | 79.25    8.141 |155.25    0.916 |231.25    0.095 |307.25    0.009
  3.50   13.769 | 79.50    8.080 |155.50    0.909 |231.50    0.094 |307.50    0.009
  3.75   18.535 | 79.75    8.021 |155.75    0.903 |231.75    0.093 |307.75    0.009
  4.00   24.207 | 80.00    7.962 |156.00    0.896 |232.00    0.093 |308.00    0.009
  4.25   31.608 | 80.25    7.904 |156.25    0.889 |232.25    0.092 |308.25    0.009
  4.50   40.406 | 80.50    7.846 |156.50    0.883 |232.50    0.091 |308.50    0.009
  4.75   50.718 | 80.75    7.789 |156.75    0.876 |232.75    0.091 |308.75    0.009
  5.00   62.413 | 81.00    7.732 |157.00    0.870 |233.00    0.090 |309.00    0.009
  5.25   74.388 | 81.25    7.676 |157.25    0.864 |233.25    0.089 |309.25    0.009
  5.50   86.853 | 81.50    7.621 |157.50    0.857 |233.50    0.089 |309.50    0.009
  5.75   99.647 | 81.75    7.566 |157.75    0.851 |233.75    0.088 |309.75    0.009
  6.00  113.006 | 82.00    7.511 |158.00    0.845 |234.00    0.087 |310.00    0.009
  6.25  129.808 | 82.25    7.457 |158.25    0.839 |234.25    0.087 |310.25    0.008
  6.50  149.127 | 82.50    7.403 |158.50    0.833 |234.50    0.086 |310.50    0.008
  6.75  167.626 | 82.75    7.350 |158.75    0.826 |234.75    0.085 |310.75    0.008
  7.00  186.671 | 83.00    7.297 |159.00    0.820 |235.00    0.085 |311.00    0.008
  7.25  204.144 | 83.25    7.245 |159.25    0.814 |235.25    0.084 |311.25    0.008
  7.50  221.084 | 83.50    7.193 |159.50    0.808 |235.50    0.083 |311.50    0.008
  7.75  237.378 | 83.75    7.142 |159.75    0.803 |235.75    0.083 |311.75    0.008
  8.00  250.318 | 84.00    7.091 |160.00    0.797 |236.00    0.082 |312.00    0.008
  8.25  262.490 | 84.25    7.040 |160.25    0.791 |236.25    0.081 |312.25    0.008
  8.50  272.937 | 84.50    6.990 |160.50    0.785 |236.50    0.081 |312.50    0.008
  8.75  282.661 | 84.75    6.940 |160.75    0.779 |236.75    0.080 |312.75    0.008
  9.00  292.533 | 85.00    6.891 |161.00    0.774 |237.00    0.080 |313.00    0.008
  9.25  314.661 | 85.25    6.842 |161.25    0.768 |237.25    0.079 |313.25    0.008
  9.50  342.089 | 85.50    6.794 |161.50    0.762 |237.50    0.078 |313.50    0.008
  9.75  367.676 | 85.75    6.745 |161.75    0.757 |237.75    0.078 |313.75    0.008
 10.00  394.096 | 86.00    6.698 |162.00    0.751 |238.00    0.077 |314.00    0.008
 10.25  416.633 | 86.25    6.650 |162.25    0.746 |238.25    0.077 |314.25    0.007
 10.50  438.008 | 86.50    6.603 |162.50    0.740 |238.50    0.076 |314.50    0.007
 10.75  456.344 | 86.75    6.556 |162.75    0.735 |238.75    0.076 |314.75    0.007
 11.00  474.685 | 87.00    6.510 |163.00    0.729 |239.00    0.075 |315.00    0.007
 11.25  485.125 | 87.25    6.464 |163.25    0.724 |239.25    0.074 |315.25    0.007
 11.50  492.251 | 87.50    6.418 |163.50    0.719 |239.50    0.074 |315.50    0.007
 11.75  496.660 | 87.75    6.373 |163.75    0.713 |239.75    0.073 |315.75    0.007
 12.00  500.763 | 88.00    6.328 |164.00    0.708 |240.00    0.073 |316.00    0.007
 12.25  500.059 | 88.25    6.283 |164.25    0.703 |240.25    0.072 |316.25    0.007
 12.50  496.428 | 88.50    6.239 |164.50    0.698 |240.50    0.072 |316.50    0.007
 12.75  490.031 | 88.75    6.195 |164.75    0.693 |240.75    0.071 |316.75    0.007
 13.00  483.539 | 89.00    6.151 |165.00    0.688 |241.00    0.071 |317.00    0.007
 13.25  476.896 | 89.25    6.108 |165.25    0.683 |241.25    0.070 |317.25    0.007
 13.50  470.127 | 89.50    6.064 |165.50    0.678 |241.50    0.069 |317.50    0.007
 13.75  463.287 | 89.75    6.022 |165.75    0.673 |241.75    0.069 |317.75    0.007
 14.00  456.319 | 90.00    5.979 |166.00    0.668 |242.00    0.068 |318.00    0.007
 14.25  449.220 | 90.25    5.937 |166.25    0.663 |242.25    0.068 |318.25    0.007
 14.50  442.202 | 90.50    5.895 |166.50    0.658 |242.50    0.067 |318.50    0.007
 14.75  435.404 | 90.75    5.854 |166.75    0.653 |242.75    0.067 |318.75    0.007
 15.00  428.881 | 91.00    5.812 |167.00    0.648 |243.00    0.066 |319.00    0.006
 15.25  422.654 | 91.25    5.771 |167.25    0.643 |243.25    0.066 |319.25    0.006
 15.50  416.681 | 91.50    5.731 |167.50    0.639 |243.50    0.065 |319.50    0.006
 15.75  410.932 | 91.75    5.690 |167.75    0.634 |243.75    0.065 |319.75    0.006
 16.00  405.390 | 92.00    5.650 |168.00    0.629 |244.00    0.064 |320.00    0.006
 16.25  400.041 | 92.25    5.611 |168.25    0.625 |244.25    0.064 |320.25    0.006
 16.50  394.877 | 92.50    5.571 |168.50    0.620 |244.50    0.063 |320.50    0.006
 16.75  389.887 | 92.75    5.532 |168.75    0.616 |244.75    0.063 |320.75    0.006
 17.00  385.063 | 93.00    5.493 |169.00    0.611 |245.00    0.062 |321.00    0.006
 17.25  380.402 | 93.25    5.454 |169.25    0.607 |245.25    0.062 |321.25    0.006
 17.50  375.903 | 93.50    5.416 |169.50    0.602 |245.50    0.062 |321.50    0.006
 17.75  371.558 | 93.75    5.378 |169.75    0.598 |245.75    0.061 |321.75    0.006
 18.00  367.360 | 94.00    5.340 |170.00    0.593 |246.00    0.061 |322.00    0.006
 18.25  363.301 | 94.25    5.302 |170.25    0.589 |246.25    0.060 |322.25    0.006
 18.50  359.374 | 94.50    5.265 |170.50    0.585 |246.50    0.060 |322.50    0.006
 18.75  355.575 | 94.75    5.228 |170.75    0.580 |246.75    0.059 |322.75    0.006
 19.00  351.870 | 95.00    5.191 |171.00    0.576 |247.00    0.059 |323.00    0.006
 19.25  348.266 | 95.25    5.154 |171.25    0.572 |247.25    0.058 |323.25    0.006
 19.50  344.551 | 95.50    5.118 |171.50    0.568 |247.50    0.058 |323.50    0.006
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19.75	340.133	95.75	5.082	171.75	0.563	247.75	0.057	323.75	0.006	43.50	193.454	119.50	2.584	195.50	0.278	271.50	0.028	347.50	0.003
20.00	335.877	96.00	5.046	172.00	0.559	248.00	0.057	324.00	0.006	43.75	191.713	119.75	2.566	195.75	0.276	271.75	0.028	347.75	0.003
20.25	331.767	96.25	5.010	172.25	0.555	248.25	0.057	324.25	0.005	44.00	189.769	120.00	2.547	196.00	0.274	272.00	0.027	348.00	0.003
20.50	327.798	96.50	4.975	172.50	0.551	248.50	0.056	324.50	0.005	44.25	187.674	120.25	2.529	196.25	0.272	272.25	0.027	348.25	0.003
20.75	323.964	96.75	4.940	172.75	0.547	248.75	0.056	324.75	0.005	44.50	185.480	120.50	2.511	196.50	0.270	272.50	0.027	348.50	0.003
21.00	320.261	97.00	4.905	173.00	0.543	249.00	0.055	325.00	0.005	44.75	183.234	120.75	2.493	196.75	0.268	272.75	0.027	348.75	0.003
21.25	316.685	97.25	4.871	173.25	0.539	249.25	0.055	325.25	0.005	45.00	180.979	121.00	2.475	197.00	0.266	273.00	0.027	349.00	0.003
21.50	313.231	97.50	4.836	173.50	0.535	249.50	0.054	325.50	0.005	45.25	178.747	121.25	2.457	197.25	0.264	273.25	0.026	349.25	0.003
21.75	309.897	97.75	4.802	173.75	0.531	249.75	0.054	325.75	0.005	45.50	176.567	121.50	2.440	197.50	0.262	273.50	0.026	349.50	0.003
22.00	306.674	98.00	4.768	174.00	0.527	250.00	0.054	326.00	0.005	45.75	174.460	121.75	2.422	197.75	0.260	273.75	0.026	349.75	0.002
22.25	303.548	98.25	4.735	174.25	0.523	250.25	0.053	326.25	0.005	46.00	172.441	122.00	2.405	198.00	0.258	274.00	0.026	350.00	0.002
22.50	300.512	98.50	4.701	174.50	0.519	250.50	0.053	326.50	0.005	46.25	170.521	122.25	2.388	198.25	0.256	274.25	0.026	350.25	0.002
22.75	297.564	98.75	4.668	174.75	0.516	250.75	0.052	326.75	0.005	46.50	168.707	122.50	2.371	198.50	0.254	274.50	0.025	350.50	0.002
23.00	294.703	99.00	4.635	175.00	0.512	251.00	0.052	327.00	0.005	46.75	167.002	122.75	2.354	198.75	0.252	274.75	0.025	350.75	0.002
23.25	291.930	99.25	4.602	175.25	0.508	251.25	0.052	327.25	0.005	47.00	165.406	123.00	2.337	199.00	0.250	275.00	0.025	351.00	0.002
23.50	289.242	99.50	4.570	175.50	0.504	251.50	0.051	327.50	0.005	47.25	163.918	123.25	2.320	199.25	0.249	275.25	0.025	351.25	0.002
23.75	286.638	99.75	4.538	175.75	0.500	251.75	0.051	327.75	0.005	47.50	162.535	123.50	2.304	199.50	0.247	275.50	0.025	351.50	0.002
24.00	283.803	100.00	4.506	176.00	0.497	252.00	0.050	328.00	0.005	47.75	161.253	123.75	2.287	199.75	0.245	275.75	0.024	351.75	0.002
24.25	280.424	100.25	4.474	176.25	0.493	252.25	0.050	328.25	0.005	48.00	160.065	124.00	2.271	200.00	0.243	276.00	0.024	352.00	0.002
24.50	277.245	100.50	4.442	176.50	0.489	252.50	0.050	328.50	0.005	48.25	158.968	124.25	2.254	200.25	0.241	276.25	0.024	352.25	0.002
24.75	274.252	100.75	4.411	176.75	0.486	252.75	0.049	328.75	0.005	48.50	157.956	124.50	2.238	200.50	0.239	276.50	0.024	352.50	0.002
25.00	271.431	101.00	4.380	177.00	0.482	253.00	0.049	329.00	0.005	48.75	157.022	124.75	2.222	200.75	0.238	276.75	0.024	352.75	0.002
25.25	268.772	101.25	4.349	177.25	0.479	253.25	0.049	329.25	0.005	49.00	156.160	125.00	2.206	201.00	0.236	277.00	0.024	353.00	0.002
25.50	266.264	101.50	4.318	177.50	0.475	253.50	0.048	329.50	0.005	49.25	155.366	125.25	2.190	201.25	0.234	277.25	0.023	353.25	0.002
25.75	263.897	101.75	4.288	177.75	0.472	253.75	0.048	329.75	0.005	49.50	154.634	125.50	2.175	201.50	0.232	277.50	0.023	353.50	0.002
26.00	261.660	102.00	4.257	178.00	0.468	254.00	0.048	330.00	0.005	49.75	153.959	125.75	2.159	201.75	0.231	277.75	0.023	353.75	0.002
26.25	259.547	102.25	4.227	178.25	0.465	254.25	0.047	330.25	0.005	50.00	153.336	126.00	2.144	202.00	0.229	278.00	0.023	354.00	0.002
26.50	257.547	102.50	4.197	178.50	0.461	254.50	0.047	330.50	0.005	50.25	152.760	126.25	2.128	202.25	0.227	278.25	0.023	354.25	0.002
26.75	255.655	102.75	4.168	178.75	0.458	254.75	0.046	330.75	0.004	50.50	152.228	126.50	2.113	202.50	0.225	278.50	0.022	354.50	0.002
27.00	253.864	103.00	4.138	179.00	0.454	255.00	0.046	331.00	0.004	50.75	151.734	126.75	2.098	202.75	0.224	278.75	0.022	354.75	0.002
27.25	252.165	103.25	4.109	179.25	0.451	255.25	0.046	331.25	0.004	51.00	151.276	127.00	2.083	203.00	0.222	279.00	0.022	355.00	0.002
27.50	250.555	103.50	4.080	179.50	0.448	255.50	0.045	331.50	0.004	51.25	150.850	127.25	2.068	203.25	0.220	279.25	0.022	355.25	0.002
27.75	249.026	103.75	4.051	179.75	0.444	255.75	0.045	331.75	0.004	51.50	150.453	127.50	2.053	203.50	0.219	279.50	0.022	355.50	0.002
28.00	247.574	104.00	4.022	180.00	0.441	256.00	0.045	332.00	0.004	51.75	150.082	127.75	2.038	203.75	0.217	279.75	0.022	355.75	0.002
28.25	246.193	104.25	3.994	180.25	0.438	256.25	0.044	332.25	0.004	52.00	149.734	128.00	2.023	204.00	0.216	280.00	0.021	356.00	0.002
28.50	244.881	104.50	3.966	180.50	0.435	256.50	0.044	332.50	0.004	52.25	149.408	128.25	2.009	204.25	0.214	280.25	0.021	356.25	0.002
28.75	243.633	104.75	3.937	180.75	0.431	256.75	0.044	332.75	0.004	52.50	149.101	128.50	1.995	204.50	0.212	280.50	0.021	356.50	0.002
29.00	242.445	105.00	3.910	181.00	0.428	257.00	0.043	333.00	0.004	52.75	148.811	128.75	1.980	204.75	0.211	280.75	0.021	356.75	0.002
29.25	241.313	105.25	3.882	181.25	0.425	257.25	0.043	333.25	0.004	53.00	148.536	129.00	1.966	205.00	0.209	281.00	0.021	357.00	0.002
29.50	240.232	105.50	3.854	181.50	0.422	257.50	0.043	333.50	0.004	53.25	148.275	129.25	1.952	205.25	0.208	281.25	0.021	357.25	0.002
29.75	239.201	105.75	3.827	181.75	0.419	257.75	0.042	333.75	0.004	53.50	148.025	129.50	1.938	205.50	0.206	281.50	0.020	357.50	0.002
30.00	238.215	106.00	3.800	182.00	0.416	258.00	0.042	334.00	0.004	53.75	147.786	129.75	1.924	205.75	0.205	281.75	0.020	357.75	0.002
30.25	237.272	106.25	3.773	182.25	0.413	258.25	0.042	334.25	0.004	54.00	147.555	130.00	1.910	206.00	0.203	282.00	0.020	358.00	0.002
30.50	236.158	106.50	3.746	182.50	0.410	258.50	0.041	334.50	0.004	54.25	147.332	130.25	1.896	206.25	0.201	282.25	0.020	358.25	0.002
30.75	234.733	106.75	3.720	182.75	0.407	258.75	0.041	334.75	0.004	54.50	147.117	130.50	1.883	206.50	0.200	282.50	0.020	358.50	0.002
31.00	233.404	107.00	3.693	183.00	0.404	259.00	0.041	335.00	0.004	54.75	146.908	130.75	1.869	206.75	0.198	282.75	0.020	358.75	0.002
31.25	232.378	107.25	3.667	183.25	0.401	259.25	0.040	335.25	0.004	55.00	146.705	131.00	1.856	207.00	0.197	283.00	0.020	359.00	0.002
31.50	231.391	107.50	3.641	183.50	0.398	259.50	0.040	335.50	0.004	55.25	146.508	131.25	1.842	207.25	0.196	283.25	0.019	359.25	0.002
31.75	230.500	107.75	3.615	183.75	0.395	259.75	0.040	335.75	0.004	55.50	146.314	131.50	1.829	207.50	0.194	283.50	0.019	359.50	0.002
32.00	229.679	108.00	3.590	184.00	0.392	260.00	0.040	336.00	0.004	55.75	146.125	131.75	1.816	207.75	0.193	283.75	0.019	359.75	0.002
32.25	228.906	108.25	3.564	184.25	0.389	260.25	0.039	336.25	0.004	56.00	145.940	132.00	1.803	208.00	0.191	284.00	0.019	360.00	0.002
32.50	228.176	108.50	3.539	184.50	0.386	260.50	0.039	336.50	0.004	56.25	145.758	132.25	1.790	208.25	0.190	284.25	0.019	360.25	0.002
32.75	227.485	108.75	3.514	184.75	0.383	260.75	0.039	336.75	0.004	56.50	145.579	132.50	1.777	208.50	0.188	284.50	0.019	360.50	0.002
33.00	226.829	109.00	3.489	185.00	0.380	261.00	0.038	337.00	0.004	56.75	145.403	132.75	1.764	208.75	0.187	284.75	0.019	360.75	0.002
33.25	226.205	109.25	3.464	185.25	0.377	261.25	0.038	337.25	0.004	57.00	145.229	133.00	1.751	209.00	0.186	285.00	0.018	361.00	0.002
33.50	225.609	109.50	3.440	185.50	0.375	261.50	0.038	337.50	0.004	57.25	145.057	133.25	1.739	209.25	0.184	285.25	0.018	361.25	0.002
33.75	225.039	109.75	3.415	185.75	0.372	261.75	0.038	337.75	0.004	57.50	144.887	133.50	1.726	209.50	0.183	285.50	0.018	361.50	0.002
34.00	224.492	110.00	3.391	186.00	0.369	262.00	0.037	338.00	0.004	57.75	144.719	133.75	1.714	209.75	0.181	285.75	0.018	361.75	0.002
34.25	223.965	110.25	3.367	186.25	0.366	262.25	0.037	338.25	0.004	58.00	144.552	134.00	1.701	210.00	0.180	286.00	0.018	362.00	0.002
34.50	223.457	110.50	3.343	186.50	0.364	262.50	0.037	338.50	0.004	58.25	144.387	134.25	1.689	210.25	0.179	286.25	0.018	362.25	0.002
34.75	222.965	110.75	3.319	186.75	0.361	262.75	0.036	338.75	0.004	58.50	144.223	134.50	1.677	210.50	0.177	286.50	0.018	362.50	0.002
35.00	222.488	111.00	3.296	187.00	0.358	263.00	0.036	339.00	0.003	58.75	144.060	134.75	1.665	210.75	0.176	286.75	0.017	362.75	0.002
35.25	222.024	111.25	3.272	187.25	0.356	263.25	0.036	339.25	0.003	59.00	143.899	135.00	1.653	211.00	0.175	287.00	0.017	363.00	0.002
35.50	221.572	111.50	3.249	187.50	0.353	263.50	0.036	339.50	0.003	59.25	143.738	135.25	1.641	211.25	0.173	287.25	0.017	363.25	0.002
35.75	221.128	111.75	3.226	187.75	0.350	263.75	0.035	339.75	0.003	59.50	143.578	135.50	1.629	211.50	0.172	287.50	0.017	363.50	0.002
36.00	220.683	112.00	3.203	188.00	0.348	264.00	0.035	340.00	0.003	59.75	143.419	135.75	1.617	211.75	0.171	287.75	0.017	363.75	0.002
36.25	220.219	112.25	3.180	188.25	0.345	264.25	0.035	340.25	0.003	60.00	143.261	136.00	1.606	212.00	0.170	288.00	0.017	364.00	0.002
36.50	219.722	112.50	3.157	188.50	0.343	264.50	0.034	340.50	0.003	60.25	143.103	136.25	1.594	212.25	0.168	288.25	0.017	364.25	0.002
36.75	219.179	112.75	3.135	188.75	0.340	264.75	0.034	340.75	0.003	60.50	142.946	136.50	1.582	212.50	0.167	288.50	0.017	364.50	0.002
37.00	218.586	113.00	3.113	189.00	0.338	265.00	0.034	341.00	0.003	60.75	142.790	136.75	1.571	212.75	0.166	288.75	0.016	364.75	0.002
37.25	217.939	113.25	3.090	189.25	0.335	265.25	0.034	341.25	0.003	61.00	142.634	137.00	1.560	213.00	0.164	289.00	0.016	365.00	0.002
37.50	217.238	113.50	3.068	189.50	0.333	265.50	0.033	341.50	0.003	61.25	142.479	137.25	1.548	213.25	0.163	289.25	0.016	365.25	0.002
37.75	216.483	113.75	3.047	189.75	0.330	265.75	0.033	341.75	0.003	61.50	142.324	137.50	1.537	213.50	0.162	289.50	0.016	365.50	0.002
38.00	215.676	114.00	3.025	190.00	0.328	266.00	0.033	342.00	0.003	61.75	142.169	137.75	1.526	213.75	0.161	289.75	0.016	365.75	0.002
38.25	214.822	114.25	3.003	190.25	0.325	266.25	0.033	342.25	0.003	62.00	142.015	138.00	1.515	214.00	0.160	290.00	0.016	366.00	0.002
38.50	213.923	114.50	2.982	190.50	0.323	266.50	0.032	342.50	0.003	62.25	141.862	138.25	1.504	214.25	0.158	290.25	0.016	366.25	0.001
38.75	212.985	114.75	2.961	190.75	0.320	266.75	0.032	342.75	0.003	62.50	141.709	138.50	1.493	214.50	0.157	290.50	0.016	366.50	0.001
39.00	212.020	115.00	2.940	191.00	0.318	267.00	0.032	343.00	0.003	62.75	141.556	138.75	1.482	214.75	0.156	290.75	0.015	366.75	0.001
39.25	211.038	115.25	2.919	191.25	0.316	267.25	0.032	343.25	0.003	63.00	141.404	139.00	1.472	215.00	0.155	291.00	0.015	367.00	0.001
39.50	210.047	115.50	2.898	191.50	0.313	267.50	0.031	343.50	0.003	63.25	141.252	139.25	1.461	215.25	0.154	291.25	0.015	367.25	0.001
39.75	209.055	115.75	2.877	191.75	0.311	267.75	0.031	343.75	0.003	63.50	136.076	139.50	1.450	215.50	0.153	291.50	0.015	367.50	0.001
40.00	208.067	116.00	2.857	192.00	0.309	268.00	0.031	344.00	0.003	63.75	127.026	139.75	1.440	215.75	0.151	291.75	0.015	367.75	0.001
40.25	207.085	116.25	2.836	192.25	0.306	268.25	0.031	344.25	0.003	64.00	118.629	140.00	1.429	216.00	0.150	292.00	0.015	368.00	0.001
40.50	206.113	116.50	2.816	192.50	0.304	268.50	0.031	344.50	0.003	64.25	110.839	140.25	1.419	216.25	0.149	292.25	0.015	368.25	0.001
40.75	205.141	116.75	2.796	192.75	0.302	268.75	0.030	344.75	0.003	64.50	98.337	140.50	1.409	216.50	0.148	292.50	0.015	368.50	0.001
41.00	204.153	117.00	2.776	193.00	0.300	269.00	0.030	345.00	0.003	64.75	86.118	140.75	1.399	216.75	0.147	292.75	0.015	368.75	0.001
41.25	203.150	117.25	2.756	193.25	0.297	269.25	0.030	345.25	0.003	65.00	74.276	141.00	1.389	217.00	0.146	293.00	0.014	369.00	0.001
41.50	202.144	117.50	2.737	193.50	0.295	269.50	0.030	345.50	0.003	65.25	57.350	141.25	1.378	217.25	0.145	293.25	0.014	369.25	0.001
41.75	201.141	117.75	2.717	193.75	0.293	269.75	0.029	345.75	0.003	65.50	45.086	141.50	1.368	217.50	0.144	293.50	0.014	369.50	0.001
42.00	200.150	118.00	2.698	194.00	0.291	270.00	0.029	346.00	0.003	65.75	36.187	141.75	1.359	217.75	0.143	293.75	0.014	369.75	0.001
42.25	199.167	118.25	2.678	194.25	0.289	270.25	0.029	346.25	0.003	66.00	29.718	142.00	1.349	218.00	0.141	294.00	0.014	370.00	0.001
42.50	198.182	118.50	2.659	194.50	0.286	270.50	0.029	346.50	0.003	66.25	25.003	142.25	1.339	218.25	0.140	294.25	0.014	370.25	0.001
42.75	197.183	118.75	2.640	194.75	0.284	270.75	0.028	346.75	0.003	66.50	21.555	142.50	1.329	218.50	0.139	294.50	0.014	370.50	0.001
43.00	196.151	119.00	2.621	195.00	0.282	271.00	0.028	347.00	0.003	66.75	19.024	142.75	1.320	218.75	0.138	294.75	0.014	370.75	0.001
43.25	194.945	119.25	2.603	195.25	0.280	271.25	0.028	347.25	0.003	67.00	17.155	143.00	1.310	219.00	0.137	295.00	0.014	371.00	0.001

```
 67.25  15.765 |143.25   1.301 |219.25   0.136 |295.25   0.013 |371.25   0.001
 67.50  14.723 |143.50   1.291 |219.50   0.135 |295.50   0.013 |371.50   0.001
 67.75  13.932 |143.75   1.282 |219.75   0.134 |295.75   0.013 |371.75   0.001
 68.00  13.324 |144.00   1.272 |220.00   0.133 |296.00   0.013 |372.00   0.001
 68.25  12.849 |144.25   1.263 |220.25   0.132 |296.25   0.013 |372.25   0.001
 68.50  12.471 |144.50   1.254 |220.50   0.131 |296.50   0.013 |372.50   0.001
 68.75  12.164 |144.75   1.245 |220.75   0.130 |296.75   0.013 |372.75   0.001
 69.00  11.910 |145.00   1.236 |221.00   0.129 |297.00   0.013 |373.00   0.001
 69.25  11.694 |145.25   1.227 |221.25   0.128 |297.25   0.013 |373.25   0.001
 69.50  11.507 |145.50   1.218 |221.50   0.127 |297.50   0.013 |373.50   0.001
 69.75  11.341 |145.75   1.209 |221.75   0.126 |297.75   0.012 |373.75   0.001
 70.00  11.192 |146.00   1.200 |222.00   0.125 |298.00   0.012 |374.00   0.001
 70.25  11.055 |146.25   1.192 |222.25   0.124 |298.25   0.012 |374.25   0.001
 70.50  10.928 |146.50   1.183 |222.50   0.124 |298.50   0.012 |374.50   0.001
 70.75  10.809 |146.75   1.174 |222.75   0.123 |298.75   0.012 |374.75   0.001
 71.00  10.695 |147.00   1.166 |223.00   0.122 |299.00   0.012 |375.00   0.001
 71.25  10.587 |147.25   1.157 |223.25   0.121 |299.25   0.012 |375.25   0.001
 71.50  10.484 |147.50   1.149 |223.50   0.120 |299.50   0.012 |375.50   0.001
 71.75  10.383 |147.75   1.141 |223.75   0.119 |299.75   0.012 |375.75   0.001
 72.00  10.286 |148.00   1.132 |224.00   0.118 |300.00   0.012 |376.00   0.001
 72.25  10.192 |148.25   1.124 |224.25   0.117 |300.25   0.012 |376.25   0.001
 72.50  10.100 |148.50   1.116 |224.50   0.116 |300.50   0.011 |376.50   0.001
 72.75  10.010 |148.75   1.108 |224.75   0.115 |300.75   0.011 |376.75   0.001
 73.00   9.922 |149.00   1.100 |225.00   0.115 |301.00   0.011 |377.00   0.001
 73.25   9.837 |149.25   1.092 |225.25   0.114 |301.25   0.011 |377.25   0.001
 73.50   9.752 |149.50   1.084 |225.50   0.113 |301.50   0.011 |377.50   0.001
 73.75   9.670 |149.75   1.076 |225.75   0.112 |301.75   0.011 |377.75   0.001
 74.00   9.589 |150.00   1.068 |226.00   0.111 |302.00   0.011 |378.00   0.001
 74.25   9.509 |150.25   1.060 |226.25   0.110 |302.25   0.011 |378.25   0.001
 74.50   9.431 |150.50   1.053 |226.50   0.109 |302.50   0.011 |378.50   0.001
 74.75   9.354 |150.75   1.045 |226.75   0.109 |302.75   0.011 |378.75   0.001
 75.00   9.279 |151.00   1.037 |227.00   0.108 |303.00   0.011 |379.00   0.001
 75.25   9.204 |151.25   1.030 |227.25   0.107 |303.25   0.011 |379.25   0.001
 75.50   9.131 |151.50   1.022 |227.50   0.106 |303.50   0.010 |
 75.75   9.059 |151.75   1.015 |227.75   0.105 |303.75   0.010 |
-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8188) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22248.87 672.190    15.25   152.62
       + ID2= 2 (8190):  1908.71  77.149    12.00   153.98
         ================================================
         ID = 3 (8188): 24157.57 730.927    15.00   152.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (4462) |   Area    (ha)=1366.10   Curve Number   (CN)= 78.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   4.22

    Unit Hyd Qpeak  (cms)=   5.524

    PEAK FLOW       (cms)=  31.915 (i)
    TIME TO PEAK    (hrs)=  13.500
    RUNOFF VOLUME    (mm)= 154.517
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.729

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (4461) |   Area    (ha)= 108.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      54.45        54.45
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     852.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      53.00        69.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.66 (ii)   27.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.75         9.19         13.863 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25          10.00
     RUNOFF VOLUME    (mm)=     210.00       167.34         180.14
     TOTAL RAINFALL   (mm)=     212.00       212.00         212.00
     RUNOFF COEFFICIENT   =       0.99         0.79           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4461):   108.90  13.863    10.00   180.14
       + ID2= 2 (4462):  1366.10  31.915    13.50   154.52
         ================================================
         ID = 3 (8192):  1475.00  37.049    11.00   156.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 24157.57 730.927    15.00   152.73
       + ID2= 2 (8192):  1475.00  37.049    11.00   156.41
         ================================================
         ID = 3 (8194): 25632.58 762.090    15.00   152.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (8442) |   Area    (ha)= 117.26   Curve Number   (CN)= 62.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

    Unit Hyd Qpeak  (cms)=   1.705

    PEAK FLOW       (cms)=   5.668 (i)
    TIME TO PEAK    (hrs)=  11.500
    RUNOFF VOLUME    (mm)= 118.479
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.559

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 77.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

    Unit Hyd Qpeak  (cms)=   3.481

    PEAK FLOW       (cms)=  13.978 (i)
    TIME TO PEAK    (hrs)=  11.250
    RUNOFF VOLUME    (mm)= 151.978
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.717

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 70.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

    Unit Hyd Qpeak  (cms)=   3.738

    PEAK FLOW       (cms)=   9.909 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 133.127
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.628

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 73.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.73

    Unit Hyd Qpeak  (cms)=   4.391

    PEAK FLOW       (cms)=  13.681 (i)
    TIME TO PEAK    (hrs)=  11.000
    RUNOFF VOLUME    (mm)= 141.839
    TOTAL RAINFALL   (mm)= 212.000
    RUNOFF COEFFICIENT   =   0.669
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   4.268 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 123.411
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.582
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   4.268    11.00   123.41
       + ID2= 2 (0436):   187.51  13.681    11.00   141.84
         ==========================================================
         ID = 3 (8206):   244.15  17.949    11.00   137.56
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4381.0) ------>
              Distance      Elevation       Manning
                  0.00         256.00        0.0600
                  9.23         255.50        0.0600
                 27.69         255.00        0.0600
                 50.77         254.90        0.0600
                 64.62         254.85        0.0600
                 78.47         252.26        0.0600
                 96.93         249.44        0.0600
                129.24         245.94        0.0600
                145.40         245.76        0.0600
                146.20         245.80    0.0600 /0.0350  Main Channel
                146.70         245.30        0.0350      Main Channel
                147.70         245.30        0.0350      Main Channel
                148.20         245.80    0.0350 /0.0600  Main Channel
                150.01         245.78        0.0600
                152.32         245.79        0.0600
                163.86         246.72        0.0600
                175.40         249.07        0.0600
                186.94         253.15        0.0600
                196.17         255.38        0.0600
                228.48         255.55        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   245.80   .221E+04        0.9          1.02      40.44
        1.01   246.31   .352E+05       14.0          0.99      41.77
        1.53   246.83   .841E+05       47.3          1.39      29.61
        2.04   247.34   .144E+06      102.0          1.76      23.49
        2.55   247.85   .213E+06      177.3          2.07      19.99
        3.07   248.37   .291E+06      274.4          2.34      17.66
        3.58   248.88   .378E+06      394.6          2.58      15.97
        4.09   249.39   .474E+06      541.4          2.83      14.60
        4.61   249.91   .578E+06      719.9          3.08      13.38
        5.12   250.42   .688E+06      923.8          3.33      12.40
        5.63   250.93   .803E+06     1153.3          3.56      11.61
        6.14   251.44   .925E+06     1408.6          3.77      10.95
        6.66   251.96   .105E+07     1690.6          3.98      10.38
        7.17   252.47   .119E+07     2002.3          4.18       9.88
        7.68   252.98   .133E+07     2345.4          4.38       9.43
        8.20   253.50   .147E+07     2710.1          4.56       9.05
        8.71   254.01   .162E+07     3101.0          4.73       8.72
        9.22   254.52   .178E+07     3521.8          4.90       8.43
        9.74   255.04   .195E+07     3467.6          4.39       9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8206)  244.15   17.95   11.00 137.56      1.07      1.02
     OUTFLOW: ID= 1 (6438)  244.15   16.32   11.50 137.56      1.05      1.01
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| ADD HYD   (8208) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   9.909    11.00   133.13
       + ID2= 2 (6438):   244.15  16.323    11.50   137.56
         ==========================================================
         ID = 3 (8208):   374.85  25.529    11.25   136.02
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35  13.978    11.25   151.98
       + ID2= 2 (8208):   374.85  25.529    11.25   136.02
         ==========================================================
         ID = 3 (8210):   601.20  39.507    11.25   142.03
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB           |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 72.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   6.257 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 139.271
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.657
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB           |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 73.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   9.236 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 139.631
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.659
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB           |
| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 70.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   4.056 (i)
     TIME TO PEAK    (hrs)=  11.000
     RUNOFF VOLUME    (mm)= 132.025
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.623
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB           |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=  16.360 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 152.157
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.718
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| CALIB           |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 77.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37
```

Unit Hyd Qpeak (cms)= 2.293

PEAK FLOW (cms)= 4.565 (i)
TIME TO PEAK (hrs)= 11.000
RUNOFF VOLUME (mm)= 145.658
TOTAL RAINFALL (mm)= 212.000
RUNOFF COEFFICIENT = 0.687

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8198)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0424):	49.57	4.565	11.00	145.66
+	ID2= 2 (0426):	247.17	16.360	11.25	152.16
	ID = 3 (8198):	296.74	20.886	11.00	151.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4281.0) ------>

Distance	Elevation	Manning	
0.00	246.54	0.0900	
8.80	246.29	0.0900	
30.78	246.03	0.0900	
41.78	243.97	0.0900	
63.77	237.16	0.0900	
85.76	232.53	0.0900	
96.75	230.16	0.0900	
109.94	228.40	0.0900	
112.14	228.28	0.0900 /0.0450	Main Channel
112.84	228.00	0.0450	Main Channel
113.34	227.50	0.0450	Main Channel
114.34	227.50	0.0450	Main Channel
114.84	228.00	0.0450	Main Channel
116.54	228.29	0.0450 /0.0900	Main Channel
118.74	228.40	0.0900	
120.94	228.52	0.0900	
149.52	229.51	0.0900	
169.31	230.69	0.0900	
186.00	234.27	0.0900	
217.69	243.56	0.0900	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	228.28	.205E+04	1.6	0.97	21.60
1.58	229.08	.202E+05	16.6	1.02	20.37
2.39	229.89	.665E+05	64.8	1.22	17.11
3.19	230.69	.133E+06	158.1	1.49	14.05
4.00	231.50	.213E+06	308.6	1.82	11.48
4.80	232.30	.299E+06	504.9	2.11	9.89
5.61	233.11	.394E+06	746.6	2.37	8.79
6.41	233.91	.496E+06	1034.5	2.61	7.99
7.21	234.71	.605E+06	1373.3	2.84	7.35
8.02	235.52	.722E+06	1763.3	3.06	6.82
8.82	236.32	.844E+06	2202.0	3.27	6.39
9.63	237.13	.974E+06	2690.5	3.46	6.03
10.43	237.93	.111E+07	3239.5	3.66	5.71
11.23	238.73	.125E+07	3839.0	3.84	5.43
12.04	239.54	.140E+07	4489.1	4.03	5.18
12.84	240.34	.155E+07	5190.5	4.20	4.97
13.65	241.15	.170E+07	5943.8	4.36	4.78
14.45	241.95	.187E+07	6749.8	4.53	4.61
15.26	242.76	.204E+07	7609.4	4.68	4.46

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8198)	296.74	20.89	11.00	151.07	1.66	1.04
OUTFLOW:	ID= 1 (6428)	296.74	20.20	11.25	151.07	1.64	1.04

ADD HYD (8200)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0428):	50.53	4.056	11.00	132.02
+	ID2= 2 (6428):	296.74	20.204	11.25	151.07
	ID = 3 (8200):	347.27	24.019	11.25	148.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8202)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0430):	111.64	9.236	11.00	139.63
+	ID2= 2 (8200):	347.27	24.019	11.25	148.30
	ID = 3 (8202):	458.91	32.909	11.00	146.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6432)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4321.0) ------>

Distance	Elevation	Manning	
0.00	221.00	0.0600	
15.29	219.85	0.0600	
45.86	219.86	0.0600	
76.44	219.96	0.0600	
110.84	220.23	0.0600	
112.00	220.15	0.0600	
114.66	220.09	0.0600	
118.48	219.73	0.0600	
120.80	219.70	0.0600 /0.0350	Main Channel
121.30	219.20	0.0350	Main Channel
122.30	219.20	0.0350	Main Channel
122.80	219.70	0.0350 /0.0600	Main Channel
129.95	220.11	0.0600	
175.81	220.24	0.0600	
214.03	220.55	0.0600	
252.25	220.61	0.0600	
290.47	220.70	0.0600	
328.69	221.04	0.0600	
347.80	221.08	0.0600	
378.37	221.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	219.28	.185E+03	0.0	0.23	149.38
0.17	219.37	.399E+03	0.1	0.34	100.62
0.25	219.45	.641E+03	0.1	0.42	80.98
0.33	219.53	.911E+03	0.2	0.49	69.79
0.42	219.62	.121E+04	0.3	0.55	62.35
0.50	219.70	.154E+04	0.5	0.60	56.91
0.61	219.81	.267E+04	0.7	0.56	61.28
0.71	219.91	.901E+04	1.3	0.30	112.96
0.82	220.02	.249E+05	3.4	0.28	122.71
0.92	220.12	.452E+05	6.8	0.31	109.98
1.03	220.23	.747E+05	12.2	0.33	102.05
1.14	220.34	.112E+06	21.3	0.39	87.59
1.24	220.44	.153E+06	33.0	0.44	77.01
1.35	220.55	.196E+06	47.2	0.49	69.22
1.46	220.66	.248E+06	62.3	0.51	66.48
1.56	220.76	.310E+06	83.4	0.55	62.06
1.67	220.87	.376E+06	108.8	0.59	57.56
1.77	220.97	.444E+06	137.7	0.64	53.77
1.88	221.08	.517E+06	163.6	0.65	52.70

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8202)	458.91	32.91	11.00	146.19	1.24	0.44
OUTFLOW:	ID= 1 (6432)	458.91	27.86	12.00	146.19	1.20	0.42

ADD HYD (8204)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0432):	114.21	6.257	11.50	139.27
+	ID2= 2 (6432):	458.91	27.859	12.00	146.19
	ID = 3 (8204):	573.12	34.014	12.00	144.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8212)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8204):	573.12	34.014	12.00	144.81
+	ID2= 2 (8210):	601.20	39.507	11.25	142.03
	ID = 3 (8212):	1174.32	72.704	11.50	143.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (4421.0) ------>

Distance	Elevation	Manning	
0.00	221.00	0.0350	
26.73	220.80	0.0350	
53.47	220.60	0.0350	
66.83	220.40	0.0350	
80.20	220.20	0.0350	
347.52	220.00	0.0350	
354.21	219.59	0.0350	
360.89	219.50	0.0350	
367.57	219.08	0.0350	
368.76	219.00	0.0350 /0.0300	Main Channel
369.26	218.50	0.0300	Main Channel
374.26	218.50	0.0300	Main Channel
374.76	219.00	0.0300 /0.0350	Main Channel
380.94	220.33	0.0350	
387.62	219.62	0.0350	
394.31	219.23	0.0350	
454.45	219.07	0.0350	
514.60	219.09	0.0350	
660.00	219.19	0.0350	
661.63	221.00	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	218.62	.100E+04	0.2	0.28	92.89
0.25	218.75	.205E+04	0.6	0.43	60.09
0.37	218.87	.315E+04	1.1	0.55	46.99
0.50	219.00	.430E+04	1.8	0.66	39.67
0.63	219.13	.141E+05	3.4	0.37	69.99
0.77	219.27	.652E+05	13.7	0.33	79.14
0.90	219.40	.124E+06	35.5	0.45	58.02
1.03	219.53	.183E+06	65.7	0.56	46.45
1.17	219.67	.245E+06	103.8	0.66	39.30
1.30	219.80	.307E+06	149.3	0.76	34.30
1.43	219.93	.371E+06	201.6	0.85	30.65
1.57	220.07	.440E+06	256.5	0.91	28.56
1.70	220.20	.541E+06	325.7	0.94	27.70
1.83	220.33	.663E+06	415.2	0.98	26.62
1.97	220.47	.787E+06	520.3	1.03	25.21
2.10	220.60	.913E+06	638.5	1.09	23.82
2.23	220.73	.104E+07	767.2	1.15	22.62
2.37	220.87	.117E+07	908.0	1.21	21.54
2.50	221.00	.131E+07	1060.7	1.27	20.57

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8212)	1174.32	72.70	11.50	143.39	1.06	0.58
OUTFLOW: ID= 1 (6442)	1174.32	69.52	12.00	143.39	1.05	0.57

```
-------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0442):	117.26	5.668	11.50	118.48
+ ID2= 2 (6442):	1174.32	69.524	12.00	143.39
ID = 3 (8214):	1291.58	75.109	12.00	141.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8194):	25632.58	762.090	15.00	152.94
+ ID2= 2 (8214):	1291.58	75.109	12.00	141.12
ID = 3 (8196):	26924.15	799.848	14.75	152.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB             |
| NASHYD    (0444)  |   Area    (ha)= 221.65   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=  13.744 (i)
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 145.486
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT    =   0.686

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0444):	221.65	13.744	11.25	145.49
+ ID2= 2 (8196):	26924.15	799.848	14.75	152.38
ID = 3 (8216):	27145.80	805.767	14.50	152.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 FINISH

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APPENDIX D
Future Conditions Hydrologic Input Parameters

Catchment No.	Subwatershed	Soil Type	Agriculture				Open Water / Wetlands				Forest				Open Space				Med. Density Residential								Low Density Residential							
			Area (ha)	Area (%)	CN	Avg CN	Area (ha)	Area (%)	CN	Avg CN	Area (ha)	Area (%)	CN	Avg CN	Area (ha)	Area (%)	CN	Avg CN	Area (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)	Area (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)
Walnut Ridge Subdivision Area																																		
3B	Black River	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	0.0	0.0%	71	0.0	22.56	28.3%	79	22.3	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	62.2	36.1%	79	28.5	30%	18.7	10%	6.22
		B	0.0	0.0%	74	0.0	4.9	33.4%	50	16.7	0.0	0.0%	58	0.0	40.98	51.4%	69	35.4	1.9	100.0%	69	69.0	45%	0.85	15%	0.28	84.8	49.2%	69	33.9	30%	25.5	10%	8.48
		D	0.0	0.0%	86	0.0	5.7	38.5%	50	19.3	0.0	0.0%	77	0.0	0.00	0.0%	84	0.0	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	86	0.0	3.4	22.8%	50	11.4	0.0	0.0%	77	0.0	15.07	18.9%	84	15.9	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	4.4	2.5%	84	2.1	30%	1.3	10%	0.44
		A	0.0	0.0%	62	0.0	0.8	5.2%	50	2.6	0.0	0.0%	30	0.0	1.16	1.5%	49	0.7	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	21.1	12.2%	49	6.0	30%	6.3	10%	2.11
			0.0	0.0%		0.0	14.8	100.0%		50.0	0.0	0.0%		0.0	79.8	100.0%		74.4	1.9	100.0%		69.0		0.9		0.3	172.5	100.0%				70.5		51.7		17.2
4B	Black River	C	2.7	30.3%	82	24.9	0.0	0.0%	50	0.0	0.0	0.0%	71	0.0	0.12	2.9%	79	2.3	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	14.5	34.7%	79	27.4	30%	4.4	10%	1.45
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	3.52	84.2%	69	58.1	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	8.2	19.7%	69	13.6	30%	2.5	10%	0.82
		A	6.2	69.7%	62	43.2	0.0	0.0%	50	0.0	0.0	0.0%	30	0.0	0.54	12.9%	49	6.3	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	19.1	45.7%	49	22.4	30%	5.7	10%	1.91
			8.9	100.0%		68.1	0.0	0.0%		0.0	0.0	0.0%		0.0	4.2	100.0%		68.7	0.0	0.0%		0.0		0.0		0.0	41.8	100.0%				63.3		12.5		4.2
TOTAL			**8.94**	**100.0%**			**14.78**	**100.0%**			**0.00**	**0.0%**			**83.95**	**100.0%**			**1.89**	**100.0%**				**0.85**		**0.28**	**214.31**	**100.0%**				**64.29**		**21.43**
Stonewall Settlement Area																																		
1M	Maskingonge River	B	0.0	0.0%	74	0.0	2.7	11.0%	50	5.5	0.0	0.0%	58	0.0	33.8	43.6%	69	30.1	12.70	100.0%	69	69.0	45%	5.72	15%	1.91	150.4	100.0%	69	69.0	30%	45.1	10%	15.04
		C	0.0	0.0%	82	0.0	4.7	19.3%	50	9.7	0.0	0.0%	71	0.0	34.0	43.8%	79	34.6	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.1	0.0%	79	0.0	30%	0.0	10%	0.01
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	9.8	12.6%	84	10.6	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	86	0.0	16.8	69.6%	50	34.8	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	24.1	100.0%		50.0	0.0	0.0%		0.0	77.7	100.0%		75.3	12.7	100.0%		69.0		5.7		1.9	150.5	100.0%				69.0		45.1		15.0
244	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	10.9	100.0%	69	69.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	112.67	100.0%	69	69.0	30%	33.8	10%	11.27
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	10.9	100.0%		69.0	0.0	0.0%		0.0		0.0		0.0	112.7	100.0%				69.0		33.8		11.3
236	East Holland	B	0.0	0.0%	74	0.0	3.4	100.0%	50	50.0	49.2	79.3%	58	46.0	24.8	100.0%	69	69.0	11.10	100.0%	69	69.0	45%	5.00	15%	1.67	273.91	92.4%	69	63.7	30%	62.1	10%	27.38
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	12.8	20.7%	77	15.9	0.0	0.0%	84	0.0	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	22.58	7.6%	84	6.4	30%	5.8	10%	2.26
			0.0	0.0%		0.0	3.4	100.0%		50.0	62.1	100.0%		61.9	24.8	100.0%		69.0	11.1	100.0%		69.0		5.0		1.7	296.4	100.0%		70.1		88.9		29.6
238	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	1.97	100.0%	69	69.0	30%	0.6	10%	0.20
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0		0.0		0.0	2.0	100.0%		69.0		0.6		0.2
232	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	0.6	100.0%	69	69.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	1.19	100.0%	69	69.0	30%	0.4	10%	0.12
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	0.6	100.0%		69.0	0.0	0.0%		0.0		0.0		0.0	1.2	100.0%		69.0		0.4		0.1
7B	Black River	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	10.0	23.3%	69	16.1	0.8	100.0%	69	69.0	45%	0.38	15%	0.13	30.20	56.3%	69	38.9	30%	9.1	10%	3.02
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	18.0	42.0%	84	35.3	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	23.43	43.7%	84	36.7	30%	7.0	10%	2.34
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	0.0	0.0%	30	0.0	12.7	29.7%	49	14.5	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	0.00	0.0%	49	0.0	30%	0.0	10%	0.00
		C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	0.0	0.0%	71	0.0	2.2	5.1%	79	4.0	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.00	0.0%	79	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	42.9	100.0%		69.9	0.8	100.0%		69.0		0.4		0.1	53.5	100.0%		75.6		16.1		5.4
216	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	3.54	100.0%	69	69.0	30%	1.1	10%	0.35
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0		0.0		0.0	3.5	100.0%		69.0		1.1		0.4
TOTAL			**0.0**	**0.0%**			**27.4**	**100.0%**			**62.1**	**100.0%**			**156.8**	**100.0%**			**24.6**	**100.0%**				**11.1**		**3.7**	**619.8**	**100.0%**				**186.0**		**62.0**
Holland Landing Settlement Area																																		
240	East Holland	C	0.0	0.0%	82	0.0	4.9	24.4%	50	12.2	2.63	30.4%	71	21.6	0.0	0.0%	79	0.0	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	20.4	34.1%	79	26.9	30%	6.1	10%	2.04
		A	0.0	0.0%	62	0.0	2.3	11.4%	50	5.7	0.00	0.0%	30	0.0	0.0	17.2%	49	8.4	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	14.2	23.7%	49	11.6	30%	4.3	10%	1.42
		Bottomland	0.0	0.0%	86	0.0	13.0	64.2%	50	32.1	0.06	0.8%	77	0.6	0.0	0.0%	84	0.0	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	10.0	16.6%	84	14.0	30%	3.0	10%	1.00
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	5.95	68.8%	58	39.9	0.2	82.8%	69	57.1	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	15.3	25.9%	69	17.6	30%	4.6	10%	1.53
			0.0	0.0%		0.0	20.2	100.0%		50.0	8.6	100.0%		62.1	0.3	100.0%		65.6	0.0	0.0%		0.0		0.0		0.0	59.8	100.0%		70.2		18.0		6.0
242	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	2.08	91.1%	71	64.7	0.0	0.0%	79	0.0	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	3.1	100.0%	79	79.0	30%	0.9	10%	0.31
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	0.20	8.9%	30	2.7	0.0	0.0%	49	0.0	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	0.0	0.0%	49	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	0.0	0.0%		0.0	2.3	100.0%		67.4	0.0	0.0%		0.0	0.0	0.0%		0.0		0.0		0.0	3.1	100.0%		79.0		0.9		0.3
342	West Holland	B	1.8	100.0%	74	74.0	0.0	0.0%	50	0.0	20.30	97.7%	58	56.7	2.3	46.0%	69	31.7	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	111.0	91.3%	69	63.0	30%	33.3	10%	11.10
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	0.47	2.3%	30	0.7	2.7	54.0%	49	26.5	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	10.6	8.7%	49	4.3	30%	3.2	10%	1.06
			1.8	100.0%		74.0	0.0	0.0%		0.0	20.8	100.0%		57.4	4.9	100.0%		58.2	0.0	0.0%		0.0		0.0		0.0	121.6	100.0%		57.3		36.5		12.2
422	West Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	6.2	44.9%	69	31.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	0.0	0.0%	30	0.0	5.4	39.2%	49	19.2	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	45.2	100.0%	49	49.0	30%	13.6	10%	4.52
		C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	0.0	0.0%	71	0.0	2.2	15.9%	79	12.6	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	0.0	0.0%		0.0	0.0	0.0%		0.0	13.8	100.0%		62.8	0.0	0.0%		0.0		0.0		0.0	45.2	100.0%		49.0		13.6		4.5
228	East Holland	A	0.0	0.0%	62	0.0	6.9	21.7%	50	10.9	0.00	0.0%	30	0.0	1.9	28.2%	49	13.8	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	41.0	51.0%	49	25.0	30%	12.3	10%	4.10
		B	0.0	0.0%	74	0.0	2.8	8.7%	50	4.4	0.16	4.1%	58	2.4	0.0	0.0%	69	0.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	4.7	5.9%	69	4.1	30%	1.4	10%	0.47
		C	0.0	0.0%	82	0.0	3.0	9.3%	50	4.6	3.67	95.9%	71	68.1	0.0	0.0%	79	0.0	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	26.8	33.4%	79	26.4	30%	8.0	10%	2.68
		D	0.0	0.0%	86	0.0	2.0	6.4%	50	3.2	0.00	0.0%	77	0.0	0.0	0.0%	84	0.0	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	7.7	9.7%	84	8.1	30%	2.3	10%	0.77
		Bottomland	0.0	0.0%	86	0.0	17.2	53.9%	50	27.0	0.00	0.0%	77	0.0	4.7	71.8%	84	60.3	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	31.9	100.0%		50.0	3.8	100.0%		70.5	6.6	100.0%		74.1	0.0	0.0%		0.0		0.0		0.0	80.2	100.0%		63.6		24.1		8.0
226	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	0.0	0.0%	71	0.0	3.4	33.1%	79	26.1	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	86	0.0	0.1	100.0%	50	50.0	0.0	0.0%	77	0.0	7.0	66.9%	84	56.2	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	0.1	100.0%		50.0	0.0	0.0%		0.0	10.4	100.0%		82.3	0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
220	East Holland	Bottomland	0.0	0.0%	86	0.0	2.8	100.0%	50	50.0	0.0	0.0%	77	0.0	9.5	63.7%	84	53.5	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	3.2	21.2%	71	15.1	3.2	21.2%	79	16.8	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	2.0	13.3%	77	10.2	2.2	15.1%	84	12.8	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	39.5	100.0%	84	84.0	30%	11.8	10%	3.95
			0.0	0.0%		0.0	2.8	100.0%		50.0	0.0	0.0%		0.0	14.9	100.0%		82.9	0.0	0.0%		0.0		0.0		0.0	39.5	100.0%		84.0		11.8		3.9
230	East Holland	D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	11.2	36.5%	84	25.6	1.02	70.3%	84	59.1	45%	0.46	15%	0.15	66.9	51.9%	84	43.6	30%	20.1	10%	6.69
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	25.6	69.5%	84	58.4	0.35	24.1%	84	20.3	45%	0.16	15%	0.05	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		A	0.0	0.0%	62	0.0	2.9	100.0%	50	50.0	0.0	0.0%	30	30.0	0.0	0.0%	49	0.0	0.00	0.0%	49	0.0	45%	0.00	15%	0.00	26.7	22.3%	49	10.9	30%	8.6	10%	2.87
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0	0.08	5.5%	69	3.8	45%	0.04	15%	0.01	33.2	25.7%	69	17.8	30%	9.9	10%	3.32
			0.0	0.0%		0.0	2.9	100.0%		50.0	0.0	100.0%		30.0	36.8	100.0%		84.0	1.5	100.0%		83.2		0.7		0.2	128.8	100.0%		72.3		38.7		12.9
232	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	27.86	92.1%	58	53.4	7.5	99.7%	69	68.8	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	140.3	98.0%	69	66.2	30%	42.1	10%	14.03
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	2.37	7.8%	30	2.4	0.0	0.0%	49	0.0	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	5.9	4.0%	49	2.0	30%	1.8	10%	0.59
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	0.0	0.3%	84	0.3	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	0.0	0.0%		0.0	30.2	100.0%		55.8	7.5	100.0%		69.0	0.0	0.0%		0.0		0.0		0.0	149.2	100.0%		66.2		43.9		14.6
234	East Holland	B	0.0	0.0%	74	0.0	9.5	8.7%	50	4.4	6.15	28.6%	58	16.6	5.8	31.8%	69	21.9	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	49.3	42.4%	69	29.2	30%	14.8	10%	4.93
		A	0.0	0.0%	62	0.0	12.4	11.7%	50	5.8	9.36	43.5%	30	13.1	0.0	0.0%	49	0.0	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	67.0	57.6%	49	28.2	30%	20.1	10%	6.70
		D	0.0	0.0%	86	0.0	44.2	41.4%	50	20.7	6.00	27.9%	77	21.5	4.5	24.7%	84	20.7	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	86	0.0	40.8	38.2%	50	19.1	0.0	0.0%	77	0.0	7.9	43.6%	84	36.5	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0	106.7	100.0%		50.0	21.5	100.0%		51.1	18.2	100.0%		79.2	0.0	0.0%		0.0		0.0		0.0	116.3	100.0%		57.5		34.9		11.6
238	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0	8.82	17.1%	58	9.9	0.0	0.0%	69	0.0	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0	23.79	47.7%	30	14.3	0.1	9.4%	49	4.6	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	28.8	74.0%	49	36.2	30%	8.6	10%	2.88
		C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0	1.49	3.0%	71	2.1	0.0	0.0%	79	0.0	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	7.4	18.9%	79	14.9	30%	2.2	10%	0.74
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	0.0	0.0%	77	0.0	1.1	73.1%	84	61.4	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0	16.04	32.2%	77	24.8	0.3	17.5%	84	14.7	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	2.8	7.1%	84	6.0	30%	0.8	10%	0.28
			0.0	0.0%		0.0	0.0	0.0%		0.0	49.8	100.0%		51.1	1.5	100.0%		80.7	0.0	0.0%		0.0		0.0		0.0	38.9	100.0%		57.2		11.7		3.9
TOTAL			**1.8**	**100.0%**			**164.6**	**100.0%**			**137.1**	**100.0%**			**114.9**	**100.0%**			**1.5**	**100.0%**				**0.7**		**0.2**	**779.7**	**100.0%**				**233.9**		**78.0**

Catchment No.	Subwatershed	Soil Type	Agriculture Area (ha)	Agriculture Area (%)	Agriculture CN	Agriculture Avg CN	Open Water / Wetlands Area (ha)	Open Water / Wetlands Area (%)	Open Water / Wetlands CN	Open Water / Wetlands Avg CN
Sharon Settlement Area										
218	East Holland	D	0.0	0.0%	86	0.0	0.3	45.9%	50	22.9
		Bottomland	0.0	0.0%	86	0.0	0.4	54.1%	50	27.1
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.7	100.0%		50.0
210	East Holland	D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
214	East Holland	D	0.0	0.0%	86	0.0	8.3	59.3%	50	29.7
		B	0.0	0.0%	74	0.0	1.6	11.3%	50	5.6
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	4.1	29.4%	50	14.7
			0.0	0.0%		0.0	14.1	100.0%		50.0
7B	Black River	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
216	East Holland	A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	2.7	56.5%	50	28.3
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	2.0	43.5%	50	21.7
			0.0	0.0%		0.0	4.7	100.0%		50.0
TOTAL			**0.0**	**0.0%**			**19.5**	**100.0%**		
Hwy 404 Green Lane and Employment Expansion Settlement Area										
416	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
418	West Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
		C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
414	West Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
224	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
222	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
208	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
226	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
210	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	5.1	100.0%	50	50.0
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	5.1	100.0%		50.0
220	East Holland	C	0.0	0.0%	82	0.0	0.0	0.0%	50	0.0
		Bottomland	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
214	East Holland	D	0.0	0.0%	86	0.0	0.0	0.0%	50	0.0
		B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
6B	Black River	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
7B	Black River	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
		A	0.0	0.0%	62	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
212	East Holland	B	0.0	0.0%	74	0.0	0.0	0.0%	50	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
TOTAL			**0.0**	**0.0%**			**5.1**	**100.0%**		

Catchment No.	Subwatershed	Soil Type	Forest Area (ha)	Forest Area (%)	Forest CN	Forest Avg CN	Open Space Area (ha)	Open Space Area (%)	Open Space CN	Open Space Avg CN
Sharon Settlement Area										
218	East Holland	D	11.3	62.4%	77	48.1	0.0	0.0%	84	0.0
		Bottomland	4.9	27.0%	77	20.8	0.9	100.0%	84	84.0
		B	1.9	10.6%	58	6.2	0.0	0.0%	69	0.0
			18.1	100.0%		75.0	0.9	100.0%		84.0
210	East Holland	D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
214	East Holland	D	0.0	0.0%	77	0.0	0.5	8.0%	84	6.7
		B	0.0	0.0%	58	0.0	1.6	26.7%	69	18.4
		A	0.0	0.0%	30	0.0	0.0	0.0%	49	0.0
		Bottomland	0.0	0.0%	77	0.0	3.9	65.3%	84	54.9
			0.0	0.0%		0.0	6.0	100.0%		80.0
7B	Black River	B	0.0	0.0%	58	0.0	8.0	39.0%	69	26.9
		A	0.0	0.0%	30	0.0	12.5	61.0%	49	29.9
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	20.5	100.0%		56.8
216	East Holland	A	0.0	0.0%	30	0.0	0.0	0.0%	49	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
		B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
		Bottomland	0.0	0.0%	77	0.0	1.3	100.0%	84	84.0
			0.0	0.0%		0.0	1.3	100.0%		84.0
TOTAL			**18.1**	**100.0%**			**28.7**	**100.0%**		
Hwy 404 Green Lane and Employment Expansion Settlement Area										
416	East Holland	C	2.6	100.0%	71	71.0	29.6	44.6%	79	35.3
		Bottomland	0.0	0.0%	77	0.0	15.1	22.8%	84	19.1
		B	0.0	0.0%	58	0.0	21.6	32.6%	69	22.5
			2.6	100.0%		71.0	66.3	100.0%		76.9
418	West Holland	B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
		C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
414	West Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
224	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
222	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
208	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
		Bottomland	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
226	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
210	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
		Bottomland	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
		B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
220	East Holland	C	0.0	0.0%	71	0.0	0.0	0.0%	79	0.0
		Bottomland	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
214	East Holland	D	0.0	0.0%	77	0.0	0.0	0.0%	84	0.0
		B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
6B	Black River	B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
7B	Black River	B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
		A	0.0	0.0%	30	0.0	0.0	0.0%	49	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
212	East Holland	B	0.0	0.0%	58	0.0	0.0	0.0%	69	0.0
			0.0	0.0%		0.0	0.0	0.0%		0.0
TOTAL			**2.6**	**100.0%**			**66.3**	**100.0%**		

Catchment No.	Subwatershed	Soil Type	Med. Density Residential Area (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)	Low Density Residential Area (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)
Sharon Settlement Area																		
218	East Holland	D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	42.2	84.9%	84	71.3	30%	12.7	10%	4.22
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	7.5	15.1%	69	10.4	30%	2.3	10%	0.75
			0.0	0.0%		0.0		0.0		0.0	49.7	100.0%		81.7		14.9		5.0
210	East Holland	D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	11.1	100.0%	84	84.0	30%	3.3	10%	1.11
			0.0	0.0%		0.0		0.0		0.0	11.1	100.0%		84.0		3.3		1.1
214	East Holland	D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	49.7	36.0%	84	30.2	30%	14.9	10%	4.97
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	85.6	61.9%	69	42.7	30%	25.7	10%	8.56
		A	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	3.0	2.2%	49	1.1	30%	0.9	10%	0.30
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	138.3	100.0%		74.0		41.5		13.8
7B	Black River	B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	27.8	17.8%	69	12.2	30%	8.3	10%	2.78
		A	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	105.6	67.4%	49	33.0	30%	31.7	10%	10.56
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	23.2	14.8%	84	12.4	30%	7.0	10%	2.32
			0.0	0.0%		0.0		0.0		0.0	156.6	100.0%		57.7		47.0		15.7
216	East Holland	A	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	6.3	9.9%	49	4.8	30%	1.9	10%	0.63
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	56.5	88.7%	84	74.5	30%	17.0	10%	5.65
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.9	1.4%	69	1.0	30%	0.3	10%	0.09
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	63.7	100.0%		80.3		19.1		6.4
TOTAL			**0.0**	**0.0%**				**0.0**		**0.0**	**419.4**	**100.0%**				**125.8**		**41.9**
Hwy 404 Green Lane and Employment Expansion Settlement Area																		
416	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	6.3	30.7%	79	24.2	30%	1.9	10%	0.63
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	14.2	69.3%	69	47.9	30%	4.3	10%	1.42
			0.0	0.0%		0.0		0.0		0.0	20.4	100.0%		72.1		6.1		2.0
418	West Holland	B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	5.5	62.9%	69	43.4	30%	1.6	10%	0.55
		C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	3.2	37.1%	79	29.3	30%	1.0	10%	0.32
			0.0	0.0%		0.0		0.0		0.0	8.7	100.0%		72.7		2.6		0.9
414	West Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	2.1	100.0%	79	79.0	30%	0.6	10%	0.21
			0.0	0.0%		0.0		0.0		0.0	2.1	100.0%		79.0		0.6		0.2
224	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	9.2	100.0%	79	79.0	30%	2.8	10%	0.92
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	9.2	100.0%		79.0		2.8		0.9
222	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	3.2	100.0%	79	79.0	30%	1.0	10%	0.32
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	3.2	100.0%		79.0		1.0		0.3
208	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
226	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
210	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
220	East Holland	C	0.0	0.0%	79	0.0	45%	0.00	15%	0.00	0.0	0.0%	79	0.0	30%	0.0	10%	0.00
		Bottomland	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
214	East Holland	D	0.0	0.0%	84	0.0	45%	0.00	15%	0.00	0.0	0.0%	84	0.0	30%	0.0	10%	0.00
		B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
6B	Black River	B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
7B	Black River	B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
		A	0.0	0.0%	49	0.0	45%	0.00	15%	0.00	0.0	0.0%	49	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
212	East Holland	B	0.0	0.0%	69	0.0	45%	0.00	15%	0.00	0.0	0.0%	69	0.0	30%	0.0	10%	0.00
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0%		0.0		0.0		0.0
TOTAL			**0.0**	**0.0%**				**0.0**		**0.0**	**43.6**	**100.0%**				**13.1**		**4.4**

Catchment No.	Subwatershed	Soil Type	Estate								Institutional / Commercial								TOTAL AREA (ha)	TIMP (%)	XIMP (%)	StandHYD (YES/NO)	CN (AMCII)	CN (AMCII)	Ia (mm)	N	LGI [Area = 1.5 * LGI²] (m)	Subwatershed Flow Path			Time to Peak				Tp Average (hr)
			Area (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)	Institutional (ha)	Commercial (ha)	Total (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)									Slope (m/m)	Length (m)	Width (m)	HYMO-2 (hr)	HYMO-3 (hr)	Kirpich (hr)	Williams & Hann (hr)	Bransby Williams (hr)	
Regina Road Subdivision Area																																				
3B	Black River	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	280.1	22%	9%	YES	70	85	5.0	1.5	1366.4	0.009	2420	1650	0.967	0.852	0.538	1.035	4.991	1.677
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	7.7	0.0	7.7	69.6%	69	48.0	75%	5.8	70%	5.42																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.3	0.3	3.1%	84	2.6	75%	0.3	70%	0.24																
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	3.0	3.0	27.3%	49	13.4	75%	2.3	70%	2.12																
			0.0	0.0%		0.0		0.0		0.0	7.7	3.4	11.1	100.0%		64.0		8.3		7.8																
4B	Black River	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	7.1	7.1	19.1%	79	15.1	75%	5.3	70%	4.99	92.3	44%	33%	YES	61	79	5.0	1.5	784.5	0.030	1312	1155	0.376	0.296	0.211	0.368	5.520	1.354
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	2.6	0.3	2.9	7.9%	69	5.4	75%	2.2	70%	2.06																
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	2.2	25.1	27.3	73.1%	49	35.8	75%	20.5	70%	19.12																
			0.0	0.0%		0.0		0.0		0.0	4.9	32.5	37.4	100.0%		56.3		28.0		26.2																
TOTAL			0.00	0.0%				0.00		0.00	12.62	35.88	48.50	100.0%				36.38		33.95	372.4															
Gilgannelle Settlement Area																																				
1M	Maskingonge River	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	1.6	67.4	69.0	31.0%	69	21.4	75%	51.7	70%	48.29	487.7	45%	35%	YES	72	86	5.0	1.5	1803.2	0.011	3122	1550	1.039	1.024	0.606	1.162	6.734	2.113
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	1.4	139.7	141.1	63.3%	79	50.0	75%	105.8	70%	98.77																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.2	12.5	12.7	5.7%	84	4.8	75%	9.5	70%	8.89																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	3.2	219.5	222.8	100.0%		76.2		167.1		156.0																
244	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	19.7	19.7	100.0%	69	69.0	75%	14.8	70%	13.79	143.2	34%	17%	YES	69	84	5.0	1.5	977.2	0.008	1156	1205	0.850	0.652	0.324	0.861	2.358	1.009
			0.0	0.0%		0.0		0.0		0.0	0.0	19.7	19.7	100.0%		69.0		14.8		13.8																
236	East Holland	B	13.2	92.3%	69	63.7	15%	2.0	5%	0.66	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	411.9	23%	8%	YES	69	84	5.0	1.5	1657.2	0.024	2483	2420	0.673	0.614	0.379	0.743	7.978	2.077
		D	1.1	7.7%	84	6.5	15%	0.2	5%	0.06	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			14.3	100.0%		70.2		2.1		0.7	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
238	East Holland	B	2.7	100.0%	69	69.0	15%	0.4	5%	0.14	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	4.7	21%	7%	YES	69	84	5.0	1.5	176.5	0.065	525	85	0.101	0.074	0.078	0.078	4.406	0.947
			2.7	100.0%		69.0		0.4		0.1	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
232	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	1.8	20%	7%	NO	69	84	5.0	1.5	N/A	0.009	215	78	0.203	0.111	0.083	0.145	0.734	0.255
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
7B	Black River	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.1	18.4	18.5	31.3%	69	21.6	75%	13.9	70%	12.98	156.6	39%	30%	YES	71	86	5.0	1.5	1021.9	0.001	865	872	2.424	1.739	0.568	2.474	0.630	1.557
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	5.1	5.1	8.7%	84	7.3	75%	3.8	70%	3.59																
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	16.0	16.0	26.9%	49	13.2	75%	12.0	70%	11.19																
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	19.6	19.6	33.1%	79	26.2	75%	14.7	70%	13.75																
			0.0	0.0%		0.0		0.0		0.0	0.1	59.2	59.3	100.0%		68.2		44.5		41.5																
216	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	3.5	30%	10%	YES	69	84	5.0	1.5	153.6	0.018	220	176	0.176	0.096	0.065	0.133	0.993	0.293
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
TOTAL			17.0	100.0%				2.5		0.8	3.3	298.5	301.8	100.0%				226.3		211.3	1209.6															
Nelons Landing Settlement Area																																				
240	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	88.9	20%	7%	YES	65	82	5.0	1.5	770.0	0.005	850	1000	0.910	0.640	0.302	0.887	1.465	0.841
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
242	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	5.4	17%	6%	NO	74	87	5.0	1.5	N/A	0.001	373	92	0.852	0.505	0.297	0.664	0.381	0.540
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
342	West Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	2.9	96.4	99.3	99.0%	69	68.3	75%	74.5	70%	69.53	249.4	45%	33%	YES	67	83	5.0	1.5	1289.4	0.001	2419	514	2.800	2.603	1.254	2.966	1.682	2.261
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	1.0	1.0	1.0%	49	0.5	75%	0.7	70%	0.68																
			0.0	0.0%		0.0		0.0		0.0	2.9	97.4	100.3	100.0%		68.8		75.2		70.2																
422	West Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	7.8	7.8	100.0%	69	69.0	75%	5.8	70%	5.46	66.8	29%	15%	YES	54	74	5.0	1.5	667.3	0.022	1180	872	0.397	0.305	0.220	0.378	4.391	1.138
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	7.8	7.8	100.0%		69.0		5.8		5.5																
228	East Holland	A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	2.8	2.8	34.8%	49	17.1	75%	2.1	70%	1.94	130.5	23%	10%	YES	61	79	5.0	1.5	932.8	0.017	2163	645	0.562	0.520	0.390	0.566	6.539	1.715
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	5.2	5.2	65.2%	69	45.0	75%	3.9	70%	3.63																
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	5.2	5.2	100.0%		62.0		6.0		5.6																
226	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	10.5	0%	0%	NO	82	92	5.0	1.5	N/A	0.001	480	142	1.050	0.655	0.361	0.864	0.458	0.678
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
220	East Holland	Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	57.5	21%	8%	YES	82	92	5.0	1.5	620.8	0.002	1396	539	1.453	1.077	0.703	1.369	1.376	1.196
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.6	0.0	0.6	100.0%	84	84.0	75%	0.5	70%	0.42																
			0.0	0.0%		0.0		0.0		0.0	0.6	0.0	0.6	100.0%		84.0		0.5		0.4																
230	East Holland	D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	4.1	0.0	4.1	81.2%	84	68.2	75%	3.1	70%	2.86	175.0	25%	9%	YES	75	88	5.0	1.5	1080.1	0.008	2844	837	0.887	0.825	0.638	0.913	5.795	1.812
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.9	0.0	0.9	18.8%	69	13.0	75%	0.7	70%	0.66																
			0.0	0.0%		0.0		0.0		0.0	5.0	0.0	5.0	100.0%		81.2		3.8		3.5																
232	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	184.0	24%	8%	YES	66	82	5.0	1.5	1107.4	0.008	2254	775	0.901	0.825	0.535	0.931	4.591	1.557
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
234	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	3.4	3.4	100.0%	69	69.0	75%	2.6	70%	2.39	266.1	14%	5%	NO	56	75	5.0	1.5	N/A	0.001	3005	1185	3.415	2.903	1.700	3.636	1.737	2.678
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	3.4	3.4	100.0%		69.0		2.6		2.4																
238	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	90.2	13%	4%	NO	54	74	5.0	1.5	N/A	0.001	642	728	2.043	1.357	0.452	1.995	0.494	1.268
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00																
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00																
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00																
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0																
TOTAL			0.0	0.0%				0.0		0.0	8.5	116.6	125.1	100.0%				93.8		87.6	1324.6															

Catchment No.	Subwatershed	Soil Type	Estate Area (ha)	Estate Area (%)	Estate CN	Estate Avg CN	Estate TIMP (%)	Estate TIMP Area (ha)	Estate XIMP (%)	Estate XIMP Area (ha)	Institutional / Commercial: Institutional (ha)	Commercial (ha)	Total (ha)	Area (%)	CN	Avg CN	TIMP (%)	TIMP Area (ha)	XIMP (%)	XIMP Area (ha)	TOTAL AREA (ha)
Sharon Settlement Area																					
218	East Holland	D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	69.3
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
210	East Holland	D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	11.1
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
214	East Holland	D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	158.3
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00	
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
7B	Black River	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	178.9
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	1.8	0.0	1.8	100.0%	49	49.0	75%	1.4	70%	1.27	
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	1.8	0.0	1.8	100.0%		49.0		1.4		1.3	
216	East Holland	A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	49	0.0	75%	0.0	70%	0.00	69.7
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
TOTAL			**0.0**	**0.0%**				**0.0**		**0.0**	**1.8**	**0.0**	**1.8**	**100.0%**				**1.4**		**1.3**	**487.4**
[illegible] Employment Expansion Settlement Area																					
416	West Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	89.3
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	84	0.0	75%	0.0	70%	0.00	
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
418	West Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	69	0.0	75%	0.0	70%	0.00	8.7
		C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
414	West Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	0.0	0.0	0.0%	79	0.0	75%	0.0	70%	0.00	2.1
			0.0	0.0%		0.0		0.0		0.0	0.0	0.0	0.0	0.0%		0.0		0.0		0.0	
224	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	77.1	77.1	98.1%	79	77.5	75%	57.8	70%	53.94	87.7
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	1.5	1.5	1.9%	84	1.6	75%	1.1	70%	1.03	
			0.0	0.0%		0.0		0.0		0.0	0.0	78.5	78.5	100.0%		79.1		58.9		55.0	
222	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	39.6	39.6	99.0%	79	78.2	75%	29.7	70%	27.71	43.2
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.4	0.4	1.0%	84	0.8	75%	0.3	70%	0.28	
			0.0	0.0%		0.0		0.0		0.0	0.0	40.0	40.0	100.0%		79.1		30.0		28.0	
208	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	24.5	24.5	43.8%	79	34.6	75%	18.4	70%	17.16	56.0
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	28.2	28.2	50.3%	84	42.2	75%	21.1	70%	19.71	
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	3.4	3.4	6.0%	84	5.0	75%	2.5	70%	2.35	
			0.0	0.0%		0.0		0.0		0.0	0.0	56.0	56.0	100.0%		81.8		42.0		39.2	
226	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	108.0	108.0	91.7%	79	72.4	75%	81.0	70%	75.57	117.8
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	9.8	9.8	8.3%	84	7.0	75%	7.4	70%	6.88	
			0.0	0.0%		0.0		0.0		0.0	0.0	117.8	117.8	100.0%		79.4		88.3		82.4	
210	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	49.8	49.8	26.5%	79	21.0	75%	37.3	70%	34.83	192.7
		D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	117.0	117.0	62.3%	84	52.4	75%	87.7	70%	81.87	
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	10.0	10.0	5.3%	84	4.5	75%	7.5	70%	7.00	
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	10.9	10.9	5.8%	69	4.0	75%	8.2	70%	7.63	
			0.0	0.0%		0.0		0.0		0.0	0.0	187.6	187.6	100.0%		81.8		140.7		131.3	
220	East Holland	C	0.0	0.0%	79	0.0	15%	0.0	5%	0.00	0.0	12.8	12.8	96.1%	79	75.9	75%	9.6	70%	8.97	13.3
		Bottomland	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	0.5	0.5	3.9%	84	3.3	75%	0.4	70%	0.36	
			0.0	0.0%		0.0		0.0		0.0	0.0	13.3	13.3	100.0%		79.2		10.0		9.3	
214	East Holland	D	0.0	0.0%	84	0.0	15%	0.0	5%	0.00	0.0	3.1	3.1	3.4%	84	2.8	75%	2.3	70%	2.19	93.1
		B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	89.9	89.9	96.6%	69	66.7	75%	67.5	70%	62.96	
			0.0	0.0%		0.0		0.0		0.0	0.0	93.1	93.1	100.0%		69.5		69.8		65.1	
6B	Black River	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	32.3	32.3	100.0%	69	69.0	75%	24.2	70%	22.60	32.3
			0.0	0.0%		0.0		0.0		0.0	0.0	32.3	32.3	100.0%		69.0		24.2		22.6	
7B	Black River	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	56.8	56.8	41.8%	69	28.9	75%	42.6	70%	39.73	135.7
		A	0.0	0.0%	49	0.0	15%	0.0	5%	0.00	0.0	79.0	79.0	58.2%	49	28.5	75%	59.2	70%	55.28	
			0.0	0.0%		0.0		0.0		0.0	0.0	135.7	135.7	100.0%		57.4		101.8		95.0	
212	East Holland	B	0.0	0.0%	69	0.0	15%	0.0	5%	0.00	0.0	4.4	4.4	100.0%	69	69.0	75%	3.3	70%	3.06	4.4
			0.0	0.0%		0.0		0.0		0.0	0.0	4.4	4.4	100.0%		69.0		3.3		3.1	
TOTAL			**0.0**	**0.0%**				**0.0**		**0.0**	**0.0**	**758.7**	**758.7**	**100.0%**				**569.0**		**531.1**	**876.3**

Catchment No.	TIMP (%)	XIMP (%)	StandHYD (YES/NO)	CN	CN	Ia (mm)	N	LGI [Area = 1.5 * LGI²] (m)	Subwatershed Flow Path: Slope (m/m)	Length (m)	Width (m)	Time to Peak: HYMO-2 (hr)	HYMO-3 (hr)	Kirpich (hr)	Williams & Hann (hr)	Bransby Williams (hr)	Tp Average (hr)
218	22%	7%	YES	80	91	5.0	1.5	679.9	0.034	900	426	0.323	0.269	0.151	0.309	4.148	1.040
210	30%	10%	YES	84	93	5.0	1.5	272.0	0.044	836	210	0.161	0.120	0.129	0.133	5.264	1.161
214	26%	9%	YES	72	86	5.0	1.5	1027.4	0.006	2153	1250	0.993	0.824	0.575	1.014	3.838	1.449
7B	27%	9%	YES	56	77	5.0	1.5	1092.1	0.010	1881	976	0.799	0.697	0.426	0.824	4.276	1.404
216	27%	9%	YES	78	90	5.0	1.5	681.8	0.011	991	954	0.579	0.420	0.254	0.554	2.549	0.871
416	7%	2%	NO	76	89	5.0	1.5	N/A	0.038	1290	398	0.330	0.301	0.191	0.322	6.128	1.455
418	30%	10%	YES	73	87	5.0	1.5	240.6	0.022	219	403	0.211	0.114	0.060	0.171	0.999	0.311
414	30%	10%	YES	79	90	5.0	1.5	117.5	0.014	148	95	0.169	0.088	0.053	0.122	0.622	0.211
224	70%	64%	YES	79	90	5.0	1.5	764.7	0.025	2015	668	0.405	0.359	0.316	0.395	7.778	1.851
222	72%	66%	YES	79	90	5.0	1.5	536.7	0.009	614	871	0.542	0.351	0.187	0.499	1.526	0.621
208	75%	70%	YES	82	92	5.0	1.5	611.2	0.019	1174	184	0.404	0.373	0.231	0.380	4.132	1.104
226	75%	70%	YES	79	90	5.0	1.5	886.1	0.008	706	1850	0.800	0.531	0.221	0.798	1.469	0.764
210	73%	68%	YES	81	91	5.0	1.5	1133.4	0.017	1776	1854	0.627	0.513	0.332	0.651	5.226	1.470
220	75%	70%	YES	79	90	5.0	1.5	298.2	0.086	260	750	0.122	0.069	0.041	0.102	2.247	0.516
214	75%	70%	YES	70	85	5.0	1.5	787.7	0.005	760	1745	0.941	0.608	0.281	0.922	1.278	0.806
6B	75%	70%	YES	69	84	5.0	1.5	463.9	0.012	506	530	0.429	0.283	0.144	0.386	1.496	0.548
7B	75%	70%	YES	57	76	5.0	1.5	951.3	0.015	994	738	0.609	0.498	0.226	0.614	2.797	0.949
212	75%	70%	YES	69	84	5.0	1.5	170.6	0.020	144	80	0.180	0.105	0.045	0.138	0.668	0.227

APPENDIX E
Unit Flow And Unit Storage Calculations

Catchment No.	Subwatershed	TOTAL AREA (ha)	TIMP (%)	Reservoir ID	Storm Event	Rating Curve	
						Discharge (m^3/s)	Active Storage (ha·m)
Mount Albert Settlement Area							
3B	Black River	280.1	22%	525	25 mm Storm	0.95	2.2068
					1:2 Year Storm	5.43	2.3823
					1:5 Year Storm	10.11	3.7195
					1:10 Year Storm	14.00	4.7295
					1:25 Year Storm	18.74	6.0462
					1:50 Year Storm	23.52	7.3268
					1:100 Year Storm	27.39	8.5786
4B	Black River	92.3	44%	526	25 mm Storm	0.31	1.1099
					1:2 Year Storm	1.79	1.2815
					1:5 Year Storm	3.33	1.6636
					1:10 Year Storm	4.62	1.9904
					1:25 Year Storm	6.18	2.3852
					1:50 Year Storm	7.75	2.7331
					1:100 Year Storm	9.03	3.0736
TOTAL		**372.4**					
Queensville Settlement Area							
1M	Maskingonge River	487.7	45%	8511	25 mm Storm	1.66	5.9307
					1:2 Year Storm	9.46	6.8569
					1:5 Year Storm	17.61	8.8657
					1:10 Year Storm	24.39	10.5911
					1:25 Year Storm	32.63	12.6704
					1:50 Year Storm	40.97	14.4958
					1:100 Year Storm	47.70	16.2820
244	East Holland	143.2	34%	9265	25 mm Storm	0.49	1.4537
					1:2 Year Storm	2.78	1.6401
					1:5 Year Storm	5.17	2.2743
					1:10 Year Storm	7.16	2.7857
					1:25 Year Storm	9.58	3.4259
					1:50 Year Storm	12.03	4.0179
					1:100 Year Storm	14.01	4.5968
236	East Holland	411.9	23%	5236	25 mm Storm	1.40	3.3659
					1:2 Year Storm	7.99	3.6596
					1:5 Year Storm	14.87	5.6082
					1:10 Year Storm	20.60	7.0920
					1:25 Year Storm	27.56	9.0165
					1:50 Year Storm	34.60	10.8770
					1:100 Year Storm	40.29	12.6956
238	East Holland	4.7	21%	9267	25 mm Storm	0.02	0.0364
					1:2 Year Storm	0.09	0.0393
					1:5 Year Storm	0.17	0.0616
					1:10 Year Storm	0.23	0.0785
					1:25 Year Storm	0.31	0.1005
					1:50 Year Storm	0.39	0.1220
					1:100 Year Storm	0.46	0.1429
232	East Holland	1.8	20%	9269	25 mm Storm	0.01	0.0136
					1:2 Year Storm	0.04	0.0146
					1:5 Year Storm	0.07	0.0234
					1:10 Year Storm	0.09	0.0300
					1:25 Year Storm	0.12	0.0386
					1:50 Year Storm	0.15	0.0471
					1:100 Year Storm	0.18	0.0554
7B	Black River	156.6	39%	530	25 mm Storm	0.53	1.7357
					1:2 Year Storm	3.04	1.9828
					1:5 Year Storm	5.65	2.6540
					1:10 Year Storm	7.83	3.2109
					1:25 Year Storm	10.48	3.8961
					1:50 Year Storm	13.16	4.5152
					1:100 Year Storm	15.32	5.1208
216	East Holland	3.5	30%	9272	25 mm Storm	0.01	0.0333
					1:2 Year Storm	0.07	0.0372
					1:5 Year Storm	0.13	0.0532
					1:10 Year Storm	0.18	0.0659
					1:25 Year Storm	0.24	0.0820

					1:50 Year Storm	0.30	0.0971
					1:100 Year Storm	0.35	0.1119
TOTAL		**1209.6**					
Holland Landing Settlement Area							
240	East Holland	88.9	20%	9273	25 mm Storm	0.30	0.6746
					1:2 Year Storm	1.73	0.7225
					1:5 Year Storm	3.21	1.1511
					1:10 Year Storm	4.45	1.4723
					1:25 Year Storm	5.95	1.8930
					1:50 Year Storm	7.47	2.3047
					1:100 Year Storm	8.70	2.7071
242	East Holland	5.4	17%	9274	25 mm Storm	0.02	0.0379
					1:2 Year Storm	0.10	0.0399
					1:5 Year Storm	0.19	0.0663
					1:10 Year Storm	0.27	0.0857
					1:25 Year Storm	0.36	0.1115
					1:50 Year Storm	0.45	0.1369
					1:100 Year Storm	0.53	0.1618
342	West Holland	249.4	45%	9425	25 mm Storm	0.85	3.0375
					1:2 Year Storm	4.84	3.5126
					1:5 Year Storm	9.00	4.5390
					1:10 Year Storm	12.47	5.4211
					1:25 Year Storm	16.68	6.4838
					1:50 Year Storm	20.95	7.4161
					1:100 Year Storm	24.39	8.3284
422	West Holland	66.8	29%	5422	25 mm Storm	0.23	0.6171
					1:2 Year Storm	1.30	0.6860
					1:5 Year Storm	2.41	0.9909
					1:10 Year Storm	3.34	1.2303
					1:25 Year Storm	4.47	1.5350
					1:50 Year Storm	5.61	1.8228
					1:100 Year Storm	6.53	2.1041
228	East Holland	130.5	23%	9275	25 mm Storm	0.44	1.0592
					1:2 Year Storm	2.53	1.1502
					1:5 Year Storm	4.71	1.7686
					1:10 Year Storm	6.53	2.2389
					1:25 Year Storm	8.73	2.8494
					1:50 Year Storm	10.96	3.4402
					1:100 Year Storm	12.76	4.0178
226	East Holland	10.5	0%	9276	25 mm Storm	0.04	0.0402
					1:2 Year Storm	0.20	0.0341
					1:5 Year Storm	0.38	0.0910
					1:10 Year Storm	0.53	0.1297
					1:25 Year Storm	0.71	0.1837
					1:50 Year Storm	0.89	0.2402
					1:100 Year Storm	1.03	0.2954
220	East Holland	57.8	21%	9278	25 mm Storm	0.20	0.4503
					1:2 Year Storm	1.12	0.4850
					1:5 Year Storm	2.09	0.7618
					1:10 Year Storm	2.89	0.9704
					1:25 Year Storm	3.87	1.2427
					1:50 Year Storm	4.86	1.5080
					1:100 Year Storm	5.65	1.7674
230	East Holland	175.0	25%	9280	25 mm Storm	0.59	1.4722
					1:2 Year Storm	3.39	1.6096
					1:5 Year Storm	6.32	2.4308
					1:10 Year Storm	8.75	3.0604
					1:25 Year Storm	11.71	3.8736
					1:50 Year Storm	14.70	4.6556
					1:100 Year Storm	17.11	5.4201
232	East Holland	184.0	24%	9270	25 mm Storm	0.63	1.5211
					1:2 Year Storm	3.57	1.6576
					1:5 Year Storm	6.64	2.5250
					1:10 Year Storm	9.20	3.1874
					1:25 Year Storm	12.31	4.0450
					1:50 Year Storm	15.45	4.8723
					1:100 Year Storm	17.99	5.6811

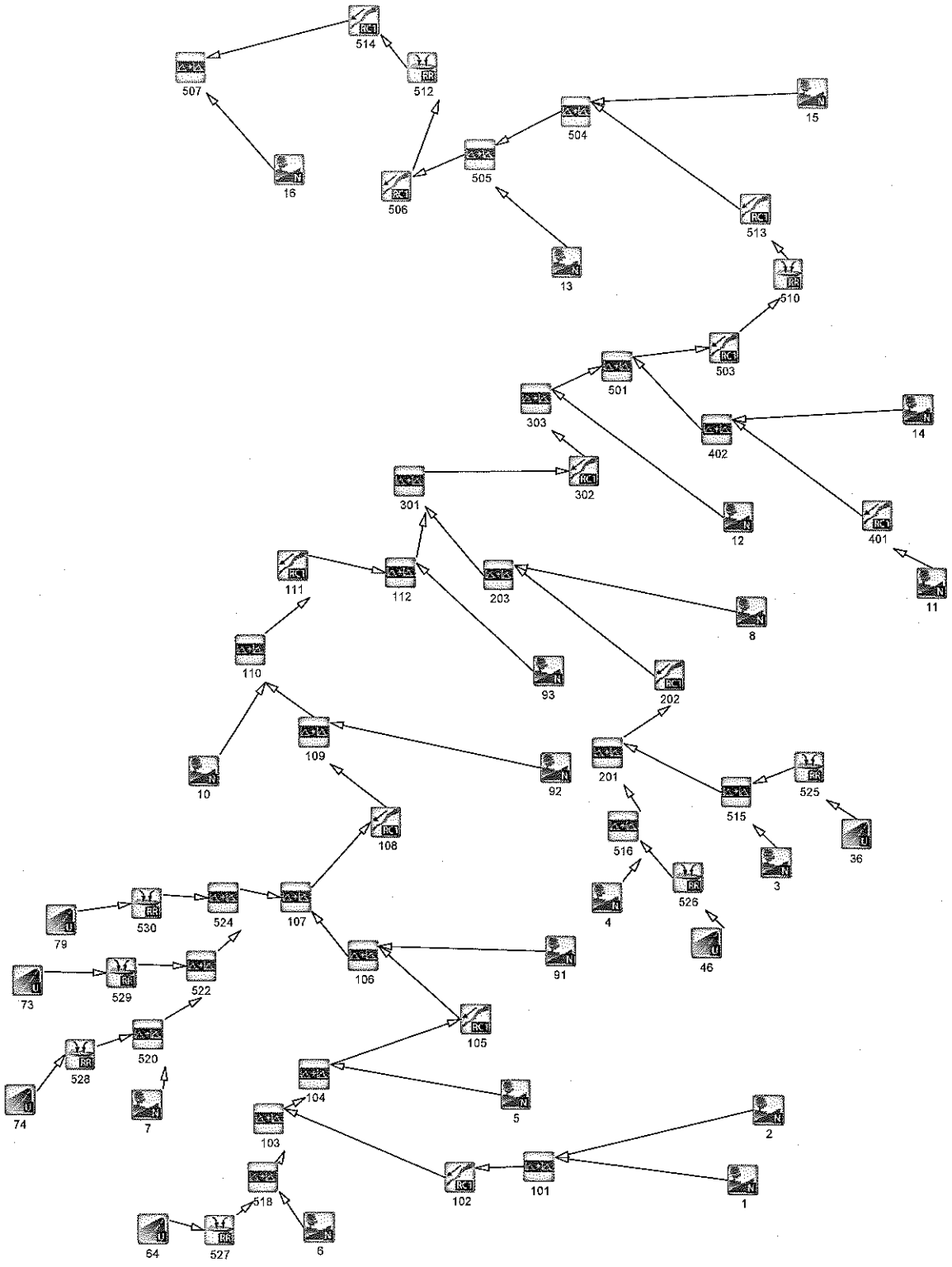
234	East Holland	266.1	14%	9281	25 mm Storm	0.90	1.7152
					1:2 Year Storm	5.16	1.7685
					1:5 Year Storm	9.61	3.0976
					1:10 Year Storm	13.31	4.0635
					1:25 Year Storm	17.80	5.3537
					1:50 Year Storm	22.35	6.6446
					1:100 Year Storm	26.03	7.9060
238	East Holland	90.2	13%	9268	25 mm Storm	0.31	0.5624
					1:2 Year Storm	1.75	0.5748
					1:5 Year Storm	3.26	1.0285
					1:10 Year Storm	4.51	1.3564
					1:25 Year Storm	6.04	1.7959
					1:50 Year Storm	7.58	2.2374
					1:100 Year Storm	8.83	2.6688
TOTAL		**1324.6**					
Sharon Settlement Area							
218	East Holland	69.3	22%	9282	25 mm Storm	0.24	0.5431
					1:2 Year Storm	1.35	0.5855
					1:5 Year Storm	2.50	0.9171
					1:10 Year Storm	3.47	1.1672
					1:25 Year Storm	4.64	1.4936
					1:50 Year Storm	5.82	1.8113
					1:100 Year Storm	6.78	2.1218
210	East Holland	11.1	30%	9284	25 mm Storm	0.04	0.1045
					1:2 Year Storm	0.22	0.1166
					1:5 Year Storm	0.40	0.1670
					1:10 Year Storm	0.56	0.2067
					1:25 Year Storm	0.74	0.2572
					1:50 Year Storm	0.93	0.3046
					1:100 Year Storm	1.09	0.3510
214	East Holland	158.3	26%	9286	25 mm Storm	0.54	1.3792
					1:2 Year Storm	3.07	1.5175
					1:5 Year Storm	5.72	2.2534
					1:10 Year Storm	7.92	2.8224
					1:25 Year Storm	10.59	3.5534
					1:50 Year Storm	13.30	4.2519
					1:100 Year Storm	15.49	4.9349
7B	Black River	178.9	27%	529	25 mm Storm	0.61	1.5855
					1:2 Year Storm	3.47	1.7498
					1:5 Year Storm	6.46	2.5771
					1:10 Year Storm	8.95	3.2195
					1:25 Year Storm	11.97	4.0426
					1:50 Year Storm	15.03	4.8266
					1:100 Year Storm	17.50	5.5931
216	East Holland	69.7	27%	9271	25 mm Storm	0.24	0.6230
					1:2 Year Storm	1.35	0.6885
					1:5 Year Storm	2.52	1.0102
					1:10 Year Storm	3.49	1.2605
					1:25 Year Storm	4.66	1.5808
					1:50 Year Storm	5.86	1.8854
					1:100 Year Storm	6.82	2.1832
TOTAL		**487.4**					
Type D Green Lane and Employment Expansion Settlement Area							
416	West Holland	89.3	7%	9427	25 mm Storm	0.30	0.4554
					1:2 Year Storm	1.73	0.4375
					1:5 Year Storm	3.22	0.9021
					1:10 Year Storm	4.47	1.2282
					1:25 Year Storm	5.98	1.6736
					1:50 Year Storm	7.50	2.1302
					1:100 Year Storm	8.74	2.5763
418	West Holland	8.7	30%	9428	25 mm Storm	0.03	0.0818
					1:2 Year Storm	0.17	0.0912
					1:5 Year Storm	0.31	0.1306
					1:10 Year Storm	0.43	0.1618
					1:25 Year Storm	0.58	0.2012
					1:50 Year Storm	0.73	0.2384

					1:100 Year Storm	0.85	0.2747
414	West Holland	2.1	30%	9429	25 mm Storm	0.01	0.0195
					1:2 Year Storm	0.04	0.0218
					1:5 Year Storm	0.07	0.0312
					1:10 Year Storm	0.10	0.0386
					1:25 Year Storm	0.14	0.0480
					1:50 Year Storm	0.17	0.0569
					1:100 Year Storm	0.20	0.0655
224	East Holland	87.7	70%	9287	25 mm Storm	0.30	1.4858
					1:2 Year Storm	1.70	1.7770
					1:5 Year Storm	3.17	2.0741
					1:10 Year Storm	4.39	2.3776
					1:25 Year Storm	5.87	2.7087
					1:50 Year Storm	7.37	2.9557
					1:100 Year Storm	8.58	3.1980
222	East Holland	43.2	72%	9288	25 mm Storm	0.15	0.7428
					1:2 Year Storm	0.84	0.8895
					1:5 Year Storm	1.56	1.0342
					1:10 Year Storm	2.16	1.1836
					1:25 Year Storm	2.89	1.3455
					1:50 Year Storm	3.63	1.4651
					1:100 Year Storm	4.23	1.5823
208	East Holland	56.0	75%	9289	25 mm Storm	0.19	0.9984
					1:2 Year Storm	1.09	1.1991
					1:5 Year Storm	2.02	1.3813
					1:10 Year Storm	2.80	1.5745
					1:25 Year Storm	3.75	1.7809
					1:50 Year Storm	4.71	1.9291
					1:100 Year Storm	5.48	2.0745
226	East Holland	117.8	75%	9277	25 mm Storm	0.40	2.0988
					1:2 Year Storm	2.28	2.5207
					1:5 Year Storm	4.25	2.9037
					1:10 Year Storm	5.89	3.3097
					1:25 Year Storm	7.88	3.7436
					1:50 Year Storm	9.89	4.0552
					1:100 Year Storm	11.52	4.3609
210	East Holland	192.7	73%	9283	25 mm Storm	0.66	2.0554
					1:2 Year Storm	3.74	2.4643
					1:5 Year Storm	6.96	2.8540
					1:10 Year Storm	9.63	3.2607
					1:25 Year Storm	12.89	3.6991
					1:50 Year Storm	16.19	4.0191
					1:100 Year Storm	18.84	4.3330
220	East Holland	13.3	75%	9279	25 mm Storm	0.05	0.2376
					1:2 Year Storm	0.26	0.2854
					1:5 Year Storm	0.48	0.3287
					1:10 Year Storm	0.67	0.3747
					1:25 Year Storm	0.89	0.4238
					1:50 Year Storm	1.12	0.4591
					1:100 Year Storm	1.30	0.4937
214	East Holland	93.1	75%	9285	25 mm Storm	0.32	1.6583
					1:2 Year Storm	1.81	1.9916
					1:5 Year Storm	3.36	2.2943
					1:10 Year Storm	4.65	2.6150
					1:25 Year Storm	6.23	2.9579
					1:50 Year Storm	7.82	3.2041
					1:100 Year Storm	9.10	3.4456
6B	Black River	32.3	75%	527	25 mm Storm	0.11	0.5752
					1:2 Year Storm	0.63	0.6908
					1:5 Year Storm	1.17	0.7958
					1:10 Year Storm	1.61	0.9070
					1:25 Year Storm	2.16	1.0260
					1:50 Year Storm	2.71	1.1114
					1:100 Year Storm	3.16	1.1951
7B	Black River	135.7	75%	528	25 mm Storm	0.46	2.4187
					1:2 Year Storm	2.63	2.9048
					1:5 Year Storm	4.90	3.3462
					1:10 Year Storm	6.79	3.8141

					1:25 Year Storm	9.08	4.3142
					1:50 Year Storm	11.40	4.6733
					1:100 Year Storm	13.27	5.0255
212	East Holland	4.4	75%	9290	25 mm Storm	0.01	0.0778
					1:2 Year Storm	0.08	0.0934
					1:5 Year Storm	0.16	0.1076
					1:10 Year Storm	0.22	0.1226
					1:25 Year Storm	0.29	0.1387
					1:50 Year Storm	0.37	0.1503
					1:100 Year Storm	0.43	0.1616
TOTAL		**876.3**					

APPENDIX F
Future Conditions Hydrologic Model Output

BLACK RIVER SUBWATERSHED



```
==========================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\6ab08fc7-e8e6-4b3d-8177-e9629b714f53\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\6ab08fc7-e8e6-4b3d-8177-e9629b714f53\Scenario.sum


DATE: 08/29/2012                          TIME: 01:49:24

USER:


COMMENTS: _____________________________________________________


----------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              6ab08fc7-e8e6-4b3d-8177-e9629b714f53\3fe6a33e
| Ptotal= 51.24 mm |    Comments: 2yr/24hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  6.50    4.35 | 12.75    1.79 | 19.00    0.26
               0.50    0.26 |  6.75    4.35 | 13.00    1.79 | 19.25    0.26
               0.75    0.26 |  7.00    4.35 | 13.25    1.79 | 19.50    0.26
               1.00    0.26 |  7.25    4.35 | 13.50    1.79 | 19.75    0.26
               1.25    0.26 |  7.50    4.35 | 13.75    1.79 | 20.00    0.26
               1.50    0.26 |  7.75    4.35 | 14.00    1.79 | 20.25    0.26
               1.75    0.26 |  8.00    4.35 | 14.25    1.79 | 20.50    0.26
               2.00    0.26 |  8.25    4.35 | 14.50    1.02 | 20.75    0.26
               2.25    0.26 |  8.50   11.78 | 14.75    1.02 | 21.00    0.26
               2.50    0.26 |  8.75   11.78 | 15.00    1.02 | 21.25    0.26
               2.75    0.26 |  9.00   11.78 | 15.25    1.02 | 21.50    0.26
               3.00    0.26 |  9.25   11.78 | 15.50    1.02 | 21.75    0.26
               3.25    0.26 |  9.50   11.78 | 15.75    1.02 | 22.00    0.26
               3.50    0.26 |  9.75   11.78 | 16.00    1.02 | 22.25    0.26
               3.75    0.26 | 10.00   11.78 | 16.25    1.02 | 22.50    0.26
               4.00    0.26 | 10.25   11.78 | 16.50    0.51 | 22.75    0.26
               4.25    0.26 | 10.50    3.33 | 16.75    0.51 | 23.00    0.26
               4.50    1.54 | 10.75    3.33 | 17.00    0.51 | 23.25    0.26
               4.75    1.54 | 11.00    3.33 | 17.25    0.51 | 23.50    0.26
               5.00    1.54 | 11.25    3.33 | 17.50    0.51 | 23.75    0.26
               5.25    1.54 | 11.50    3.33 | 17.75    0.51 | 24.00    0.26
               5.50    1.54 | 11.75    3.33 | 18.00    0.51 | 24.25    0.26
               5.75    1.54 | 12.00    3.33 | 18.25    0.51 |
               6.00    1.54 | 12.25    3.33 | 18.50    0.26 |
               6.25    1.54 | 12.50    1.79 | 18.75    0.26 |

------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=   4.001 (i)
     TIME TO PEAK    (hrs)=  30.000
     RUNOFF VOLUME    (mm)=  15.782
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   1.790 (i)
     TIME TO PEAK    (hrs)=  27.500
     RUNOFF VOLUME    (mm)=  11.683
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   2.358 (i)
     TIME TO PEAK    (hrs)=  20.750
     RUNOFF VOLUME    (mm)=  15.252
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   1.873 (i)
     TIME TO PEAK    (hrs)=  23.250
     RUNOFF VOLUME    (mm)=  10.248
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.200

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   0.496 (i)
     TIME TO PEAK    (hrs)=  26.750
     RUNOFF VOLUME    (mm)=  13.334
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.260

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.80
```

```
     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=   4.127 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  11.306
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   2.348 (i)
     TIME TO PEAK    (hrs)=  19.500
     RUNOFF VOLUME    (mm)=   9.918
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=   3.721 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  10.248
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.200

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   1.357 (i)
     TIME TO PEAK    (hrs)=  20.750
     RUNOFF VOLUME    (mm)=   9.289
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64   3.721    22.75    10.25
        + ID2= 2 (0002):   988.72   1.357    20.75     9.29
          ================================================
          ID = 3 (0101):  3862.36   5.044    22.25    10.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        250.00        0.0700
                  43.00        240.00    0.0700 /0.0350  Main Channel
                  44.00        239.20        0.0350      Main Channel
                  45.00        239.20        0.0350      Main Channel
                  46.00        240.00    0.0350 /0.0700  Main Channel
                  63.50        241.00        0.0700
                  71.00        250.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40    239.60    .642E+04       0.5         0.80      221.73
       0.80    240.00    .171E+05       1.8         1.15      155.20
       1.39    240.59    .764E+05       8.0         1.12      159.62
       1.98    241.18    .214E+06      23.7         1.19      150.23
       2.56    241.76    .385E+06      51.8         1.44      123.91
       3.15    242.35    .575E+06      90.1         1.68      106.38
       3.74    242.94    .784E+06     138.5         1.89       94.40
       4.33    243.53    .101E+07     196.9         2.08       85.71
       4.92    244.12    .126E+07     265.6         2.26       79.08
       5.51    244.71    .153E+07     344.7         2.42       73.81
       6.09    245.29    .181E+07     434.5         2.57       69.50
       6.68    245.88    .212E+07     535.2         2.71       65.89
       7.27    246.47    .244E+07     647.3         2.84       62.81
       7.86    247.06    .278E+07     771.1         2.97       60.13
       8.45    247.65    .314E+07     906.8         3.09       57.77
       9.04    248.24    .352E+07    1054.8         3.20       55.67
       9.62    248.82    .392E+07    1215.5         3.32       53.79
      10.21    249.41    .434E+07    1389.1         3.42       52.09
      10.80    250.00    .478E+07    1576.1         3.53       50.53

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36     5.04   22.25  10.00      1.11      1.13
     OUTFLOW: ID= 1 (0102) 3862.36     4.79   25.00  10.00      1.08      1.13


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0006) |   Area    (ha)=1472.14   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.732

     PEAK FLOW       (cms)=   2.606 (i)
     TIME TO PEAK    (hrs)=  24.000
     RUNOFF VOLUME    (mm)=  15.252
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0064) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          24.22          8.07
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=         464.04         40.00
     Mannings n             =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=         11.78          5.87
               over (min)           15.00         45.00
     Storage Coeff.  (min)=         15.09 (ii)    37.04 (ii)
     Unit Hyd. Tpeak (min)=         15.00         45.00
     Unit Hyd. peak  (cms)=          0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.74          0.10      0.843 (iii)
     TIME TO PEAK    (hrs)=         10.25         10.50        10.25
     RUNOFF VOLUME    (mm)=         50.24         15.59        39.84
     TOTAL RAINFALL   (mm)=         51.24         51.24        51.24
     RUNOFF COEFFICIENT   =          0.98          0.30         0.78


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| RESERVOIR (0527) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.6100     10.9070
                          0.1100    10.5752   |   2.1600     11.0260
                          0.6300    10.6908   |   2.7100     11.1114
                          1.1700    10.7958   |   3.1600     11.1951

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0064)     32.300     0.843     10.25      39.84
     OUTFLOW: ID= 1 (0527)     32.300     0.013     24.50      33.47

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.51
                  TIME SHIFT OF PEAK FLOW         (min)=855.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2200

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0518) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1472.14   2.606    24.00    15.25
       + ID2= 2 (0527):    32.30   0.013    24.50    33.47
         ================================================
         ID = 3 (0518):  1504.44   2.619    24.00    15.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):  3862.36   4.787    25.00    10.00
       + ID2= 2 (0518):  1504.44   2.619    24.00    15.64
         ================================================
         ID = 3 (0103):  5366.80   7.394    24.75    11.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47   2.348    19.50     9.92
       + ID2= 2 (0103):  5366.80   7.394    24.75    11.58
         ================================================
         ID = 3 (0104):  6811.27   9.346    23.25    11.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.1000
               330.00         235.00    0.1000 /0.0350  Main Channel
               331.00         234.20        0.0350      Main Channel
               332.00         234.20        0.0350      Main Channel
               333.00         235.00    0.0350 /0.1000  Main Channel
               425.00         235.10        0.1000
               698.00         236.00        0.1000
              1101.00         239.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
      0.13   234.33    .490E+03       0.1          0.64      82.66
      0.27   234.47    .112E+04       0.3          0.93      56.72
      0.40   234.60    .189E+04       0.7          1.14      45.94
      0.53   234.73    .280E+04       1.2          1.33      39.64
      0.67   234.87    .385E+04       1.8          1.49      35.34
      0.80   235.00    .504E+04       2.6          1.63      32.16
      0.95   235.15    .442E+05       6.3          0.45     116.42
      1.11   235.31    .128E+06      17.7          0.44     120.51
      1.26   235.46    .247E+06      38.2          0.49     107.48
      1.42   235.62    .400E+06      69.8          0.55      95.60
      1.57   235.77    .589E+06     114.0          0.61      86.08
      1.72   235.92    .812E+06     172.6          0.67      78.45
      1.88   236.08    .107E+07     250.3          0.74      71.19
      2.03   236.23    .135E+07     347.8          0.81      64.71
      2.18   236.38    .165E+07     461.9          0.88      59.65
      2.34   236.54    .198E+07     593.4          0.95      55.58
      2.49   236.69    .233E+07     742.8          1.01      52.21
      2.65   236.85    .270E+07     910.6          1.06      49.36
      2.80   237.00    .309E+07    1097.6          1.12      46.91

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27     9.35   23.25  11.23      0.99      0.45
     OUTFLOW: ID= 1 (0105) 6811.27     9.07   25.75  11.23      0.99      0.45

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   0.689 (i)
     TIME TO PEAK    (hrs)=  17.000
     RUNOFF VOLUME    (mm)=  11.683
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   0.689    17.00    11.68
       + ID2= 2 (0105):  6811.27   9.067    25.75    11.23
         ================================================
         ID = 3 (0106):  7093.24   9.368    25.25    11.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)= 902.64   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   3.308

     PEAK FLOW       (cms)=   1.786 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  15.252
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0074) |   Area    (ha)= 135.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.78        33.92
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     951.14        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      11.78         4.04
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      23.22 (ii)   48.70 (ii)
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```
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.09         0.27          3.338 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.75          10.25
     RUNOFF VOLUME    (mm)=      50.24        10.72          38.38
     TOTAL RAINFALL   (mm)=      51.24        51.24          51.24
     RUNOFF COEFFICIENT   =       0.98         0.21           0.75


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0528) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.7900      9.8141
                          0.4600     8.4187   |   9.0800     10.3142
                          2.6300     8.9048   |  11.4000     10.6733
                          4.9000     9.3462   |  13.2700     11.0255

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0074)    135.700      3.338     10.25      38.38
     OUTFLOW: ID= 1 (0528)    135.700      0.235     16.75      38.35

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.05
                   TIME SHIFT OF PEAK FLOW          (min)=390.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.3050

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| ADD HYD   (0520) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0007):   902.64   1.786    22.25    15.25
        + ID2= 2 (0528):   135.70   0.235    16.75    38.35
          ================================================
          ID = 3 (0520):  1038.34   2.009    22.25    18.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0073) |   Area    (ha)= 178.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.30       130.60
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1092.09        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      11.78         4.47
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      25.23 (ii)   49.68 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.52         1.14          1.588 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.75          10.50
     RUNOFF VOLUME    (mm)=      50.24        11.45          14.94
     TOTAL RAINFALL   (mm)=      51.24        51.24          51.24
     RUNOFF COEFFICIENT   =       0.98         0.22           0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9500      9.2195
                          0.6100     7.5855   |  11.9700     10.0426
                          3.4700     7.7498   |  15.0300     10.8266
                          6.4600     8.5771   |  17.5000     11.5931

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0073)    178.900      1.588     10.50      14.94
     OUTFLOW: ID= 1 (0529)    178.900      0.165     17.50      14.93

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.40
                   TIME SHIFT OF PEAK FLOW          (min)=420.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0538

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| ADD HYD   (0522) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0520):  1038.34   2.009    22.25    18.27
        + ID2= 2 (0529):   178.90   0.165    17.50    14.93
          ================================================
          ID = 3 (0522):  1217.24   2.165    22.00    17.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0079) |   Area    (ha)= 156.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  30.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.07        95.53
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1021.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      11.78         5.77
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      24.24 (ii)   46.32 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.53         1.11          2.574 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.50          10.25
     RUNOFF VOLUME    (mm)=      50.24        16.01          26.28
     TOTAL RAINFALL   (mm)=      51.24        51.24          51.24
     RUNOFF COEFFICIENT   =       0.98         0.31           0.51


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0530) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8300      9.2109
                          0.5300     7.7357   |  10.4800      9.8961
                          3.0400     7.9828   |  13.1600     10.5152
                          5.6500     8.6540   |  15.3200     11.1208

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600      2.574     10.25      26.28
     OUTFLOW: ID= 1 (0530)    156.600      0.224     17.00      26.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.69
                   TIME SHIFT OF PEAK FLOW          (min)=405.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.2668
```

ADD HYD (0524)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0522):	1217.24	2.165	22.00	17.78
	+ ID2= 2 (0530):	156.60	0.224	17.00	26.26
	ID = 3 (0524):	1373.84	2.377	22.00	18.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0107)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0106):	7093.24	9.368	25.25	11.25
	+ ID2= 2 (0524):	1373.84	2.377	22.00	18.75
	ID = 3 (0107):	8467.08	11.639	24.75	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0108) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.00	0.1000	
400.00	231.00	0.1000 /0.0350	Main Channel
401.00	229.70	0.0350	Main Channel
402.00	229.70	0.0350	Main Channel
404.00	230.50	0.0350 /0.1000	Main Channel
495.00	231.00	0.1000	
1234.00	256.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.90	.151E+04	0.1	0.24	395.61
0.40	230.10	.377E+04	0.2	0.35	274.62
0.60	230.30	.677E+04	0.5	0.43	222.06
0.80	230.50	.105E+05	0.9	0.50	190.52
1.03	230.73	.437E+05	2.0	0.27	356.49
1.27	230.97	.134E+06	5.0	0.21	448.69
1.50	231.20	.278E+06	11.4	0.23	405.59
1.73	231.43	.473E+06	21.6	0.26	364.80
1.97	231.67	.718E+06	36.0	0.29	332.76
2.20	231.90	.101E+07	55.1	0.31	306.87
2.43	232.13	.136E+07	79.4	0.33	285.44
2.67	232.37	.176E+07	109.6	0.36	267.34
2.90	232.60	.221E+07	145.9	0.38	251.83
3.13	232.83	.270E+07	189.0	0.40	238.35
3.37	233.07	.325E+07	239.3	0.42	226.51
3.60	233.30	.385E+07	297.1	0.44	216.02
3.83	233.53	.450E+07	363.0	0.46	206.64
4.07	233.77	.520E+07	437.3	0.48	198.20
4.30	234.00	.595E+07	520.5	0.50	190.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0107)	8467.08	11.64	24.75	12.46	1.51	0.23
OUTFLOW: ID= 1 (0108)	8467.08	9.50	30.50	12.46	1.43	0.23

CALIB				
NASHYD (0092)	Area (ha)=1102.32	Curve Number (CN)= 64.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10		
	U.H. Tp(hrs)= 16.50			

Unit Hyd Qpeak (cms)= 2.620

PEAK FLOW (cms)= 1.109 (i)
TIME TO PEAK (hrs)= 28.500
RUNOFF VOLUME (mm)= 11.306
TOTAL RAINFALL (mm)= 51.240

RUNOFF COEFFICIENT = 0.221

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0109)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0092):	1102.32	1.109	28.50	11.31
	+ ID2= 2 (0108):	8467.08	9.503	30.50	12.46
	ID = 3 (0109):	9569.40	10.598	30.50	12.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0010):	2842.76	4.127	22.50	11.31
	+ ID2= 2 (0109):	9569.40	10.598	30.50	12.33
	ID = 3 (0110):	12412.16	13.836	28.50	12.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0111) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.1000	
275.00	232.00	0.1000	
1039.00	230.00	0.1000 /0.0350	Main Channel
1040.00	229.20	0.0350	Main Channel
1041.00	229.20	0.0350	Main Channel
1043.00	230.00	0.0350 /0.1000	Main Channel
1117.00	230.60	0.1000	
1325.00	234.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.40	.985E+03	0.0	0.14	431.34
0.40	229.60	.251E+04	0.1	0.20	298.03
0.60	229.80	.457E+04	0.3	0.25	239.97
0.80	230.00	.717E+04	0.6	0.29	205.17
1.07	230.27	.754E+05	2.2	0.11	561.90
1.33	230.53	.272E+06	8.6	0.11	527.12
1.60	230.80	.594E+06	22.7	0.14	436.37
1.87	231.07	.103E+07	46.2	0.16	371.32
2.13	231.33	.158E+07	80.7	0.18	325.64
2.40	231.60	.224E+07	127.8	0.20	291.74
2.67	231.87	.301E+07	189.0	0.22	265.46
2.93	232.13	.389E+07	271.8	0.25	238.27
3.20	232.40	.481E+07	376.4	0.28	212.79
3.47	232.67	.576E+07	496.0	0.31	193.49
3.73	232.93	.674E+07	630.4	0.33	178.30
4.00	233.20	.776E+07	779.4	0.36	165.99
4.27	233.47	.881E+07	943.0	0.38	155.79
4.53	233.73	.990E+07	1121.1	0.41	147.16
4.80	234.00	.110E+08	1313.9	0.43	139.76

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0110)	*******	13.84	28.50	12.10	1.43	0.12
OUTFLOW: ID= 1 (0111)	*******	11.17	35.25	12.10	1.38	0.12

ADD HYD (0112)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0093):	381.73	0.496	26.75	13.33
	+ ID2= 2 (0111):	12412.16	11.167	35.25	12.10

```
          ================================================
          ID = 3 (0112): 12793.89  11.564    35.00    12.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   2.273 (i)
     TIME TO PEAK    (hrs)=  20.750
     RUNOFF VOLUME    (mm)=   9.918
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=   3.296 (i)
     TIME TO PEAK    (hrs)=  25.000
     RUNOFF VOLUME    (mm)=  11.306
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.62         218.48
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.00           2.00
     Length            (m)=    1366.50          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      11.78           5.76
               over (min)        30.00          60.00
     Storage Coeff.  (min)=      28.86 (ii)     50.96 (ii)
     Unit Hyd. Tpeak (min)=      30.00          60.00
     Unit Hyd. peak  (cms)=       0.04           0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.81           2.47          3.183 (iii)
     TIME TO PEAK    (hrs)=      10.25          10.75          10.50
     RUNOFF VOLUME    (mm)=      50.24          15.72          18.83
     TOTAL RAINFALL   (mm)=      51.24          51.24          51.24
     RUNOFF COEFFICIENT   =       0.98           0.31           0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  14.0000     14.7295
                         0.9500    12.2068   |  18.7400     16.0462
                         5.4300    12.3823   |  23.5200     17.3268
                        10.1100    13.7195   |  27.3900     18.5786
```

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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100      3.183     10.50      18.83
     OUTFLOW: ID= 1 (0525)    280.100      0.318     17.50      18.81

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.98
                  TIME SHIFT OF PEAK FLOW         (min)=420.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.0809

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--------------------
| ADD HYD   (0515) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44   3.296    25.00    11.31
       + ID2= 2 (0525):   280.10   0.318    17.50    18.81
         ================================================
         ID = 3 (0515):  2954.54   3.583    25.00    12.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=   2.624 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=   7.876
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.154

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0046) |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61          51.69
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.00           2.00
     Length            (m)=     784.43          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      11.78           4.55
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      20.68 (ii)     44.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.06           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.99           0.49          1.470 (iii)
     TIME TO PEAK    (hrs)=      10.25          10.50          10.25
     RUNOFF VOLUME    (mm)=      50.24          12.12          24.70
     TOTAL RAINFALL   (mm)=      51.24          51.24          51.24
     RUNOFF COEFFICIENT   =       0.98           0.24           0.48

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0526) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6200     51.9904
                         0.3100    51.1099   |   6.1800     52.3852
                         1.7900    51.2815   |   7.7500     52.7331
                         3.3300    51.6636   |   9.0300     53.0736

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (0046)     92.300      1.470     10.25      24.70
     OUTFLOW: ID= 1 (0526)     92.300      0.013     25.00      16.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.91
                  TIME SHIFT OF PEAK FLOW         (min)=885.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2080
```

ADD HYD (0516)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	2580.39	2.624	22.50	7.88
+ ID2= 2 (0526):	92.30	0.013	25.00	16.20
ID = 3 (0516):	2672.69	2.638	22.50	8.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0201)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0515):	2954.54	3.583	25.00	12.02
+ ID2= 2 (0516):	2672.69	2.638	22.50	8.16
ID = 3 (0201):	5627.23	6.172	23.75	10.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0202) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	239.00	0.1000	
690.00	230.00	0.1000 /0.0350	Main Channel
691.00	229.20	0.0350	Main Channel
692.00	229.20	0.0350	Main Channel
693.00	229.50	0.0350 /0.1000	Main Channel
1190.00	230.00	0.1000	
1417.00	255.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	229.50	.347E+04	0.4	0.84	136.57
0.80	230.00	.864E+06	45.2	0.36	318.78
1.30	230.50	.265E+07	274.1	0.71	161.20
1.80	231.00	.459E+07	651.8	0.97	117.24
2.30	231.50	.667E+07	1165.3	1.20	95.34
2.80	232.00	.889E+07	1810.2	1.40	81.89
3.30	232.50	.113E+08	2585.1	1.57	72.65
3.80	233.00	.138E+08	3490.4	1.73	65.85
4.30	233.50	.165E+08	4527.4	1.89	60.59
4.80	234.00	.193E+08	5697.8	2.03	56.38
5.30	234.50	.222E+08	7003.8	2.16	52.91
5.80	235.00	.253E+08	8447.7	2.28	50.00
6.30	235.50	.286E+08	10032.3	2.40	47.52
6.80	236.00	.320E+08	11760.1	2.52	45.36
7.30	236.50	.356E+08	13634.1	2.63	43.46
7.80	237.00	.393E+08	15657.0	2.73	41.78
8.30	237.50	.431E+08	17831.7	2.84	40.28
8.80	238.00	.471E+08	20161.3	2.93	38.92
9.30	238.50	.512E+08	22648.7	3.03	37.69

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0201)	5627.23	6.17	23.75	10.19	0.36	0.71
OUTFLOW: ID= 1 (0202)	5627.23	5.91	27.00	10.19	0.36	0.72

ADD HYD (0203)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0008):	1549.97	2.273	20.75	9.92
+ ID2= 2 (0202):	5627.23	5.909	27.00	10.19
ID = 3 (0203):	7177.20	7.774	25.00	10.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0301)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	12793.89	11.564	35.00	12.13
+ ID2= 2 (0203):	7177.20	7.774	25.00	10.13
ID = 3 (0301):	19971.09	17.701	30.75	11.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.00	0.0700	
110.00	239.00	0.0700	
161.00	238.00	0.0700	
250.00	237.00	0.0700	
420.00	236.00	0.0700	
560.00	235.00	0.0700	
589.00	234.40	0.0700 /0.0350	Main Channel
589.10	233.60	0.0350	Main Channel
594.00	233.60	0.0350	Main Channel
594.10	234.40	0.0350 /0.0700	Main Channel
615.00	235.00	0.0700	
740.00	236.00	0.0700	
860.00	236.50	0.0700	
1340.00	237.00	0.0700	
1460.00	238.00	0.0700	
1470.00	239.00	0.0700	
1510.00	240.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	233.87	.770E+04	1.0	0.74	132.49
0.53	234.13	.155E+05	2.9	1.10	88.48
0.80	234.40	.234E+05	5.5	1.37	71.19
1.15	234.75	.636E+05	11.6	1.07	91.11
1.50	235.10	.169E+06	24.5	0.85	114.97
1.85	235.45	.431E+06	54.5	0.74	131.62
2.20	235.80	.882E+06	117.3	0.78	125.39
2.55	236.15	.153E+07	218.3	0.83	117.06
2.90	236.50	.246E+07	375.3	0.89	109.30
3.25	236.85	.394E+07	579.0	0.86	113.45
3.60	237.20	.612E+07	1010.3	0.97	101.01
3.95	237.55	.851E+07	1631.3	1.12	86.99
4.30	237.90	.111E+08	2391.8	1.27	77.05
4.65	238.25	.137E+08	3337.5	1.42	68.52
5.00	238.60	.164E+08	4438.7	1.58	61.71
5.35	238.95	.192E+08	5671.0	1.73	56.40
5.70	239.30	.220E+08	6955.1	1.85	52.75
6.05	239.65	.249E+08	8355.2	1.96	49.76
6.40	240.00	.280E+08	9884.7	2.07	47.18

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0301)	*******	17.70	30.75	11.41	1.32	0.95
OUTFLOW: ID= 1 (0302)	*******	17.48	33.25	11.41	1.31	0.96

ADD HYD (0303)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0012):	1501.52	1.873	23.25	10.25
+ ID2= 2 (0302):	19971.09	17.480	33.25	11.41

```
          ID = 3 (0303): 21472.61  18.736    32.50    11.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=   3.491 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=   8.989
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.175

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         236.00        0.0500
                 72.00         235.00        0.0500
                492.00         230.00        0.0500
                581.00         229.20    0.0500 /0.0350  Main Channel
                582.00         228.40        0.0350      Main Channel
                583.00         228.40        0.0350      Main Channel
                584.00         229.20    0.0350 /0.0500  Main Channel
                588.00         229.20        0.0500
                607.00         230.00        0.0500
                627.00         235.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   228.67    .302E+04       0.1          0.21     666.69
       0.53   228.93    .756E+04       0.3          0.30     465.92
       0.80   229.20    .136E+05       0.6          0.37     377.99
       1.16   229.56    .111E+06       3.0          0.23     616.66
       1.52   229.92    .358E+06      11.5          0.27     519.91
       1.89   230.29    .740E+06      30.1          0.35     410.09
       2.25   230.65    .122E+07      59.5          0.41     342.49
       2.61   231.01    .180E+07     100.6          0.47     298.58
       2.97   231.37    .248E+07     154.6          0.53     267.22
       3.34   231.74    .326E+07     222.9          0.58     243.40
       3.70   232.10    .413E+07     306.6          0.63     224.51
       4.06   232.46    .510E+07     406.9          0.68     209.05
       4.42   232.82    .617E+07     524.8          0.72     196.10
       4.79   233.19    .734E+07     661.4          0.77     185.06
       5.15   233.55    .861E+07     817.9          0.81     175.49
       5.51   233.91    .998E+07     995.2          0.85     167.10
       5.87   234.27    .114E+08    1194.3          0.89     159.67
       6.24   234.64    .130E+08    1416.3          0.93     153.03
       6.60   235.00    .147E+08    1662.2          0.96     147.05

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17     3.49   23.00   8.99      1.18      0.23
     OUTFLOW: ID= 1 (0401) 3099.17     2.54   32.75   8.99      1.09      0.25


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   1.737 (i)
     TIME TO PEAK    (hrs)=  37.000
     RUNOFF VOLUME    (mm)=  13.334
     TOTAL RAINFALL   (mm)=  51.240
     RUNOFF COEFFICIENT   =   0.260
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0014):  2163.09   1.737    37.00    13.33
        + ID2= 2 (0401):  3099.17   2.543    32.75     8.99
          ================================================
          ID = 3 (0402):  5262.26   4.239    33.75    10.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0303): 21472.61  18.736    32.50    11.33
        + ID2= 2 (0402):  5262.26   4.239    33.75    10.77
          ================================================
          ID = 3 (0501): 26734.87  22.955    32.75    11.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         237.00        0.0700
                425.00         235.00        0.0700
                445.00         234.00        0.0700
                480.00         233.50        0.0700
               1535.00         233.50    0.0700 /0.0350  Main Channel
               1536.50         232.70        0.0350      Main Channel
               1537.50         232.70        0.0350      Main Channel
               1540.00         233.50    0.0350 /0.0700  Main Channel
               1605.00         233.20        0.0700
               1610.00         233.10        0.0700
               2135.00         233.10        0.0700
               2440.00         233.50        0.0700
               2505.00         233.50        0.0700
               2530.00         234.00        0.0700
               2535.00         235.00        0.0700
               2540.00         236.00        0.0700
               2605.00         238.00        0.0700
               2645.00         241.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   232.90    .385E+03       0.2          0.55      38.92
       0.40   233.10    .103E+04       0.6          0.80      26.75
       0.60   233.30    .159E+06      39.5          0.32      67.02
       0.80   233.50    .366E+06     133.3          0.47      45.74
       1.03   233.73    .977E+06     428.7          0.56      37.97
       1.27   233.97    .160E+07     914.3          0.74      29.09
       1.50   234.20    .222E+07    1556.9          0.90      23.78
       1.73   234.43    .285E+07    2336.2          1.05      20.32
       1.97   234.67    .348E+07    3240.2          1.20      17.88
       2.20   234.90    .411E+07    4260.9          1.33      16.07
       2.43   235.13    .474E+07    5359.1          1.45      14.75
       2.67   235.37    .539E+07    6537.6          1.56      13.74
       2.90   235.60    .605E+07    7819.4          1.66      12.90
       3.13   235.83    .673E+07    9203.8          1.76      12.19
       3.37   236.07    .743E+07   10683.6          1.85      11.59
       3.60   236.30    .814E+07   12247.8          1.93      11.07
       3.83   236.53    .887E+07   13912.8          2.01      10.62
       4.07   236.77    .961E+07   15679.0          2.09      10.22
       4.30   237.00    .104E+08   17546.8          2.17       9.85

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0501) *******    22.95   32.75  11.22      0.51      0.43
     OUTFLOW: ID= 1 (0503) *******    22.89   33.75  11.22      0.51      0.43
```

```
--------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  27.8300     83.9600
                          3.8000    14.0500   |  *******    101.7400
                         11.0800    33.6500   |  *******    145.2700
                         20.8900    61.8900   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0503)   ********     22.891     33.75      11.22
     OUTFLOW: ID= 1 (0510)   ********     19.996     41.25      11.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 87.35
                  TIME SHIFT OF PEAK FLOW         (min)=450.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 59.3163

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        237.00        0.0700
                425.00        235.00        0.0700
                445.00        234.00        0.0700
                480.00        233.50        0.0700
               1535.00        233.50    0.0700 /0.0350  Main Channel
               1536.50        232.70        0.0350      Main Channel
               1537.50        232.70        0.0350      Main Channel
               1540.00        233.50    0.0350 /0.0700  Main Channel
               1605.00        233.20        0.0700
               1610.00        233.10        0.0700
               2135.00        233.10        0.0700
               2440.00        233.50        0.0700
               2505.00        233.50        0.0700
               2530.00        234.00        0.0700
               2535.00        235.00        0.0700
               2540.00        236.00        0.0700
               2605.00        238.00        0.0700
               2645.00        241.00        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.20   232.90    .291E+03        0.2         0.55      29.43
      0.40   233.10    .777E+03        0.6         0.80      20.23
      0.60   233.30    .120E+06       39.5         0.32      50.68
      0.80   233.50    .277E+06      133.3         0.47      34.59
      1.03   233.73    .739E+06      428.7         0.56      28.72
      1.27   233.97    .121E+07      914.3         0.74      22.00
      1.50   234.20    .168E+07     1556.9         0.90      17.98
      1.73   234.43    .215E+07     2336.2         1.05      15.37
      1.97   234.67    .263E+07     3240.2         1.20      13.52
      2.20   234.90    .311E+07     4260.9         1.33      12.15
      2.43   235.13    .359E+07     5359.1         1.45      11.15
      2.67   235.37    .408E+07     6537.6         1.56      10.39
      2.90   235.60    .458E+07     7819.4         1.66       9.76
      3.13   235.83    .509E+07     9203.8         1.76       9.22
      3.37   236.07    .562E+07    10683.6         1.85       8.76
      3.60   236.30    .615E+07    12247.8         1.93       8.37
      3.83   236.53    .670E+07    13912.8         2.01       8.03
      4.07   236.77    .727E+07    15679.0         2.09       7.73
      4.30   237.00    .784E+07    17546.8         2.17       7.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0510) *******    20.00   41.25  11.22      0.50      0.46
     OUTFLOW: ID= 1 (0513) *******    19.98   42.00  11.22      0.50      0.46


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0504) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0015):  1059.88   2.358    20.75    15.25
        + ID2= 2 (0513): 26734.87  19.977    42.00    11.22
          ================================================
          ID = 3 (0504): 27794.75  20.293    41.50    11.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0505) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0013):  1627.59   1.790    27.50    11.68
        + ID2= 2 (0504): 27794.75  20.293    41.50    11.37
          ================================================
          ID = 3 (0505): 29422.34  21.377    41.00    11.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        251.00        0.0500
                323.00        238.00        0.0500
                400.00        229.00        0.0500
                545.00        228.00        0.0500
                602.00        226.00        0.0500
                604.00        225.80    0.0500 /0.0350  Main Channel
                605.00        225.00        0.0350      Main Channel
                609.00        225.00        0.0350      Main Channel
                610.00        225.80    0.0350 /0.0500  Main Channel
                614.00        226.00        0.0500
                650.00        227.00        0.0500
                810.00        229.50        0.0500
               1855.00        240.00        0.0500
               2617.00        259.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.80   225.80    .292E+05        3.5         0.87      139.36
      2.13   227.13    .441E+06       50.6         0.84      145.20
      3.45   228.45    .197E+07      262.2         0.97      125.42
      4.78   229.78    .557E+07      971.2         1.27       95.57
      6.11   231.11    .106E+08     2326.5         1.61       75.63
      7.43   232.43    .169E+08     4425.6         1.90       63.77
      8.76   233.76    .247E+08     7361.8         2.17       55.90
     10.08   235.08    .338E+08    11229.7         2.42       50.22
     11.41   236.41    .444E+08    16121.0         2.65       45.87
     12.74   237.74    .563E+08    22124.8         2.86       42.40
     14.06   239.06    .697E+08    29005.2         3.03       40.02
     15.39   240.39    .846E+08    37433.0         3.23       37.66
     16.72   241.72    .101E+09    47908.6         3.47       34.97
     18.04   243.04    .117E+09    59742.1         3.71       32.73
     19.37   244.37    .135E+09    72949.0         3.94       30.83
     20.69   245.69    .153E+09    87549.6         4.16       29.20
     22.02   247.02    .173E+09    *******         4.37       27.79
     23.35   248.35    .193E+09    *******         4.58       26.55
     24.67   249.67    .214E+09    *******         4.77       25.45

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0505) *******    21.38   41.00  11.39      1.30      0.86
     OUTFLOW: ID= 1 (0506) *******    21.14   43.25  11.39      1.30      0.86


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--------------------
| RESERVOIR (0512) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     16.2850
                         27.2000     3.7650   |  *******     20.9160
                         76.8000     7.7410   |  *******     25.9120
                         *******    11.0650   |  *******     36.6600
                         *******    11.9150   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (0506)   ********     21.143     43.25      11.39
     OUTFLOW: ID= 1 (0512)   ********     21.138     43.50      11.39

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.98
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.9259

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--------------------
| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        230.00        0.0500
                400.00        229.00        0.0500
                545.00        228.00        0.0500
                602.00        226.00        0.0500
                604.00        225.80    0.0500 /0.0350  Main Channel
                605.00        225.00        0.0350      Main Channel
                609.00        225.00        0.0350      Main Channel
                610.00        225.80    0.0350 /0.0500  Main Channel
                614.00        226.00        0.0500
                650.00        227.00        0.0500
                810.00        229.50        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   225.20    .243E+04       0.3         0.39     121.91
       0.40   225.40    .515E+04       1.1         0.59      80.58
       0.60   225.60    .815E+04       2.1         0.74      64.02
       0.80   225.80    .114E+05       3.5         0.87      54.69
       1.05   226.05    .184E+05       6.1         0.94      50.48
       1.29   226.29    .346E+05      10.3         0.85      55.99
       1.54   226.54    .620E+05      17.4         0.80      59.38
       1.79   226.79    .101E+06      28.3         0.81      59.18
       2.03   227.03    .151E+06      43.8         0.83      57.35
       2.28   227.28    .215E+06      63.9         0.85      55.99
       2.53   227.53    .295E+06      91.4         0.89      53.82
       2.77   227.77    .391E+06     127.0         0.93      51.35
       3.02   228.02    .504E+06     170.6         0.97      49.24
       3.27   228.27    .644E+06     215.5         0.96      49.84
       3.51   228.51    .821E+06     279.7         0.97      48.92
       3.76   228.76    .103E+07     363.1         1.00      47.47
       4.01   229.01    .128E+07     466.2         1.04      45.89
       4.25   229.25    .159E+07     572.0         1.03      46.41
       4.50   229.50    .198E+07     719.1         1.04      45.95

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0512) *******    21.14   43.50  11.39      1.62      0.80
     OUTFLOW: ID= 1 (0514) *******    21.09   44.50  11.39      1.62      0.80


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--------------------
| ADD HYD   (0507) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):  3094.49   4.001    30.00    15.78
       + ID2= 2 (0514): 29422.34  21.094    44.50    11.39
         ==========================================
         ID = 3 (0507): 32516.83  23.806    42.75    11.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   2 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              6ab08fc7-e8e6-4b3d-8177-e9629b714f53\783dd254
| Ptotal= 72.50 mm |    Comments: 5yr/24hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    6.16 | 12.75    2.54 | 19.00    0.36
                0.50    0.36 |  6.75    6.16 | 13.00    2.54 | 19.25    0.36
                0.75    0.36 |  7.00    6.16 | 13.25    2.54 | 19.50    0.36
                1.00    0.36 |  7.25    6.16 | 13.50    2.54 | 19.75    0.36
                1.25    0.36 |  7.50    6.16 | 13.75    2.54 | 20.00    0.36
                1.50    0.36 |  7.75    6.16 | 14.00    2.54 | 20.25    0.36
                1.75    0.36 |  8.00    6.16 | 14.25    2.54 | 20.50    0.36
                2.00    0.36 |  8.25    6.16 | 14.50    1.45 | 20.75    0.36
                2.25    0.36 |  8.50   16.68 | 14.75    1.45 | 21.00    0.36
                2.50    0.36 |  8.75   16.68 | 15.00    1.45 | 21.25    0.36
                2.75    0.36 |  9.00   16.68 | 15.25    1.45 | 21.50    0.36
                3.00    0.36 |  9.25   16.68 | 15.50    1.45 | 21.75    0.36
                3.25    0.36 |  9.50   16.68 | 15.75    1.45 | 22.00    0.36
                3.50    0.36 |  9.75   16.68 | 16.00    1.45 | 22.25    0.36
                3.75    0.36 | 10.00   16.68 | 16.25    1.45 | 22.50    0.36
                4.00    0.36 | 10.25   16.68 | 16.50    0.73 | 22.75    0.36
                4.25    0.36 | 10.50    4.71 | 16.75    0.73 | 23.00    0.36
                4.50    2.18 | 10.75    4.71 | 17.00    0.73 | 23.25    0.36
                4.75    2.18 | 11.00    4.71 | 17.25    0.73 | 23.50    0.36
                5.00    2.18 | 11.25    4.71 | 17.50    0.73 | 23.75    0.36
                5.25    2.18 | 11.50    4.71 | 17.75    0.73 | 24.00    0.36
                5.50    2.18 | 11.75    4.71 | 18.00    0.73 | 24.25    0.36
                5.75    2.18 | 12.00    4.71 | 18.25    0.73 |
                6.00    2.18 | 12.25    4.71 | 18.50    0.36 |
                6.25    2.18 | 12.50    2.54 | 18.75    0.36 |

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--------------------
| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=   7.377 (i)
     TIME TO PEAK    (hrs)=  29.750
     RUNOFF VOLUME    (mm)=  29.068
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.401

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   3.423 (i)
     TIME TO PEAK    (hrs)=  27.250
     RUNOFF VOLUME    (mm)=  22.305
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   4.382 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  28.222
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.50
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```
     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   3.633 (i)
     TIME TO PEAK    (hrs)=  23.250
     RUNOFF VOLUME    (mm)=  19.819
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   0.936 (i)
     TIME TO PEAK    (hrs)=  26.750
     RUNOFF VOLUME    (mm)=  25.087
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=   7.933 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  21.658
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   4.575 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  19.238
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=   7.220 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  19.819
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   2.658 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  18.121
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64   7.220    22.50    19.82
       + ID2= 2 (0002):   988.72   2.658    20.50    18.12
         ================================================
         ID = 3 (0101):  3862.36   9.813    22.00    19.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        250.00        0.0700
                  43.00        240.00    0.0700 /0.0350  Main Channel
                  44.00        239.20        0.0350      Main Channel
                  45.00        239.20        0.0350      Main Channel
                  46.00        240.00    0.0350 /0.0700  Main Channel
                  63.50        241.00        0.0700
                  71.00        250.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   239.60    .642E+04       0.5          0.80      221.73
       0.80   240.00    .171E+05       1.8          1.15      155.20
       1.39   240.59    .764E+05       8.0          1.12      159.62
       1.98   241.18    .214E+06      23.7          1.19      150.23
       2.56   241.76    .385E+06      51.8          1.44      123.91
       3.15   242.35    .575E+06      90.1          1.68      106.38
       3.74   242.94    .784E+06     138.5          1.89       94.40
       4.33   243.53    .101E+07     196.9          2.08       85.71
       4.92   244.12    .126E+07     265.6          2.26       79.08
       5.51   244.71    .153E+07     344.7          2.42       73.81
       6.09   245.29    .181E+07     434.5          2.57       69.50
       6.68   245.88    .212E+07     535.2          2.71       65.89
       7.27   246.47    .244E+07     647.3          2.84       62.81
       7.86   247.06    .278E+07     771.1          2.97       60.13
       8.45   247.65    .314E+07     906.8          3.09       57.77
       9.04   248.24    .352E+07    1054.8          3.20       55.67
       9.62   248.82    .392E+07    1215.5          3.32       53.79
      10.21   249.41    .434E+07    1389.1          3.42       52.09
      10.80   250.00    .478E+07    1576.1          3.53       50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                             (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36     9.81   22.00  19.38      1.46      1.12
     OUTFLOW: ID= 1 (0102) 3862.36     9.30   24.75  19.38      1.44      1.12

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--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1472.14   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.732

     PEAK FLOW       (cms)=   4.836 (i)
     TIME TO PEAK    (hrs)=  23.750
     RUNOFF VOLUME    (mm)=  28.222
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.389
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0064)	ID= 1 DT=15.0 min

Area (ha)= 32.30
Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.22	8.07
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		16.68	10.54
over (min)		15.00	45.00
Storage Coeff. (min)=		13.13 (ii)	30.50 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	1.05 0.20 1.247 (iii)
TIME TO PEAK	(hrs)=	10.25 10.25 10.25
RUNOFF VOLUME	(mm)=	71.50 28.57 58.62
TOTAL RAINFALL	(mm)=	72.50 72.50 72.50
RUNOFF COEFFICIENT	=	0.99 0.39 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0527)	IN= 2---> OUT= 1	DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.6100	10.9070
0.1100	10.5752	2.1600	11.0260
0.6300	10.6908	2.7100	11.1114
1.1700	10.7958	3.1600	11.1951

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0064)	32.300	1.247	10.25	58.62
OUTFLOW: ID= 1 (0527)	32.300	0.019	24.50	49.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.50
TIME SHIFT OF PEAK FLOW (min)=855.00
MAXIMUM STORAGE USED (ha.m.)= 1.7950

ADD HYD (0518)	1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0006):		1472.14	4.836	23.75	28.22
+ ID2= 2 (0527):		32.30	0.019	24.50	49.24
ID = 3 (0518):		1504.44	4.855	23.75	28.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)	1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):		3862.36	9.297	24.75	19.38
+ ID2= 2 (0518):		1504.44	4.855	23.75	28.67
ID = 3 (0103):		5366.80	14.129	24.50	21.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0104)	1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0005):		1444.47	4.575	19.25	19.24
+ ID2= 2 (0103):		5366.80	14.129	24.50	21.99
ID = 3 (0104):		6811.27	17.936	23.25	21.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0105)	IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.1000	
330.00	235.00	0.1000 /0.0350	Main Channel
331.00	234.20	0.0350	Main Channel
332.00	234.20	0.0350	Main Channel
333.00	235.00	0.0350 /0.1000	Main Channel
425.00	235.10	0.1000	
698.00	236.00	0.1000	
1101.00	239.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	234.33	.490E+03	0.1	0.64	82.66
0.27	234.47	.112E+04	0.3	0.93	56.72
0.40	234.60	.189E+04	0.7	1.14	45.94
0.53	234.73	.280E+04	1.2	1.33	39.64
0.67	234.87	.385E+04	1.8	1.49	35.34
0.80	235.00	.504E+04	2.6	1.63	32.16
0.95	235.15	.442E+05	6.3	0.45	116.42
1.11	235.31	.128E+06	17.7	0.44	120.51
1.26	235.46	.247E+06	38.2	0.49	107.48
1.42	235.62	.400E+06	69.8	0.55	95.60
1.57	235.77	.589E+06	114.0	0.61	86.08
1.72	235.92	.812E+06	172.6	0.67	78.45
1.88	236.08	.107E+07	250.3	0.74	71.19
2.03	236.23	.135E+07	347.8	0.81	64.71
2.18	236.38	.165E+07	461.9	0.88	59.65
2.34	236.54	.198E+07	593.4	0.95	55.58
2.49	236.69	.233E+07	742.8	1.01	52.21
2.65	236.85	.270E+07	910.6	1.06	49.36
2.80	237.00	.309E+07	1097.6	1.12	46.91

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0104)	6811.27	17.94	23.25	21.41	1.11	0.44
OUTFLOW: ID= 1 (0105)	6811.27	17.40	25.50	21.40	1.10	0.44

CALIB	NASHYD (0091)	ID= 1 DT=15.0 min

Area (ha)= 281.97 Curve Number (CN)= 65.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
U.H. Tp(hrs)= 5.80

Unit Hyd Qpeak (cms)= 1.906

PEAK FLOW (cms)= 1.324 (i)
TIME TO PEAK (hrs)= 16.750
RUNOFF VOLUME (mm)= 22.305
TOTAL RAINFALL (mm)= 72.500
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)	1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0091):		281.97	1.324	16.75	22.31
+ ID2= 2 (0105):		6811.27	17.399	25.50	21.40
ID = 3 (0106):		7093.24	17.973	25.00	21.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0007)	Area (ha)= 902.64	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10			
	U.H. Tp(hrs)= 10.70				

Unit Hyd Qpeak (cms)= 3.308

PEAK FLOW	(cms)=	3.318 (i)	
TIME TO PEAK	(hrs)=	22.000	
RUNOFF VOLUME	(mm)=	28.222	
TOTAL RAINFALL	(mm)=	72.500	
RUNOFF COEFFICIENT	=	0.389	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0074)	Area (ha)= 135.70				
ID= 1 DT=15.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 70.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	101.78	33.92	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	951.14	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		16.68	7.60	
over (min)		15.00	45.00	
Storage Coeff. (min)=		20.20 (ii)	39.98 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.06	0.03	
				TOTALS
PEAK FLOW	(cms)=	4.39	0.56	4.947 (iii)
TIME TO PEAK	(hrs)=	10.25	10.50	10.25
RUNOFF VOLUME	(mm)=	71.50	20.48	56.19
TOTAL RAINFALL	(mm)=	72.50	72.50	72.50
RUNOFF COEFFICIENT	=	0.99	0.28	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0528)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.7900	9.8141
	0.4600	8.4187	9.0800	10.3142
	2.6300	8.9048	11.4000	10.6733
	4.9000	9.3462	13.2700	11.0255

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0074)	135.700	4.947	10.25	56.19
OUTFLOW: ID= 1 (0528)	135.700	0.345	16.50	56.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.96
TIME SHIFT OF PEAK FLOW (min)=375.00
MAXIMUM STORAGE USED (ha.m.)= 6.3063

ADD HYD (0520)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0007):	902.64	3.318	22.00	28.22
	+ ID2= 2 (0528):	135.70	0.345	16.50	56.16
	ID = 3 (0520):	1038.34	3.645	22.00	31.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0073)	Area (ha)= 178.90				
ID= 1 DT=15.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 9.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	48.30	130.60	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	1092.09	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		16.68	8.36	
over (min)		15.00	45.00	
Storage Coeff. (min)=		21.95 (ii)	41.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.06	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.74	2.38	3.079 (iii)
TIME TO PEAK	(hrs)=	10.25	10.50	10.25
RUNOFF VOLUME	(mm)=	71.50	21.71	26.19
TOTAL RAINFALL	(mm)=	72.50	72.50	72.50
RUNOFF COEFFICIENT	=	0.99	0.30	0.36

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 58.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0529)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.9500	9.2195
	0.6100	7.5855	11.9700	10.0426
	3.4700	7.7498	15.0300	10.8266
	6.4600	8.5771	17.5000	11.5931

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0073)	178.900	3.079	10.25	26.19
OUTFLOW: ID= 1 (0529)	178.900	0.291	17.00	26.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.45
TIME SHIFT OF PEAK FLOW (min)=405.00
MAXIMUM STORAGE USED (ha.m.)= 3.6175

ADD HYD (0522)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0520):	1038.34	3.645	22.00	31.87
	+ ID2= 2 (0529):	178.90	0.291	17.00	26.18
	ID = 3 (0522):	1217.24	3.917	22.00	31.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0079)	Area (ha)= 156.60				
ID= 1 DT=15.0 min	Total Imp(%)= 39.00	Dir. Conn.(%)= 30.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	61.07	95.53	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	1021.76	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		16.68	10.34	
over (min)		15.00	45.00	
Storage Coeff. (min)=		21.09 (ii)	38.59 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	

```
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.17         2.22          4.375 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.50         10.25
     RUNOFF VOLUME    (mm)=      71.50        29.29         41.95
     TOTAL RAINFALL   (mm)=      72.50        72.50         72.50
     RUNOFF COEFFICIENT   =       0.99         0.40          0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0530) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.8300      9.2109
                         0.5300     7.7357   |  10.4800      9.8961
                         3.0400     7.9828   |  13.1600     10.5152
                         5.6500     8.6540   |  15.3200     11.1208

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600      4.375     10.25      41.95
     OUTFLOW: ID= 1 (0530)    156.600      0.358     16.75      41.93

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.19
                TIME SHIFT OF PEAK FLOW         (min)=390.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.2312

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| ADD HYD   (0524) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0522):  1217.24   3.917    22.00    31.04
       + ID2= 2 (0530):   156.60   0.358    16.75    41.93
         ================================================
         ID = 3 (0524):  1373.84   4.256    21.75    32.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0107) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):  7093.24  17.973    25.00    21.44
       + ID2= 2 (0524):  1373.84   4.256    21.75    32.28
         ================================================
         ID = 3 (0107):  8467.08  22.043    24.50    23.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         234.00        0.1000
                400.00         231.00    0.1000 /0.0350  Main Channel
                401.00         229.70        0.0350      Main Channel
                402.00         229.70        0.0350      Main Channel
                404.00         230.50    0.0350 /0.1000  Main Channel
                495.00         231.00        0.1000
               1234.00         256.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   229.90    .151E+04       0.1          0.24     395.61
       0.40   230.10    .377E+04       0.2          0.35     274.62
       0.60   230.30    .677E+04       0.5          0.43     222.06
       0.80   230.50    .105E+05       0.9          0.50     190.52
       1.03   230.73    .437E+05       2.0          0.27     356.49
       1.27   230.97    .134E+06       5.0          0.21     448.69
       1.50   231.20    .278E+06      11.4          0.23     405.59
       1.73   231.43    .473E+06      21.6          0.26     364.80
       1.97   231.67    .718E+06      36.0          0.29     332.76
       2.20   231.90    .101E+07      55.1          0.31     306.87
       2.43   232.13    .136E+07      79.4          0.33     285.44
       2.67   232.37    .176E+07     109.6          0.36     267.34
       2.90   232.60    .221E+07     145.9          0.38     251.83
       3.13   232.83    .270E+07     189.0          0.40     238.35
       3.37   233.07    .325E+07     239.3          0.42     226.51
       3.60   233.30    .385E+07     297.1          0.44     216.02
       3.83   233.53    .450E+07     363.0          0.46     206.64
       4.07   233.77    .520E+07     437.3          0.48     198.20
       4.30   234.00    .595E+07     520.5          0.50     190.55

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    22.04   24.50  23.20      1.74      0.26
     OUTFLOW: ID= 1 (0108) 8467.08    18.53   29.75  23.20      1.66      0.25


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| CALIB             |
| NASHYD    (0092)  |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   2.128 (i)
     TIME TO PEAK    (hrs)=  28.250
     RUNOFF VOLUME    (mm)=  21.658
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0109) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32   2.128    28.25    21.66
       + ID2= 2 (0108):  8467.08  18.527    29.75    23.20
         ================================================
         ID = 3 (0109):  9569.40  20.640    29.50    23.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76   7.933    22.25    21.66
       + ID2= 2 (0109):  9569.40  20.640    29.50    23.02
         ================================================
         ID = 3 (0110): 12412.16  27.046    27.75    22.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         236.00        0.1000
                275.00         232.00        0.1000
               1039.00         230.00    0.1000 /0.0350  Main Channel
               1040.00         229.20        0.0350      Main Channel
               1041.00         229.20        0.0350      Main Channel
               1043.00         230.00    0.0350 /0.1000  Main Channel
               1117.00         230.60        0.1000
               1325.00         234.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
```

```
       0.20   229.40    .985E+03       0.0          0.14     431.34
       0.40   229.60    .251E+04       0.1          0.20     298.03
       0.60   229.80    .457E+04       0.3          0.25     239.97
       0.80   230.00    .717E+04       0.6          0.29     205.17
       1.07   230.27    .754E+05       2.2          0.11     561.90
       1.33   230.53    .272E+06       8.6          0.11     527.12
       1.60   230.80    .594E+06      22.7          0.14     436.37
       1.87   231.07    .103E+07      46.2          0.16     371.32
       2.13   231.33    .158E+07      80.7          0.18     325.64
       2.40   231.60    .224E+07     127.8          0.20     291.74
       2.67   231.87    .301E+07     189.0          0.22     265.46
       2.93   232.13    .389E+07     271.8          0.25     238.27
       3.20   232.40    .481E+07     376.4          0.28     212.79
       3.47   232.67    .576E+07     496.0          0.31     193.49
       3.73   232.93    .674E+07     630.4          0.33     178.30
       4.00   233.20    .776E+07     779.4          0.36     165.99
       4.27   233.47    .881E+07     943.0          0.38     155.79
       4.53   233.73    .990E+07    1121.1          0.41     147.16
       4.80   234.00    .110E+08    1313.9          0.43     139.76

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0110) *******    27.05   27.75  22.71      1.65      0.14
OUTFLOW: ID= 1 (0111) *******    22.52   33.50  22.71      1.60      0.14


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-------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   0.936    26.75    25.09
       + ID2= 2 (0111): 12412.16  22.516    33.50    22.71
         ================================================
         ID = 3 (0112): 12793.89  23.314    33.50    22.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   4.426 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  19.238
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=   6.328 (i)
     TIME TO PEAK    (hrs)=  24.750
     RUNOFF VOLUME    (mm)=  21.658
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.62       218.48
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00

     Length           (m)=    1366.50        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      16.68        10.34
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      25.11 (ii)   42.60 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.16         4.97        6.058 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.50        10.25
     RUNOFF VOLUME    (mm)=      71.50        28.81        32.65
     TOTAL RAINFALL   (mm)=      72.50        72.50        72.50
     RUNOFF COEFFICIENT   =       0.99         0.40         0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  14.0000     14.7295
                         0.9500    12.2068   |  18.7400     16.0462
                         5.4300    12.3823   |  23.5200     17.3268
                        10.1100    13.7195   |  27.3900     18.5786

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100      6.058     10.25      32.65
     OUTFLOW: ID= 1 (0525)    280.100      0.554     17.25      32.64

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.14
                   TIME SHIFT OF PEAK FLOW         (min)=420.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.1186

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-------------------
| ADD HYD   (0515) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44   6.328    24.75    21.66
       + ID2= 2 (0525):   280.10   0.554    17.25    32.64
         ================================================
         ID = 3 (0515):  2954.54   6.825    24.75    22.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0004) |   Area    (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=   5.202 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  15.564
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0046) |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61        51.69
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
```

```
     Length           (m)=     784.43        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      16.68         8.46
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.00 (ii)   36.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.41         0.98          2.375 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.50          10.25
     RUNOFF VOLUME    (mm)=      71.50        22.88          38.92
     TOTAL RAINFALL   (mm)=      72.50        72.50          72.50
     RUNOFF COEFFICIENT   =       0.99         0.32           0.54


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0526) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6200     51.9904
                          0.3100    51.1099   |   6.1800     52.3852
                          1.7900    51.2815   |   7.7500     52.7331
                          3.3300    51.6636   |   9.0300     53.0736

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0046)     92.300     2.375     10.25      38.92
     OUTFLOW: ID= 1 (0526)     92.300     0.021     25.00      25.53

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.89
                  TIME SHIFT OF PEAK FLOW         (min)=885.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.4808

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--------------------
| ADD HYD   (0516) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0004):  2580.39   5.202    22.25    15.56
       + ID2= 2 (0526):    92.30   0.021    25.00    25.53
         ================================================
         ID = 3 (0516):  2672.69   5.223    22.25    15.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0515):  2954.54   6.825    24.75    22.70
       + ID2= 2 (0516):  2672.69   5.223    22.25    15.91
         ================================================
         ID = 3 (0201):  5627.23  11.954    23.50    19.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         239.00        0.1000
               690.00         230.00    0.1000 /0.0350  Main Channel
               691.00         229.20        0.0350      Main Channel
               692.00         229.20        0.0350      Main Channel
               693.00         229.50    0.0350 /0.1000  Main Channel
              1190.00         230.00        0.1000
              1417.00         255.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.30   229.50    .347E+04        0.4        0.84     136.57
        0.80   230.00    .864E+06       45.2        0.36     318.78
        1.30   230.50    .265E+07      274.1        0.71     161.20
        1.80   231.00    .459E+07      651.8        0.97     117.24
        2.30   231.50    .667E+07     1165.3        1.20      95.34
        2.80   232.00    .889E+07     1810.2        1.40      81.89
        3.30   232.50    .113E+08     2585.1        1.57      72.65
        3.80   233.00    .138E+08     3490.4        1.73      65.85
        4.30   233.50    .165E+08     4527.4        1.89      60.59
        4.80   234.00    .193E+08     5697.8        2.03      56.38
        5.30   234.50    .222E+08     7003.8        2.16      52.91
        5.80   235.00    .253E+08     8447.7        2.28      50.00
        6.30   235.50    .286E+08    10032.3        2.40      47.52
        6.80   236.00    .320E+08    11760.1        2.52      45.36
        7.30   236.50    .356E+08    13634.1        2.63      43.46
        7.80   237.00    .393E+08    15657.0        2.73      41.78
        8.30   237.50    .431E+08    17831.7        2.84      40.28
        8.80   238.00    .471E+08    20161.3        2.93      38.92
        9.30   238.50    .512E+08    22648.7        3.03      37.69

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    11.95   23.50  19.47      0.43      0.62
     OUTFLOW: ID= 1 (0202) 5627.23    11.29   27.25  19.47      0.42      0.63

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--------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97   4.426    20.50    19.24
       + ID2= 2 (0202):  5627.23  11.291    27.25    19.47
         ================================================
         ID = 3 (0203):  7177.20  14.797    25.25    19.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  23.314    33.50    22.78
       + ID2= 2 (0203):  7177.20  14.797    25.25    19.42
         ================================================
         ID = 3 (0301): 19971.09  35.834    30.50    21.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         240.00        0.0700
               110.00         239.00        0.0700
               161.00         238.00        0.0700
               250.00         237.00        0.0700
               420.00         236.00        0.0700
               560.00         235.00        0.0700
               589.00         234.40    0.0700 /0.0350  Main Channel
               589.10         233.60        0.0350      Main Channel
               594.00         233.60        0.0350      Main Channel
               594.10         234.40    0.0350 /0.0700  Main Channel
               615.00         235.00        0.0700
               740.00         236.00        0.0700
               860.00         236.50        0.0700
              1340.00         237.00        0.0700
              1460.00         238.00        0.0700
              1470.00         239.00        0.0700
              1510.00         240.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.27   233.87    .770E+04        1.0        0.74     132.49
```

```
       0.53   234.13    .155E+05       2.9          1.10      88.48
       0.80   234.40    .234E+05       5.5          1.37      71.19
       1.15   234.75    .636E+05      11.6          1.07      91.11
       1.50   235.10    .169E+06      24.5          0.85     114.97
       1.85   235.45    .431E+06      54.5          0.74     131.62
       2.20   235.80    .882E+06     117.3          0.78     125.39
       2.55   236.15    .153E+07     218.3          0.83     117.06
       2.90   236.50    .246E+07     375.3          0.89     109.30
       3.25   236.85    .394E+07     579.0          0.86     113.45
       3.60   237.20    .612E+07    1010.3          0.97     101.01
       3.95   237.55    .851E+07    1631.3          1.12      86.99
       4.30   237.90    .111E+08    2391.8          1.27      77.05
       4.65   238.25    .137E+08    3337.5          1.42      68.52
       5.00   238.60    .164E+08    4438.7          1.58      61.71
       5.35   238.95    .192E+08    5671.0          1.73      56.40
       5.70   239.30    .220E+08    6955.1          1.85      52.75
       6.05   239.65    .249E+08    8355.2          1.96      49.76
       6.40   240.00    .280E+08    9884.7          2.07      47.18

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0301) *******    35.83   30.50  21.57      1.63      0.80
    OUTFLOW: ID= 1 (0302) *******    35.20   32.75  21.57      1.62      0.81


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-------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   3.633    23.25    19.82
       + ID2= 2 (0302): 19971.09  35.200    32.75    21.57
         ================================================
         ID = 3 (0303): 21472.61  37.646    32.25    21.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=   6.850 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  17.584
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.243

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         236.00        0.0500
                  72.00         235.00        0.0500
                 492.00         230.00        0.0500
                 581.00         229.20    0.0500 /0.0350  Main Channel
                 582.00         228.40        0.0350      Main Channel
                 583.00         228.40        0.0350      Main Channel
                 584.00         229.20    0.0350 /0.0500  Main Channel
                 588.00         229.20        0.0500
                 607.00         230.00        0.0500
                 627.00         235.00        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   228.67    .302E+04        0.1          0.21     666.69
       0.53   228.93    .756E+04        0.3          0.30     465.92
       0.80   229.20    .136E+05        0.6          0.37     377.99
       1.16   229.56    .111E+06        3.0          0.23     616.66
       1.52   229.92    .358E+06       11.5          0.27     519.91
       1.89   230.29    .740E+06       30.1          0.35     410.09
       2.25   230.65    .122E+07       59.5          0.41     342.49
       2.61   231.01    .180E+07      100.6          0.47     298.58
       2.97   231.37    .248E+07      154.6          0.53     267.22
       3.34   231.74    .326E+07      222.9          0.58     243.40
       3.70   232.10    .413E+07      306.6          0.63     224.51
       4.06   232.46    .510E+07      406.9          0.68     209.05
       4.42   232.82    .617E+07      524.8          0.72     196.10
       4.79   233.19    .734E+07      661.4          0.77     185.06
       5.15   233.55    .861E+07      817.9          0.81     175.49
       5.51   233.91    .998E+07      995.2          0.85     167.10
       5.87   234.27    .114E+08     1194.3          0.89     159.67
       6.24   234.64    .130E+08     1416.3          0.93     153.03
       6.60   235.00    .147E+08     1662.2          0.96     147.05

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0011) 3099.17     6.85   22.75  17.58      1.33      0.25
    OUTFLOW: ID= 1 (0401) 3099.17     4.86   30.50  17.58      1.24      0.24


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   3.271 (i)
     TIME TO PEAK    (hrs)=  36.750
     RUNOFF VOLUME    (mm)=  25.087
     TOTAL RAINFALL   (mm)=  72.500
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   3.271    36.75    25.09
       + ID2= 2 (0401):  3099.17   4.859    30.50    17.58
         ================================================
         ID = 3 (0402):  5262.26   7.958    32.25    20.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61  37.646    32.25    21.45
       + ID2= 2 (0402):  5262.26   7.958    32.25    20.67
         ================================================
         ID = 3 (0501): 26734.87  45.604    32.25    21.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.0700
                 425.00         235.00        0.0700
                 445.00         234.00        0.0700
                 480.00         233.50        0.0700
                1535.00         233.50    0.0700 /0.0350  Main Channel
                1536.50         232.70        0.0350      Main Channel
                1537.50         232.70        0.0350      Main Channel
                1540.00         233.50    0.0350 /0.0700  Main Channel
                1605.00         233.20        0.0700
                1610.00         233.10        0.0700
                2135.00         233.10        0.0700
                2440.00         233.50        0.0700
                2505.00         233.50        0.0700
                2530.00         234.00        0.0700
```

2535.00	235.00	0.0700
2540.00	236.00	0.0700
2605.00	238.00	0.0700
2645.00	241.00	0.0700

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501)	*******	45.60	32.25	21.30	0.61	0.33
OUTFLOW: ID= 1 (0503)	*******	45.46	33.00	21.30	0.61	0.33

RESERVOIR (0510)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	27.8300	83.9600
	3.8000	14.0500	*******	101.7400
	11.0800	33.6500	*******	145.2700
	20.8900	61.8900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0503)	********	45.462	33.00	21.30
OUTFLOW: ID= 1 (0510)	********	47.061	30.75	21.29

PEAK FLOW REDUCTION [Qout/Qin](%)=103.52
TIME SHIFT OF PEAK FLOW (min)=******
MAXIMUM STORAGE USED (ha.m.)= 84.4722

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ROUTE CHN (0513)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510)	*******	47.06	30.75	21.29	0.62	0.33
OUTFLOW: ID= 1 (0513)	*******	45.10	34.75	21.29	0.61	0.33

ADD HYD (0504)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	4.382	20.50	28.22
+ ID2= 2 (0513):	26734.87	45.105	34.75	21.29
ID = 3 (0504):	27794.75	46.651	34.25	21.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	3.423	27.25	22.31
+ ID2= 2 (0504):	27794.75	46.651	34.25	21.56
ID = 3 (0505):	29422.34	49.590	34.25	21.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57

6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0505)	*******	49.59	34.25	21.60	2.10	0.84
OUTFLOW:	ID= 1 (0506)	*******	46.71	37.75	21.60	2.01	0.84

RESERVOIR (0512) | IN= 2---> OUT= 1 | DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	16.2850
	27.2000	3.7650	*******	20.9160
	76.8000	7.7410	*******	25.9120
	*******	11.0650	*******	36.6600
	*******	11.9150	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (0506)	********	46.708	37.75	21.60
OUTFLOW:	ID= 1 (0512)	********	46.695	38.00	21.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.97
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 5.3279

ROUTE CHN (0514) | IN= 2---> OUT= 1 |	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0512)	*******	46.70	38.00	21.60	2.07	0.83
OUTFLOW:	ID= 1 (0514)	*******	46.42	39.00	21.60	2.06	0.83

ADD HYD (0507) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	3094.49	7.377	29.75	29.07
+ ID2= 2 (0514):	29422.34	46.423	39.00	21.60
ID = 3 (0507):	32516.83	52.511	38.75	22.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 3 **
****

READ STORM | Ptotal= 86.66 mm |	Filename: C:\Users\amanlucu\AppData\Local\Temp\6ab08fc7-e8e6-4b3d-8177-e9629b714f53\6f96d923
	Comments: 10yr/24hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.37	12.75	3.03	19.00	0.43
0.50	0.43	6.75	7.37	13.00	3.03	19.25	0.43
0.75	0.43	7.00	7.37	13.25	3.03	19.50	0.43
1.00	0.43	7.25	7.37	13.50	3.03	19.75	0.43
1.25	0.43	7.50	7.37	13.75	3.03	20.00	0.43
1.50	0.43	7.75	7.37	14.00	3.03	20.25	0.43
1.75	0.43	8.00	7.37	14.25	3.03	20.50	0.43
2.00	0.43	8.25	7.37	14.50	1.73	20.75	0.43
2.25	0.43	8.50	19.94	14.75	1.73	21.00	0.43
2.50	0.43	8.75	19.94	15.00	1.73	21.25	0.43
2.75	0.43	9.00	19.94	15.25	1.73	21.50	0.43
3.00	0.43	9.25	19.94	15.50	1.73	21.75	0.43
3.25	0.43	9.50	19.94	15.75	1.73	22.00	0.43
3.50	0.43	9.75	19.94	16.00	1.73	22.25	0.43
3.75	0.43	10.00	19.94	16.25	1.73	22.50	0.43
4.00	0.43	10.25	19.94	16.50	0.87	22.75	0.43
4.25	0.43	10.50	5.64	16.75	0.87	23.00	0.43
4.50	2.60	10.75	5.64	17.00	0.87	23.25	0.43
4.75	2.60	11.00	5.64	17.25	0.87	23.50	0.43
5.00	2.60	11.25	5.64	17.50	0.87	23.75	0.43
5.25	2.60	11.50	5.64	17.75	0.87	24.00	0.43
5.50	2.60	11.75	5.64	18.00	0.87	24.25	0.43
5.75	2.60	12.00	5.64	18.25	0.87		
6.00	2.60	12.25	5.64	18.50	0.43		
6.25	2.60	12.50	3.03	18.75	0.43		

CALIB | NASHYD (0016) | ID= 1 DT=15.0 min |	Area (ha)=3094.49	Curve Number (CN)= 74.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)= 18.10	

Unit Hyd Qpeak (cms)= 6.704

PEAK FLOW (cms)= 9.907 (i)
TIME TO PEAK (hrs)= 29.750
RUNOFF VOLUME (mm)= 39.018
TOTAL RAINFALL (mm)= 86.660
RUNOFF COEFFICIENT = 0.450

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0013) |	Area (ha)=1627.59	Curve Number (CN)= 65.0

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|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   4.688 (i)
     TIME TO PEAK    (hrs)=  27.250
     RUNOFF VOLUME    (mm)=  30.529
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   5.908 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  37.974
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   5.015 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  27.323
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   1.271 (i)
     TIME TO PEAK    (hrs)=  26.500
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.393

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  10.894 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  29.699
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   6.332 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  26.568
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=   9.967 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  27.323
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   3.689 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  25.108
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64   9.967    22.50    27.32
       + ID2= 2 (0002):   988.72   3.689    20.50    25.11
         ================================================
         ID = 3 (0101):  3862.36  13.565    21.75    26.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         250.00        0.0700
                  43.00         240.00    0.0700 /0.0350  Main Channel
                  44.00         239.20        0.0350      Main Channel
                  45.00         239.20        0.0350      Main Channel
                  46.00         240.00    0.0350 /0.0700  Main Channel
                  63.50         241.00        0.0700
                  71.00         250.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.40   239.60    .642E+04       0.5          0.80     221.73
       0.80   240.00    .171E+05       1.8          1.15     155.20
       1.39   240.59    .764E+05       8.0          1.12     159.62
       1.98   241.18    .214E+06      23.7          1.19     150.23
       2.56   241.76    .385E+06      51.8          1.44     123.91
```

3.15	242.35	.575E+06	90.1	1.68	106.38
3.74	242.94	.784E+06	138.5	1.89	94.40
4.33	243.53	.101E+07	196.9	2.08	85.71
4.92	244.12	.126E+07	265.6	2.26	79.08
5.51	244.71	.153E+07	344.7	2.42	73.81
6.09	245.29	.181E+07	434.5	2.57	69.50
6.68	245.88	.212E+07	535.2	2.71	65.89
7.27	246.47	.244E+07	647.3	2.84	62.81
7.86	247.06	.278E+07	771.1	2.97	60.13
8.45	247.65	.314E+07	906.8	3.09	57.77
9.04	248.24	.352E+07	1054.8	3.20	55.67
9.62	248.82	.392E+07	1215.5	3.32	53.79
10.21	249.41	.434E+07	1389.1	3.42	52.09
10.80	250.00	.478E+07	1576.1	3.53	50.53

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0101)	3862.36	13.56	21.75	26.76	1.60	1.14
OUTFLOW: ID= 1 (0102)	3862.36	12.88	24.75	26.76	1.57	1.14

CALIB			
NASHYD (0006)	Area (ha)=	1472.14	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.10
	U.H. Tp(hrs)=	12.20	

Unit Hyd Qpeak (cms)= 4.732

PEAK FLOW (cms)= 6.515 (i)
TIME TO PEAK (hrs)= 23.500
RUNOFF VOLUME (mm)= 37.974
TOTAL RAINFALL (mm)= 86.660
RUNOFF COEFFICIENT = 0.438

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0064)	Area (ha)=	32.30	
ID= 1 DT=15.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 70.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	24.22	8.07	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	464.04	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.94	13.97	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.23 (ii)	27.74 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	1.25	0.28	1.537 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	85.66	38.32	71.46
TOTAL RAINFALL (mm)=	86.66	86.66	86.66
RUNOFF COEFFICIENT =	0.99	0.44	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0527)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.6100	10.9070
	0.1100	10.5752	2.1600	11.0260
	0.6300	10.6908	2.7100	11.1114
	1.1700	10.7958	3.1600	11.1951

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0064)	32.300	1.537	10.25	71.46
OUTFLOW: ID= 1 (0527)	32.300	0.023	24.50	60.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.48
TIME SHIFT OF PEAK FLOW (min)=855.00
MAXIMUM STORAGE USED (ha.m.)= 2.1883

ADD HYD (0518)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0006):	1472.14	6.515	23.50	37.97
+ ID2= 2 (0527):	32.30	0.023	24.50	60.03
ID = 3 (0518):	1504.44	6.538	23.50	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	3862.36	12.877	24.75	26.76
+ ID2= 2 (0518):	1504.44	6.538	23.50	38.45
ID = 3 (0103):	5366.80	19.385	24.25	30.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0104)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0005):	1444.47	6.332	19.25	26.57
+ ID2= 2 (0103):	5366.80	19.385	24.25	30.03
ID = 3 (0104):	6811.27	24.675	23.00	29.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0105)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.1000	
330.00	235.00	0.1000 /0.0350	Main Channel
331.00	234.20	0.0350	Main Channel
332.00	234.20	0.0350	Main Channel
333.00	235.00	0.0350 /0.1000	Main Channel
425.00	235.10	0.1000	
698.00	236.00	0.1000	
1101.00	239.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	234.33	.490E+03	0.1	0.64	82.66
0.27	234.47	.112E+04	0.3	0.93	56.72
0.40	234.60	.189E+04	0.7	1.14	45.94
0.53	234.73	.280E+04	1.2	1.33	39.64
0.67	234.87	.385E+04	1.8	1.49	35.34
0.80	235.00	.504E+04	2.6	1.63	32.16
0.95	235.15	.442E+05	6.3	0.45	116.42
1.11	235.31	.128E+06	17.7	0.44	120.51
1.26	235.46	.247E+06	38.2	0.49	107.48
1.42	235.62	.400E+06	69.8	0.55	95.60
1.57	235.77	.589E+06	114.0	0.61	86.08
1.72	235.92	.812E+06	172.6	0.67	78.45
1.88	236.08	.107E+07	250.3	0.74	71.19
2.03	236.23	.135E+07	347.8	0.81	64.71
2.18	236.38	.165E+07	461.9	0.88	59.65
2.34	236.54	.198E+07	593.4	0.95	55.58
2.49	236.69	.233E+07	742.8	1.01	52.21
2.65	236.85	.270E+07	910.6	1.06	49.36

```
       2.80   237.00    .309E+07    1097.6          1.12      46.91

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    24.68   23.00  29.30      1.16      0.45
     OUTFLOW: ID= 1 (0105) 6811.27    24.05   25.00  29.30      1.15      0.45


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--------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   1.818 (i)
     TIME TO PEAK    (hrs)=  16.750
     RUNOFF VOLUME    (mm)=  30.529
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   1.818    16.75    30.53
       + ID2= 2 (0105):  6811.27  24.050    25.00    29.30
         ================================================
         ID = 3 (0106):  7093.24  24.889    24.50    29.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)= 902.64   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   3.308

     PEAK FLOW       (cms)=   4.471 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  37.974
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0074) |   Area    (ha)= 135.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    101.78        33.92
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    951.14        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.94        10.35
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     18.81 (ii)   36.29 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.26         0.79          6.038 (iii)
     TIME TO PEAK    (hrs)=     10.25        10.50          10.25
     RUNOFF VOLUME    (mm)=     85.66        28.10          68.39
     TOTAL RAINFALL   (mm)=     86.66        86.66          86.66
     RUNOFF COEFFICIENT   =      0.99         0.32           0.79


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  57.0    Ia = Dep. Storage  (Above)
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       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0528) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.7900      9.8141
                          0.4600     8.4187   |   9.0800     10.3142
                          2.6300     8.9048   |  11.4000     10.6733
                          4.9000     9.3462   |  13.2700     11.0255

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0074)    135.700      6.038     10.25      68.39
     OUTFLOW: ID= 1 (0528)    135.700      0.419     16.50      68.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.94
                TIME SHIFT OF PEAK FLOW          (min)=375.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.6758

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--------------------
| ADD HYD   (0520) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):   902.64   4.471    22.00    37.97
       + ID2= 2 (0528):   135.70   0.419    16.50    68.36
         ================================================
         ID = 3 (0520):  1038.34   4.869    22.00    41.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0073) |   Area    (ha)= 178.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     48.30        130.60
     Dep. Storage     (mm)=      1.00          5.00
     Average Slope     (%)=      1.00          2.00
     Length            (m)=   1092.09         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     19.94         11.33
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     20.44 (ii)    37.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.06          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.89          3.32          4.182 (iii)
     TIME TO PEAK    (hrs)=     10.25         10.50          10.25
     RUNOFF VOLUME    (mm)=     85.66         29.67          34.71
     TOTAL RAINFALL   (mm)=     86.66         86.66          86.66
     RUNOFF COEFFICIENT   =      0.99          0.34           0.40

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9500      9.2195
                          0.6100     7.5855   |  11.9700     10.0426
                          3.4700     7.7498   |  15.0300     10.8266
                          6.4600     8.5771   |  17.5000     11.5931

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
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```
     INFLOW : ID= 2 (0073)    178.900      4.182     10.25      34.71
     OUTFLOW: ID= 1 (0529)    178.900      0.386     17.00      34.69

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.24
                   TIME SHIFT OF PEAK FLOW         (min)=405.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.8027

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-------------------
| ADD HYD   (0522) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0520):  1038.34   4.869    22.00    41.94
        + ID2= 2 (0529):   178.90   0.386    17.00    34.69
          ================================================
          ID = 3 (0522):  1217.24   5.231    21.75    40.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0079) |   Area    (ha)= 156.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  30.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.07        95.53
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1021.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.94        13.67
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      19.64 (ii)   35.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.60         3.03          5.624 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25          10.25
     RUNOFF VOLUME    (mm)=      85.66        39.22          53.15
     TOTAL RAINFALL   (mm)=      86.66        86.66          86.66
     RUNOFF COEFFICIENT   =       0.99         0.45           0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0530) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.8300      9.2109
                         0.5300     7.7357   |  10.4800      9.8961
                         3.0400     7.9828   |  13.1600     10.5152
                         5.6500     8.6540   |  15.3200     11.1208

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600      5.624     10.25      53.15
     OUTFLOW: ID= 1 (0530)    156.600      0.455     16.75      53.13

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.08
                   TIME SHIFT OF PEAK FLOW         (min)=390.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.6360

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-------------------
| ADD HYD   (0524) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0522):  1217.24   5.231    21.75    40.88
        + ID2= 2 (0530):   156.60   0.455    16.75    53.13
          ================================================
          ID = 3 (0524):  1373.84   5.660    21.75    42.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0106):  7093.24  24.889    24.50    29.35
        + ID2= 2 (0524):  1373.84   5.660    21.75    42.28
          ================================================
          ID = 3 (0107):  8467.08  30.338    24.25    31.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         234.00        0.1000
                400.00         231.00    0.1000 /0.0350  Main Channel
                401.00         229.70        0.0350      Main Channel
                402.00         229.70        0.0350      Main Channel
                404.00         230.50    0.0350 /0.1000  Main Channel
                495.00         231.00        0.1000
               1234.00         256.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.20    229.90    .151E+04        0.1        0.24     395.61
      0.40    230.10    .377E+04        0.2        0.35     274.62
      0.60    230.30    .677E+04        0.5        0.43     222.06
      0.80    230.50    .105E+05        0.9        0.50     190.52
      1.03    230.73    .437E+05        2.0        0.27     356.49
      1.27    230.97    .134E+06        5.0        0.21     448.69
      1.50    231.20    .278E+06       11.4        0.23     405.59
      1.73    231.43    .473E+06       21.6        0.26     364.80
      1.97    231.67    .718E+06       36.0        0.29     332.76
      2.20    231.90    .101E+07       55.1        0.31     306.87
      2.43    232.13    .136E+07       79.4        0.33     285.44
      2.67    232.37    .176E+07      109.6        0.36     267.34
      2.90    232.60    .221E+07      145.9        0.38     251.83
      3.13    232.83    .270E+07      189.0        0.40     238.35
      3.37    233.07    .325E+07      239.3        0.42     226.51
      3.60    233.30    .385E+07      297.1        0.44     216.02
      3.83    233.53    .450E+07      363.0        0.46     206.64
      4.07    233.77    .520E+07      437.3        0.48     198.20
      4.30    234.00    .595E+07      520.5        0.50     190.55

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    30.34   24.25  31.44      1.88      0.28
     OUTFLOW: ID= 1 (0108) 8467.08    25.66   29.25  31.44      1.80      0.27


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   2.919 (i)
     TIME TO PEAK    (hrs)=  28.250
     RUNOFF VOLUME    (mm)=  29.698
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0092):  1102.32   2.919    28.25    29.70
        + ID2= 2 (0108):  8467.08  25.661    29.25    31.44
```

```
         ================================================
         ID = 3 (0109):  9569.40  28.570    29.25    31.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  10.894    22.25    29.70
       + ID2= 2 (0109):  9569.40  28.570    29.25    31.24
         ================================================
         ID = 3 (0110): 12412.16  37.523    27.50    30.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         236.00        0.1000
               275.00         232.00        0.1000
              1039.00         230.00    0.1000 /0.0350  Main Channel
              1040.00         229.20        0.0350      Main Channel
              1041.00         229.20        0.0350      Main Channel
              1043.00         230.00    0.0350 /0.1000  Main Channel
              1117.00         230.60        0.1000
              1325.00         234.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)      (cms)       (m/s)      (min)
       0.20   229.40    .985E+03       0.0          0.14     431.34
       0.40   229.60    .251E+04       0.1          0.20     298.03
       0.60   229.80    .457E+04       0.3          0.25     239.97
       0.80   230.00    .717E+04       0.6          0.29     205.17
       1.07   230.27    .754E+05       2.2          0.11     561.90
       1.33   230.53    .272E+06       8.6          0.11     527.12
       1.60   230.80    .594E+06      22.7          0.14     436.37
       1.87   231.07    .103E+07      46.2          0.16     371.32
       2.13   231.33    .158E+07      80.7          0.18     325.64
       2.40   231.60    .224E+07     127.8          0.20     291.74
       2.67   231.87    .301E+07     189.0          0.22     265.46
       2.93   232.13    .389E+07     271.8          0.25     238.27
       3.20   232.40    .481E+07     376.4          0.28     212.79
       3.47   232.67    .576E+07     496.0          0.31     193.49
       3.73   232.93    .674E+07     630.4          0.33     178.30
       4.00   233.20    .776E+07     779.4          0.36     165.99
       4.27   233.47    .881E+07     943.0          0.38     155.79
       4.53   233.73    .990E+07    1121.1          0.41     147.16
       4.80   234.00    .110E+08    1313.9          0.43     139.76

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0110) *******    37.52   27.50  30.89      1.77      0.15
     OUTFLOW: ID= 1 (0111) *******    31.41   32.75  30.89      1.70      0.14


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--------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   1.271    26.50    34.06
       + ID2= 2 (0111): 12412.16  31.411    32.75    30.89
         ================================================
         ID = 3 (0112): 12793.89  32.530    32.50    30.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   6.123 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  26.568
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=   8.685 (i)
     TIME TO PEAK    (hrs)=  24.750
     RUNOFF VOLUME    (mm)=  29.698
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       61.62         218.48
     Dep. Storage     (mm)=        1.00           5.00
     Average Slope     (%)=        1.00           2.00
     Length            (m)=     1366.50          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.94          13.70
                   over (min)     30.00          45.00
     Storage Coeff.  (min)=      23.38 (ii)     39.01 (ii)
     Unit Hyd. Tpeak (min)=      30.00          45.00
     Unit Hyd. peak  (cms)=       0.04           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.39           6.78       8.147 (iii)
     TIME TO PEAK    (hrs)=      10.25          10.50         10.25
     RUNOFF VOLUME    (mm)=      85.66          38.62         42.86
     TOTAL RAINFALL   (mm)=      86.66          86.66         86.66
     RUNOFF COEFFICIENT   =       0.99           0.45          0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  14.0000     14.7295
                          0.9500    12.2068   |  18.7400     16.0462
                          5.4300    12.3823   |  23.5200     17.3268
                         10.1100    13.7195   |  27.3900     18.5786

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100      8.147     10.25      42.86
     OUTFLOW: ID= 1 (0525)    280.100      0.729     17.00      42.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.94
                TIME SHIFT OF PEAK FLOW         (min)=405.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  9.3626

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| ADD HYD   (0515) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44   8.685    24.75    29.70
        + ID2= 2 (0525):   280.10   0.729    17.00    42.85
          ================================================
          ID = 3 (0515):  2954.54   9.337    24.50    30.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0004)  |   Area    (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=   7.272 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  21.728
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.251

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0046)  |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min  |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61         51.69
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     784.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.94         11.43
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.76 (ii)    33.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.69          1.35          3.037 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.50          10.25
     RUNOFF VOLUME    (mm)=      85.66         31.18          49.16
     TOTAL RAINFALL   (mm)=      86.66         86.66          86.66
     RUNOFF COEFFICIENT   =       0.99          0.36           0.57

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0526)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6200     51.9904
                         0.3100    51.1099   |   6.1800     52.3852
                         1.7900    51.2815   |   7.7500     52.7331
                         3.3300    51.6636   |   9.0300     53.0736

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0046)     92.300     3.037     10.25      49.16
     OUTFLOW: ID= 1 (0526)     92.300     0.027     25.00      32.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.88
                    TIME SHIFT OF PEAK FLOW         (min)=885.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.3966

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-------------------
| ADD HYD   (0516) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0004):  2580.39   7.272    22.25    21.73
        + ID2= 2 (0526):    92.30   0.027    25.00    32.25
          ================================================
          ID = 3 (0516):  2672.69   7.298    22.25    22.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0515):  2954.54   9.337    24.50    30.94
        + ID2= 2 (0516):  2672.69   7.298    22.25    22.09
          ================================================
          ID = 3 (0201):  5627.23  16.506    23.50    26.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         239.00        0.1000
                 690.00         230.00    0.1000 /0.0350  Main Channel
                 691.00         229.20        0.0350      Main Channel
                 692.00         229.20        0.0350      Main Channel
                 693.00         229.50    0.0350 /0.1000  Main Channel
                1190.00         230.00        0.1000
                1417.00         255.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.30   229.50    .347E+04       0.4          0.84     136.57
      0.80   230.00    .864E+06      45.2          0.36     318.78
      1.30   230.50    .265E+07     274.1          0.71     161.20
      1.80   231.00    .459E+07     651.8          0.97     117.24
      2.30   231.50    .667E+07    1165.3          1.20      95.34
      2.80   232.00    .889E+07    1810.2          1.40      81.89
      3.30   232.50    .113E+08    2585.1          1.57      72.65
      3.80   233.00    .138E+08    3490.4          1.73      65.85
      4.30   233.50    .165E+08    4527.4          1.89      60.59
      4.80   234.00    .193E+08    5697.8          2.03      56.38
      5.30   234.50    .222E+08    7003.8          2.16      52.91
      5.80   235.00    .253E+08    8447.7          2.28      50.00
      6.30   235.50    .286E+08   10032.3          2.40      47.52
      6.80   236.00    .320E+08   11760.1          2.52      45.36
      7.30   236.50    .356E+08   13634.1          2.63      43.46
      7.80   237.00    .393E+08   15657.0          2.73      41.78
      8.30   237.50    .431E+08   17831.7          2.84      40.28
      8.80   238.00    .471E+08   20161.3          2.93      38.92
      9.30   238.50    .512E+08   22648.7          3.03      37.69

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    16.51   23.50  26.74      0.48      0.57
     OUTFLOW: ID= 1 (0202) 5627.23    15.43   27.75  26.74      0.47      0.58

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-------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97   6.123    20.50    26.57
        + ID2= 2 (0202):  5627.23  15.426    27.75    26.74
          ================================================
          ID = 3 (0203):  7177.20  20.149    25.50    26.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  32.530    32.50    30.98
       + ID2= 2 (0203):  7177.20  20.149    25.50    26.70
         ================================================
         ID = 3 (0301): 19971.09  50.293    30.00    29.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         240.00        0.0700
                 110.00         239.00        0.0700
                 161.00         238.00        0.0700
                 250.00         237.00        0.0700
                 420.00         236.00        0.0700
                 560.00         235.00        0.0700
                 589.00         234.40    0.0700 /0.0350  Main Channel
                 589.10         233.60        0.0350      Main Channel
                 594.00         233.60        0.0350      Main Channel
                 594.10         234.40    0.0350 /0.0700  Main Channel
                 615.00         235.00        0.0700
                 740.00         236.00        0.0700
                 860.00         236.50        0.0700
                1340.00         237.00        0.0700
                1460.00         238.00        0.0700
                1470.00         239.00        0.0700
                1510.00         240.00        0.0700

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   233.87    .770E+04       1.0          0.74     132.49
       0.53   234.13    .155E+05       2.9          1.10      88.48
       0.80   234.40    .234E+05       5.5          1.37      71.19
       1.15   234.75    .636E+05      11.6          1.07      91.11
       1.50   235.10    .169E+06      24.5          0.85     114.97
       1.85   235.45    .431E+06      54.5          0.74     131.62
       2.20   235.80    .882E+06     117.3          0.78     125.39
       2.55   236.15    .153E+07     218.3          0.83     117.06
       2.90   236.50    .246E+07     375.3          0.89     109.30
       3.25   236.85    .394E+07     579.0          0.86     113.45
       3.60   237.20    .612E+07    1010.3          0.97     101.01
       3.95   237.55    .851E+07    1631.3          1.12      86.99
       4.30   237.90    .111E+08    2391.8          1.27      77.05
       4.65   238.25    .137E+08    3337.5          1.42      68.52
       5.00   238.60    .164E+08    4438.7          1.58      61.71
       5.35   238.95    .192E+08    5671.0          1.73      56.40
       5.70   239.30    .220E+08    6955.1          1.85      52.75
       6.05   239.65    .249E+08    8355.2          1.96      49.76
       6.40   240.00    .280E+08    9884.7          2.07      47.18

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0301) *******    50.29   30.00  29.44      1.80      0.75
     OUTFLOW: ID= 1 (0302) *******    49.19   32.75  29.44      1.79      0.76


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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   5.015    23.00    27.32
       + ID2= 2 (0302): 19971.09  49.192    32.75    29.44
         ================================================
         ID = 3 (0303): 21472.61  52.575    31.75    29.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=   9.517 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  24.402
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         236.00        0.0500
                  72.00         235.00        0.0500
                 492.00         230.00        0.0500
                 581.00         229.20    0.0500 /0.0350  Main Channel
                 582.00         228.40        0.0350      Main Channel
                 583.00         228.40        0.0350      Main Channel
                 584.00         229.20    0.0350 /0.0500  Main Channel
                 588.00         229.20        0.0500
                 607.00         230.00        0.0500
                 627.00         235.00        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   228.67    .302E+04       0.1          0.21     666.69
       0.53   228.93    .756E+04       0.3          0.30     465.92
       0.80   229.20    .136E+05       0.6          0.37     377.99
       1.16   229.56    .111E+06       3.0          0.23     616.66
       1.52   229.92    .358E+06      11.5          0.27     519.91
       1.89   230.29    .740E+06      30.1          0.35     410.09
       2.25   230.65    .122E+07      59.5          0.41     342.49
       2.61   231.01    .180E+07     100.6          0.47     298.58
       2.97   231.37    .248E+07     154.6          0.53     267.22
       3.34   231.74    .326E+07     222.9          0.58     243.40
       3.70   232.10    .413E+07     306.6          0.63     224.51
       4.06   232.46    .510E+07     406.9          0.68     209.05
       4.42   232.82    .617E+07     524.8          0.72     196.10
       4.79   233.19    .734E+07     661.4          0.77     185.06
       5.15   233.55    .861E+07     817.9          0.81     175.49
       5.51   233.91    .998E+07     995.2          0.85     167.10
       5.87   234.27    .114E+08    1194.3          0.89     159.67
       6.24   234.64    .130E+08    1416.3          0.93     153.03
       6.60   235.00    .147E+08    1662.2          0.96     147.05

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17     9.52   22.75  24.40      1.44      0.26
     OUTFLOW: ID= 1 (0401) 3099.17     6.86   30.00  24.40      1.33      0.25


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| CALIB            |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   4.442 (i)
     TIME TO PEAK    (hrs)=  36.750
     RUNOFF VOLUME    (mm)=  34.061
     TOTAL RAINFALL   (mm)=  86.660
     RUNOFF COEFFICIENT   =   0.393

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   4.442    36.75    34.06
       + ID2= 2 (0401):  3099.17   6.858    30.00    24.40
         ================================================
         ID = 3 (0402):  5262.26  11.022    31.50    28.37
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0501)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0303):		21472.61	52.575	31.75	29.30
+ ID2= 2 (0402):		5262.26	11.022	31.50	28.37
ID = 3 (0501):		26734.87	63.596	31.75	29.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0503) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0501) *******		63.60	31.75	29.11	0.65	0.35
OUTFLOW:	ID= 1 (0503) *******		63.43	32.75	29.11	0.65	0.35

RESERVOIR (0510) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	27.8300	83.9600
3.8000	14.0500	*******	101.7400
11.0800	33.6500	*******	145.2700
20.8900	61.8900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0503)	********	63.427	32.75	29.11
OUTFLOW: ID= 1 (0510)	********	63.425	32.75	29.11

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 84.9941

ROUTE CHN (0513) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0510) *******		63.42	32.75	29.11	0.65	0.35
OUTFLOW:	ID= 1 (0513) *******		63.35	33.25	29.11	0.65	0.35

ADD HYD (0504)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0015):		1059.88	5.908	20.50	37.97
+ ID2= 2 (0513):		26734.87	63.349	33.25	29.11
ID = 3 (0504):		27794.75	65.746	33.00	29.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0013):		1627.59	4.688	27.25	30.53

```
       + ID2= 2 (0504): 27794.75  65.746    33.00    29.45
         ================================================
         ID = 3 (0505): 29422.34  69.986    32.50    29.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         251.00        0.0500
               323.00         238.00        0.0500
               400.00         229.00        0.0500
               545.00         228.00        0.0500
               602.00         226.00        0.0500
               604.00         225.80    0.0500 /0.0350  Main Channel
               605.00         225.00        0.0350      Main Channel
               609.00         225.00        0.0350      Main Channel
               610.00         225.80    0.0350 /0.0500  Main Channel
               614.00         226.00        0.0500
               650.00         227.00        0.0500
               810.00         229.50        0.0500
              1855.00         240.00        0.0500
              2617.00         259.00        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.80  225.80    .292E+05        3.5         0.87     139.36
       2.13  227.13    .441E+06       50.6         0.84     145.20
       3.45  228.45    .197E+07      262.2         0.97     125.42
       4.78  229.78    .557E+07      971.2         1.27      95.57
       6.11  231.11    .106E+08     2326.5         1.61      75.63
       7.43  232.43    .169E+08     4425.6         1.90      63.77
       8.76  233.76    .247E+08     7361.8         2.17      55.90
      10.08  235.08    .338E+08    11229.7         2.42      50.22
      11.41  236.41    .444E+08    16121.0         2.65      45.87
      12.74  237.74    .563E+08    22124.8         2.86      42.40
      14.06  239.06    .697E+08    29005.2         3.03      40.02
      15.39  240.39    .846E+08    37433.0         3.23      37.66
      16.72  241.72    .101E+09    47908.6         3.47      34.97
      18.04  243.04    .117E+09    59742.1         3.71      32.73
      19.37  244.37    .135E+09    72949.0         3.94      30.83
      20.69  245.69    .153E+09    87549.6         4.16      29.20
      22.02  247.02    .173E+09    *******         4.37      27.79
      23.35  248.35    .193E+09    *******         4.58      26.55
      24.67  249.67    .214E+09    *******         4.77      25.45

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0505) *******    69.99   32.50  29.51      2.25      0.85
    OUTFLOW: ID= 1 (0506) *******    67.56   35.75  29.51      2.23      0.85


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| RESERVOIR (0512) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     16.2850
                         27.2000     3.7650   |  *******     20.9160
                         76.8000     7.7410   |  *******     25.9120
                         *******    11.0650   |  *******     36.6600
                         *******    11.9150   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (0506)   ********     67.563     35.75      29.51
    OUTFLOW: ID= 1 (0512)   ********     67.549     36.00      29.51

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.98
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  6.9998

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| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         230.00        0.0500
               400.00         229.00        0.0500
               545.00         228.00        0.0500
               602.00         226.00        0.0500
               604.00         225.80    0.0500 /0.0350  Main Channel
               605.00         225.00        0.0350      Main Channel
               609.00         225.00        0.0350      Main Channel
               610.00         225.80    0.0350 /0.0500  Main Channel
               614.00         226.00        0.0500
               650.00         227.00        0.0500
               810.00         229.50        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20  225.20    .243E+04        0.3         0.39     121.91
       0.40  225.40    .515E+04        1.1         0.59      80.58
       0.60  225.60    .815E+04        2.1         0.74      64.02
       0.80  225.80    .114E+05        3.5         0.87      54.69
       1.05  226.05    .184E+05        6.1         0.94      50.48
       1.29  226.29    .346E+05       10.3         0.85      55.99
       1.54  226.54    .620E+05       17.4         0.80      59.38
       1.79  226.79    .101E+06       28.3         0.81      59.18
       2.03  227.03    .151E+06       43.8         0.83      57.35
       2.28  227.28    .215E+06       63.9         0.85      55.99
       2.53  227.53    .295E+06       91.4         0.89      53.82
       2.77  227.77    .391E+06      127.0         0.93      51.35
       3.02  228.02    .504E+06      170.6         0.97      49.24
       3.27  228.27    .644E+06      215.5         0.96      49.84
       3.51  228.51    .821E+06      279.7         0.97      48.92
       3.76  228.76    .103E+07      363.1         1.00      47.47
       4.01  229.01    .128E+07      466.2         1.04      45.89
       4.25  229.25    .159E+07      572.0         1.03      46.41
       4.50  229.50    .198E+07      719.1         1.04      45.95

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0512) *******    67.55   36.00  29.51      2.31      0.86
    OUTFLOW: ID= 1 (0514) *******    67.27   37.00  29.51      2.31      0.85


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-------------------
| ADD HYD   (0507) |
|   1 +  2 = 3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):  3094.49   9.907    29.75    39.02
       + ID2= 2 (0514): 29422.34  67.270    37.00    29.51
         ================================================
         ID = 3 (0507): 32516.83  76.017    36.50    30.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   4 **
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|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              6ab08fc7-e8e6-4b3d-8177-e9629b714f53\64daf3b4
| Ptotal=104.50 mm |    Comments: 25yr/24hr
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  6.50    8.88 | 12.75    3.66 | 19.00    0.52
               0.50    0.52 |  6.75    8.88 | 13.00    3.66 | 19.25    0.52
               0.75    0.52 |  7.00    8.88 | 13.25    3.66 | 19.50    0.52
               1.00    0.52 |  7.25    8.88 | 13.50    3.66 | 19.75    0.52
               1.25    0.52 |  7.50    8.88 | 13.75    3.66 | 20.00    0.52
               1.50    0.52 |  7.75    8.88 | 14.00    3.66 | 20.25    0.52
               1.75    0.52 |  8.00    8.88 | 14.25    3.66 | 20.50    0.52
               2.00    0.52 |  8.25    8.88 | 14.50    2.09 | 20.75    0.52
               2.25    0.52 |  8.50   24.04 | 14.75    2.09 | 21.00    0.52
               2.50    0.52 |  8.75   24.04 | 15.00    2.09 | 21.25    0.52
               2.75    0.52 |  9.00   24.04 | 15.25    2.09 | 21.50    0.52
               3.00    0.52 |  9.25   24.04 | 15.50    2.09 | 21.75    0.52
               3.25    0.52 |  9.50   24.04 | 15.75    2.09 | 22.00    0.52
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                3.50    0.52 |  9.75   24.04 | 16.00    2.09 | 22.25    0.52
                3.75    0.52 | 10.00   24.04 | 16.25    2.09 | 22.50    0.52
                4.00    0.52 | 10.25   24.04 | 16.50    1.05 | 22.75    0.52
                4.25    0.52 | 10.50    6.79 | 16.75    1.05 | 23.00    0.52
                4.50    3.14 | 10.75    6.79 | 17.00    1.05 | 23.25    0.52
                4.75    3.14 | 11.00    6.79 | 17.25    1.05 | 23.50    0.52
                5.00    3.14 | 11.25    6.79 | 17.50    1.05 | 23.75    0.52
                5.25    3.14 | 11.50    6.79 | 17.75    1.05 | 24.00    0.52
                5.50    3.14 | 11.75    6.79 | 18.00    1.05 | 24.25    0.52
                5.75    3.14 | 12.00    6.79 | 18.25    1.05 |
                6.00    3.14 | 12.25    6.79 | 18.50    0.52 |
                6.25    3.14 | 12.50    3.66 | 18.75    0.52 |

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| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=  13.323 (i)
     TIME TO PEAK    (hrs)=  29.500
     RUNOFF VOLUME    (mm)=  52.453
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.502

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   6.437 (i)
     TIME TO PEAK    (hrs)=  27.000
     RUNOFF VOLUME    (mm)=  41.902
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.401

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   7.975 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  51.179
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   6.945 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  37.803
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   1.731 (i)
     TIME TO PEAK    (hrs)=  26.500
     RUNOFF VOLUME    (mm)=  46.346
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  15.001 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=   8.792 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  36.827
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  13.804 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  37.803
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   5.139 (i)
     TIME TO PEAK    (hrs)=  20.500
     RUNOFF VOLUME    (mm)=  34.930
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.334

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64  13.804    22.50    37.80
       + ID2= 2 (0002):   988.72   5.139    20.50    34.93
         ================================================
         ID = 3 (0101):  3862.36  18.820    21.75    37.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         250.00        0.0700
               43.00         240.00    0.0700 /0.0350  Main Channel
               44.00         239.20        0.0350      Main Channel
               45.00         239.20        0.0350      Main Channel
               46.00         240.00    0.0350 /0.0700  Main Channel
               63.50         241.00        0.0700
               71.00         250.00        0.0700

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.40   239.60    .642E+04        0.5         0.80     221.73
      0.80   240.00    .171E+05        1.8         1.15     155.20
      1.39   240.59    .764E+05        8.0         1.12     159.62
      1.98   241.18    .214E+06       23.7         1.19     150.23
      2.56   241.76    .385E+06       51.8         1.44     123.91
      3.15   242.35    .575E+06       90.1         1.68     106.38
      3.74   242.94    .784E+06      138.5         1.89      94.40
      4.33   243.53    .101E+07      196.9         2.08      85.71
      4.92   244.12    .126E+07      265.6         2.26      79.08
      5.51   244.71    .153E+07      344.7         2.42      73.81
      6.09   245.29    .181E+07      434.5         2.57      69.50
      6.68   245.88    .212E+07      535.2         2.71      65.89
      7.27   246.47    .244E+07      647.3         2.84      62.81
      7.86   247.06    .278E+07      771.1         2.97      60.13
      8.45   247.65    .314E+07      906.8         3.09      57.77
      9.04   248.24    .352E+07     1054.8         3.20      55.67
      9.62   248.82    .392E+07     1215.5         3.32      53.79
     10.21   249.41    .434E+07     1389.1         3.42      52.09
     10.80   250.00    .478E+07     1576.1         3.53      50.53

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0101) 3862.36    18.82   21.75  37.07      1.79      1.16
    OUTFLOW: ID= 1 (0102) 3862.36    17.90   24.50  37.07      1.76      1.16


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--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1472.14   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

    Unit Hyd Qpeak  (cms)=   4.732

    PEAK FLOW       (cms)=   8.790 (i)
    TIME TO PEAK    (hrs)=  23.500
    RUNOFF VOLUME    (mm)=  51.179
    TOTAL RAINFALL   (mm)= 104.500
    RUNOFF COEFFICIENT   =   0.490

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0064) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      24.22         8.07
    Dep. Storage     (mm)=       1.00         5.00
    Average Slope     (%)=       1.00         2.00

    Length           (m)=     464.04        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      24.04        18.92
              over (min)        15.00        30.00
    Storage Coeff.  (min)=      11.35 (ii)   25.08 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
    PEAK FLOW       (cms)=       1.51         0.39          1.896 (iii)
    TIME TO PEAK    (hrs)=      10.25        10.25          10.25
    RUNOFF VOLUME    (mm)=     103.50        51.51          87.90
    TOTAL RAINFALL   (mm)=     104.50       104.50         104.50
    RUNOFF COEFFICIENT   =       0.99         0.49           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0527) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.6100     10.9070
                          0.1100    10.5752   |   2.1600     11.0260
                          0.6300    10.6908   |   2.7100     11.1114
                          1.1700    10.7958   |   3.1600     11.1951

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0064)     32.300     1.896     10.25      87.90
    OUTFLOW: ID= 1 (0527)     32.300     0.028     24.50      73.84

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.48
                TIME SHIFT OF PEAK FLOW         (min)=855.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.6919

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| ADD HYD   (0518) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1472.14   8.790    23.50    51.18
       + ID2= 2 (0527):    32.30   0.028    24.50    73.84
         ================================================
         ID = 3 (0518):  1504.44   8.817    23.50    51.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):  3862.36  17.900    24.50    37.07
       + ID2= 2 (0518):  1504.44   8.817    23.50    51.67
         ================================================
         ID = 3 (0103):  5366.80  26.684    24.25    41.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47   8.792    19.25    36.83
       + ID2= 2 (0103):  5366.80  26.684    24.25    41.16
         ================================================
         ID = 3 (0104):  6811.27  34.055    22.75    40.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         237.00        0.1000
                330.00         235.00    0.1000 /0.0350  Main Channel
                331.00         234.20        0.0350      Main Channel
                332.00         234.20        0.0350      Main Channel
                333.00         235.00    0.0350 /0.1000  Main Channel
                425.00         235.10        0.1000
                698.00         236.00        0.1000
               1101.00         239.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.13   234.33    .490E+03       0.1         0.64      82.66
       0.27   234.47    .112E+04       0.3         0.93      56.72
       0.40   234.60    .189E+04       0.7         1.14      45.94
       0.53   234.73    .280E+04       1.2         1.33      39.64
       0.67   234.87    .385E+04       1.8         1.49      35.34
       0.80   235.00    .504E+04       2.6         1.63      32.16
       0.95   235.15    .442E+05       6.3         0.45     116.42
       1.11   235.31    .128E+06      17.7         0.44     120.51
       1.26   235.46    .247E+06      38.2         0.49     107.48
       1.42   235.62    .400E+06      69.8         0.55      95.60
       1.57   235.77    .589E+06     114.0         0.61      86.08
       1.72   235.92    .812E+06     172.6         0.67      78.45
       1.88   236.08    .107E+07     250.3         0.74      71.19
       2.03   236.23    .135E+07     347.8         0.81      64.71
       2.18   236.38    .165E+07     461.9         0.88      59.65
       2.34   236.54    .198E+07     593.4         0.95      55.58
       2.49   236.69    .233E+07     742.8         1.01      52.21
       2.65   236.85    .270E+07     910.6         1.06      49.36
       2.80   237.00    .309E+07    1097.6         1.12      46.91

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0104) 6811.27    34.05   22.75  40.24      1.23      0.48
    OUTFLOW: ID= 1 (0105) 6811.27    33.32   24.50  40.24      1.22      0.47


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-------------------
| CALIB           |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   2.502 (i)
     TIME TO PEAK    (hrs)=  16.750
     RUNOFF VOLUME    (mm)=  41.902
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.401

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   2.502    16.75    41.90
       + ID2= 2 (0105):  6811.27  33.316    24.50    40.24
         ================================================
         ID = 3 (0106):  7093.24  34.517    24.25    40.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0007) |   Area    (ha)= 902.64   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   3.308

     PEAK FLOW       (cms)=   6.033 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  51.179
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0074) |   Area    (ha)= 135.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.78         33.92
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     951.14         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      24.04         14.14
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.45 (ii)    32.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.34          1.11          7.447 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25         10.25
     RUNOFF VOLUME    (mm)=     103.50         38.72         84.06
     TOTAL RAINFALL   (mm)=     104.50        104.50        104.50
     RUNOFF COEFFICIENT   =       0.99          0.37          0.80


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0528) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.7900      9.8141
                         0.4600     8.4187   |   9.0800     10.3142
                         2.6300     8.9048   |  11.4000     10.6733
                         4.9000     9.3462   |  13.2700     11.0255

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0074)    135.700      7.447     10.25      84.06
     OUTFLOW: ID= 1 (0528)    135.700      1.411     13.00      84.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.95
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  8.6339

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-------------------
| ADD HYD   (0520) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):   902.64   6.033    22.00    51.18
       + ID2= 2 (0528):   135.70   1.411    13.00    84.03
         ================================================
         ID = 3 (0520):  1038.34   6.474    21.75    55.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0073) |   Area    (ha)= 178.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.30        130.60
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1092.09         40.00
     Mannings n          =      0.013         0.250
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     Max.Eff.Inten.(mm/hr)=      24.04        15.82
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     18.96 (ii)   33.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.07         4.64         5.716 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=     103.50        40.71         46.36
     TOTAL RAINFALL   (mm)=     104.50       104.50        104.50
     RUNOFF COEFFICIENT   =       0.99         0.39          0.44

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9500     9.2195
                          0.6100     7.5855   |  11.9700    10.0426
                          3.4700     7.7498   |  15.0300    10.8266
                          6.4600     8.5771   |  17.5000    11.5931

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0073)    178.900      5.716     10.25      46.36
     OUTFLOW: ID= 1 (0529)    178.900      0.517     17.00      46.34

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.04
                   TIME SHIFT OF PEAK FLOW         (min)=405.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.4258

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--------------------
| ADD HYD   (0522) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0520):  1038.34   6.474    21.75    55.47
       + ID2= 2 (0529):   178.90   0.517    17.00    46.34
         ================================================
         ID = 3 (0522):  1217.24   6.958    21.75    54.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0079) |   Area    (ha)= 156.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  30.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.07         95.53
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1021.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      24.04         18.46
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     18.22 (ii)   32.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.13          4.14          7.278 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25          10.25
     RUNOFF VOLUME    (mm)=     103.50         52.63          67.89
     TOTAL RAINFALL   (mm)=     104.50        104.50         104.50
     RUNOFF COEFFICIENT   =       0.99          0.50           0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0530) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8300     9.2109
                          0.5300     7.7357   |  10.4800     9.8961
                          3.0400     7.9828   |  13.1600    10.5152
                          5.6500     8.6540   |  15.3200    11.1208

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600      7.278     10.25      67.89
     OUTFLOW: ID= 1 (0530)    156.600      1.441     13.50      67.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.80
                   TIME SHIFT OF PEAK FLOW         (min)=195.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.8256

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--------------------
| ADD HYD   (0524) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0522):  1217.24   6.958    21.75    54.13
       + ID2= 2 (0530):   156.60   1.441    13.50    67.87
         ================================================
         ID = 3 (0524):  1373.84   7.461    21.75    55.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):  7093.24  34.517    24.25    40.31
       + ID2= 2 (0524):  1373.84   7.461    21.75    55.70
         ================================================
         ID = 3 (0107):  8467.08  41.734    24.00    42.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         234.00        0.1000
                400.00         231.00    0.1000 /0.0350  Main Channel
                401.00         229.70        0.0350      Main Channel
                402.00         229.70        0.0350      Main Channel
                404.00         230.50    0.0350 /0.1000  Main Channel
                495.00         231.00        0.1000
               1234.00         256.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)       (min)
      0.20    229.90    .151E+04       0.1         0.24      395.61
      0.40    230.10    .377E+04       0.2         0.35      274.62
      0.60    230.30    .677E+04       0.5         0.43      222.06
      0.80    230.50    .105E+05       0.9         0.50      190.52
      1.03    230.73    .437E+05       2.0         0.27      356.49
      1.27    230.97    .134E+06       5.0         0.21      448.69
      1.50    231.20    .278E+06      11.4         0.23      405.59
      1.73    231.43    .473E+06      21.6         0.26      364.80
      1.97    231.67    .718E+06      36.0         0.29      332.76
      2.20    231.90    .101E+07      55.1         0.31      306.87
      2.43    232.13    .136E+07      79.4         0.33      285.44
      2.67    232.37    .176E+07     109.6         0.36      267.34
      2.90    232.60    .221E+07     145.9         0.38      251.83
      3.13    232.83    .270E+07     189.0         0.40      238.35
      3.37    233.07    .325E+07     239.3         0.42      226.51
      3.60    233.30    .385E+07     297.1         0.44      216.02
      3.83    233.53    .450E+07     363.0         0.46      206.64
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       4.07   233.77    .520E+07     437.3          0.48     198.20
       4.30   234.00    .595E+07     520.5          0.50     190.55

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    41.73   24.00  42.80      2.04      0.29
     OUTFLOW: ID= 1 (0108) 8467.08    35.81   28.75  42.80      1.96      0.28


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   4.017 (i)
     TIME TO PEAK    (hrs)=  28.000
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32   4.017    28.00    40.85
       + ID2= 2 (0108):  8467.08  35.806    28.75    42.80
         ================================================
         ID = 3 (0109):  9569.40  39.818    28.75    42.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  15.001    22.25    40.85
       + ID2= 2 (0109):  9569.40  39.818    28.75    42.58
         ================================================
         ID = 3 (0110): 12412.16  52.383    27.00    42.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         236.00        0.1000
               275.00         232.00        0.1000
              1039.00         230.00    0.1000 /0.0350  Main Channel
              1040.00         229.20        0.0350      Main Channel
              1041.00         229.20        0.0350      Main Channel
              1043.00         230.00    0.0350 /0.1000  Main Channel
              1117.00         230.60        0.1000
              1325.00         234.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   229.40    .985E+03       0.0          0.14     431.34
       0.40   229.60    .251E+04       0.1          0.20     298.03
       0.60   229.80    .457E+04       0.3          0.25     239.97
       0.80   230.00    .717E+04       0.6          0.29     205.17
       1.07   230.27    .754E+05       2.2          0.11     561.90
       1.33   230.53    .272E+06       8.6          0.11     527.12
       1.60   230.80    .594E+06      22.7          0.14     436.37
       1.87   231.07    .103E+07      46.2          0.16     371.32
       2.13   231.33    .158E+07      80.7          0.18     325.64
       2.40   231.60    .224E+07     127.8          0.20     291.74
       2.67   231.87    .301E+07     189.0          0.22     265.46
       2.93   232.13    .389E+07     271.8          0.25     238.27
       3.20   232.40    .481E+07     376.4          0.28     212.79
       3.47   232.67    .576E+07     496.0          0.31     193.49
       3.73   232.93    .674E+07     630.4          0.33     178.30
       4.00   233.20    .776E+07     779.4          0.36     165.99
       4.27   233.47    .881E+07     943.0          0.38     155.79
       4.53   233.73    .990E+07    1121.1          0.41     147.16
       4.80   234.00    .110E+08    1313.9          0.43     139.76

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0110) *******    52.38   27.00  42.18      1.91      0.16
     OUTFLOW: ID= 1 (0111) *******    44.61   32.00  42.18      1.85      0.16


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| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   1.731    26.50    46.35
       + ID2= 2 (0111): 12412.16  44.607    32.00    42.18
         ================================================
         ID = 3 (0112): 12793.89  46.168    31.50    42.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=   8.499 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  36.827
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=  11.954 (i)
     TIME TO PEAK    (hrs)=  24.750
     RUNOFF VOLUME    (mm)=  40.847
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.62         218.48
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.00           2.00
     Length            (m)=    1366.50          40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      24.04          18.53
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      21.69 (ii)     35.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.06           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.68           9.30      10.980 (iii)
     TIME TO PEAK    (hrs)=      10.25          10.25        10.25
     RUNOFF VOLUME    (mm)=     103.50          51.90        56.54
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     TOTAL RAINFALL   (mm)=     104.50       104.50         104.50
     RUNOFF COEFFICIENT   =       0.99         0.50           0.54

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  14.0000     14.7295
                          0.9500    12.2068   |  18.7400     16.0462
                          5.4300    12.3823   |  23.5200     17.3268
                         10.1100    13.7195   |  27.3900     18.5786

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100     10.980     10.25      56.54
     OUTFLOW: ID= 1 (0525)    280.100      1.433     15.75      56.53

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.05
                   TIME SHIFT OF PEAK FLOW         (min)=330.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 12.2284

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| ADD HYD   (0515) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44  11.954    24.75    40.85
       + ID2= 2 (0525):   280.10   1.433    15.75    56.53
         ================================================
         ID = 3 (0515):  2954.54  12.803    24.50    42.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0004) |   Area     (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=  10.213 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  30.486
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0046) |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61         51.69
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     784.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      24.04         15.87
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.55 (ii)    30.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.03          1.89          3.926 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25          10.25
     RUNOFF VOLUME    (mm)=     103.50         42.64          62.72
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     TOTAL RAINFALL   (mm)=     104.50       104.50         104.50
     RUNOFF COEFFICIENT   =       0.99         0.41           0.60

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0526) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6200     51.9904
                          0.3100    51.1099   |   6.1800     52.3852
                          1.7900    51.2815   |   7.7500     52.7331
                          3.3300    51.6636   |   9.0300     53.0736

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0046)     92.300      3.926     10.25      62.72
     OUTFLOW: ID= 1 (0526)     92.300      0.034     25.00      41.15

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.87
                   TIME SHIFT OF PEAK FLOW         (min)=885.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  5.6105

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--------------------
| ADD HYD   (0516) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0004):  2580.39  10.213    22.25    30.49
       + ID2= 2 (0526):    92.30   0.034    25.00    41.15
         ================================================
         ID = 3 (0516):  2672.69  10.247    22.25    30.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0515):  2954.54  12.803    24.50    42.33
       + ID2= 2 (0516):  2672.69  10.247    22.25    30.85
         ================================================
         ID = 3 (0201):  5627.23  22.871    23.25    36.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         239.00        0.1000
                690.00         230.00    0.1000 /0.0350  Main Channel
                691.00         229.20        0.0350      Main Channel
                692.00         229.20        0.0350      Main Channel
                693.00         229.50    0.0350 /0.1000  Main Channel
               1190.00         230.00        0.1000
               1417.00         255.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   229.50    .347E+04        0.4         0.84      136.57
       0.80   230.00    .864E+06       45.2         0.36      318.78
       1.30   230.50    .265E+07      274.1         0.71      161.20
       1.80   231.00    .459E+07      651.8         0.97      117.24
       2.30   231.50    .667E+07     1165.3         1.20       95.34
       2.80   232.00    .889E+07     1810.2         1.40       81.89
       3.30   232.50    .113E+08     2585.1         1.57       72.65
       3.80   233.00    .138E+08     3490.4         1.73       65.85
       4.30   233.50    .165E+08     4527.4         1.89       60.59
       4.80   234.00    .193E+08     5697.8         2.03       56.38
```

5.30	234.50	.222E+08	7003.8	2.16	52.91
5.80	235.00	.253E+08	8447.7	2.28	50.00
6.30	235.50	.286E+08	10032.3	2.40	47.52
6.80	236.00	.320E+08	11760.1	2.52	45.36
7.30	236.50	.356E+08	13634.1	2.63	43.46
7.80	237.00	.393E+08	15657.0	2.73	41.78
8.30	237.50	.431E+08	17831.7	2.84	40.28
8.80	238.00	.471E+08	20161.3	2.93	38.92
9.30	238.50	.512E+08	22648.7	3.03	37.69

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0201)	5627.23	22.87	23.25	36.88	0.55	0.50
OUTFLOW: ID= 1 (0202)	5627.23	21.09	28.25	36.88	0.53	0.52

ADD HYD (0203)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0008):	1549.97	8.499	20.25	36.83
+ ID2= 2 (0202):	5627.23	21.089	28.25	36.88
ID = 3 (0203):	7177.20	27.409	25.75	36.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0301)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	12793.89	46.168	31.50	42.30
+ ID2= 2 (0203):	7177.20	27.409	25.75	36.87
ID = 3 (0301):	19971.09	71.147	29.75	40.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.00	0.0700	
110.00	239.00	0.0700	
161.00	238.00	0.0700	
250.00	237.00	0.0700	
420.00	236.00	0.0700	
560.00	235.00	0.0700	
589.00	234.40	0.0700 /0.0350	Main Channel
589.10	233.60	0.0350	Main Channel
594.00	233.60	0.0350	Main Channel
594.10	234.40	0.0350 /0.0700	Main Channel
615.00	235.00	0.0700	
740.00	236.00	0.0700	
860.00	236.50	0.0700	
1340.00	237.00	0.0700	
1460.00	238.00	0.0700	
1470.00	239.00	0.0700	
1510.00	240.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	233.87	.770E+04	1.0	0.74	132.49
0.53	234.13	.155E+05	2.9	1.10	88.48
0.80	234.40	.234E+05	5.5	1.37	71.19
1.15	234.75	.636E+05	11.6	1.07	91.11
1.50	235.10	.169E+06	24.5	0.85	114.97
1.85	235.45	.431E+06	54.5	0.74	131.62
2.20	235.80	.882E+06	117.3	0.78	125.39
2.55	236.15	.153E+07	218.3	0.83	117.06
2.90	236.50	.246E+07	375.3	0.89	109.30
3.25	236.85	.394E+07	579.0	0.86	113.45
3.60	237.20	.612E+07	1010.3	0.97	101.01
3.95	237.55	.851E+07	1631.3	1.12	86.99
4.30	237.90	.111E+08	2391.8	1.27	77.05
4.65	238.25	.137E+08	3337.5	1.42	68.52
5.00	238.60	.164E+08	4438.7	1.58	61.71
5.35	238.95	.192E+08	5671.0	1.73	56.40
5.70	239.30	.220E+08	6955.1	1.85	52.75
6.05	239.65	.249E+08	8355.2	1.96	49.76
6.40	240.00	.280E+08	9884.7	2.07	47.18

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0301)	*******	71.15	29.75	40.35	1.94	0.75
OUTFLOW: ID= 1 (0302)	*******	69.76	32.00	40.35	1.93	0.75

ADD HYD (0303)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0012):	1501.52	6.945	23.00	37.80
+ ID2= 2 (0302):	19971.09	69.758	32.00	40.35
ID = 3 (0303):	21472.61	74.634	31.50	40.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0011) | Area (ha)=3099.17 Curve Number (CN)= 57.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
U.H. Tp(hrs)= 11.10

Unit Hyd Qpeak (cms)= 10.949

PEAK FLOW (cms)= 13.278 (i)
TIME TO PEAK (hrs)= 22.500
RUNOFF VOLUME (mm)= 34.008
TOTAL RAINFALL (mm)= 104.500
RUNOFF COEFFICIENT = 0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (0401)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.0500	
72.00	235.00	0.0500	
492.00	230.00	0.0500	
581.00	229.20	0.0500 /0.0350	Main Channel
582.00	228.40	0.0350	Main Channel
583.00	228.40	0.0350	Main Channel
584.00	229.20	0.0350 /0.0500	Main Channel
588.00	229.20	0.0500	
607.00	230.00	0.0500	
627.00	235.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	228.67	.302E+04	0.1	0.21	666.69
0.53	228.93	.756E+04	0.3	0.30	465.92
0.80	229.20	.136E+05	0.6	0.37	377.99
1.16	229.56	.111E+06	3.0	0.23	616.66
1.52	229.92	.358E+06	11.5	0.27	519.91
1.89	230.29	.740E+06	30.1	0.35	410.09
2.25	230.65	.122E+07	59.5	0.41	342.49
2.61	231.01	.180E+07	100.6	0.47	298.58
2.97	231.37	.248E+07	154.6	0.53	267.22
3.34	231.74	.326E+07	222.9	0.58	243.40
3.70	232.10	.413E+07	306.6	0.63	224.51
4.06	232.46	.510E+07	406.9	0.68	209.05
4.42	232.82	.617E+07	524.8	0.72	196.10
4.79	233.19	.734E+07	661.4	0.77	185.06
5.15	233.55	.861E+07	817.9	0.81	175.49
5.51	233.91	.998E+07	995.2	0.85	167.10
5.87	234.27	.114E+08	1194.3	0.89	159.67
6.24	234.64	.130E+08	1416.3	0.93	153.03
6.60	235.00	.147E+08	1662.2	0.96	147.05

```
                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17    13.28   22.50  34.01      1.56      0.28
     OUTFLOW: ID= 1 (0401) 3099.17     9.81   29.00  34.01      1.45      0.26


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0014) |   Area     (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   6.045 (i)
     TIME TO PEAK    (hrs)=  36.500
     RUNOFF VOLUME    (mm)=  46.346
     TOTAL RAINFALL   (mm)= 104.500
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0014):  2163.09   6.045    36.50    46.35
        + ID2= 2 (0401):  3099.17   9.807    29.00    34.01
          ================================================
          ID = 3 (0402):  5262.26  15.378    31.00    39.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0303): 21472.61  74.634    31.50    40.17
        + ID2= 2 (0402):  5262.26  15.378    31.00    39.08
          ================================================
          ID = 3 (0501): 26734.87  90.004    31.25    39.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.0700
                 425.00         235.00        0.0700
                 445.00         234.00        0.0700
                 480.00         233.50        0.0700
                1535.00         233.50    0.0700 /0.0350  Main Channel
                1536.50         232.70        0.0350      Main Channel
                1537.50         232.70        0.0350      Main Channel
                1540.00         233.50    0.0350 /0.0700  Main Channel
                1605.00         233.20        0.0700
                1610.00         233.10        0.0700
                2135.00         233.10        0.0700
                2440.00         233.50        0.0700
                2505.00         233.50        0.0700
                2530.00         234.00        0.0700
                2535.00         235.00        0.0700
                2540.00         236.00        0.0700
                2605.00         238.00        0.0700
                2645.00         241.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   232.90    .385E+03       0.2          0.55      38.92
       0.40   233.10    .103E+04       0.6          0.80      26.75
       0.60   233.30    .159E+06      39.5          0.32      67.02
       0.80   233.50    .366E+06     133.3          0.47      45.74
       1.03   233.73    .977E+06     428.7          0.56      37.97
       1.27   233.97    .160E+07     914.3          0.74      29.09
       1.50   234.20    .222E+07    1556.9          0.90      23.78
       1.73   234.43    .285E+07    2336.2          1.05      20.32
       1.97   234.67    .348E+07    3240.2          1.20      17.88
       2.20   234.90    .411E+07    4260.9          1.33      16.07
       2.43   235.13    .474E+07    5359.1          1.45      14.75
       2.67   235.37    .539E+07    6537.6          1.56      13.74
       2.90   235.60    .605E+07    7819.4          1.66      12.90
       3.13   235.83    .673E+07    9203.8          1.76      12.19
       3.37   236.07    .743E+07   10683.6          1.85      11.59
       3.60   236.30    .814E+07   12247.8          1.93      11.07
       3.83   236.53    .887E+07   13912.8          2.01      10.62
       4.07   236.77    .961E+07   15679.0          2.09      10.22
       4.30   237.00    .104E+08   17546.8          2.17       9.85

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0501) *******    90.00   31.25  39.96      0.71      0.39
     OUTFLOW: ID= 1 (0503) *******    89.85   32.00  39.96      0.71      0.38


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-------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  27.8300     83.9600
                         3.8000    14.0500   |  *******    101.7400
                        11.0800    33.6500   |  *******    145.2700
                        20.8900    61.8900   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0503)  ********     89.848     32.00      39.96
     OUTFLOW: ID= 1 (0510)  ********     89.848     32.00      39.95

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 85.7617

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.0700
                 425.00         235.00        0.0700
                 445.00         234.00        0.0700
                 480.00         233.50        0.0700
                1535.00         233.50    0.0700 /0.0350  Main Channel
                1536.50         232.70        0.0350      Main Channel
                1537.50         232.70        0.0350      Main Channel
                1540.00         233.50    0.0350 /0.0700  Main Channel
                1605.00         233.20        0.0700
                1610.00         233.10        0.0700
                2135.00         233.10        0.0700
                2440.00         233.50        0.0700
                2505.00         233.50        0.0700
                2530.00         234.00        0.0700
                2535.00         235.00        0.0700
                2540.00         236.00        0.0700
                2605.00         238.00        0.0700
                2645.00         241.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   232.90    .291E+03       0.2          0.55      29.43
       0.40   233.10    .777E+03       0.6          0.80      20.23
       0.60   233.30    .120E+06      39.5          0.32      50.68
       0.80   233.50    .277E+06     133.3          0.47      34.59
       1.03   233.73    .739E+06     428.7          0.56      28.72
       1.27   233.97    .121E+07     914.3          0.74      22.00
       1.50   234.20    .168E+07    1556.9          0.90      17.98
       1.73   234.43    .215E+07    2336.2          1.05      15.37
       1.97   234.67    .263E+07    3240.2          1.20      13.52
       2.20   234.90    .311E+07    4260.9          1.33      12.15
```

2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510)	*******	89.85	32.00	39.95	0.71	0.38
OUTFLOW: ID= 1 (0513)	*******	89.81	32.75	39.95	0.71	0.38

ADD HYD (0504)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	1059.88	7.975	20.50	51.18
+ ID2= 2 (0513):	26734.87	89.812	32.75	39.95
ID = 3 (0504):	27794.75	93.295	32.00	40.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	1627.59	6.437	27.00	41.90
+ ID2= 2 (0504):	27794.75	93.295	32.00	40.38
ID = 3 (0505):	29422.34	99.280	31.75	40.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505)	*******	99.28	31.75	40.47	2.43	0.86
OUTFLOW: ID= 1 (0506)	*******	96.54	34.50	40.47	2.41	0.86

RESERVOIR (0512)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	16.2850
	27.2000	3.7650	*******	20.9160
	76.8000	7.7410	*******	25.9120
	*******	11.0650	*******	36.6600
	*******	11.9150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0506)	********	96.537	34.50	40.47
OUTFLOW: ID= 1 (0512)	********	96.517	34.50	40.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.98
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 9.0397

ROUTE CHN (0514)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	225.20	.243E+04	0.3	0.39	121.91
0.40	225.40	.515E+04	1.1	0.59	80.58
0.60	225.60	.815E+04	2.1	0.74	64.02
0.80	225.80	.114E+05	3.5	0.87	54.69
1.05	226.05	.184E+05	6.1	0.94	50.48
1.29	226.29	.346E+05	10.3	0.85	55.99
1.54	226.54	.620E+05	17.4	0.80	59.38
1.79	226.79	.101E+06	28.3	0.81	59.18
2.03	227.03	.151E+06	43.8	0.83	57.35
2.28	227.28	.215E+06	63.9	0.85	55.99
2.53	227.53	.295E+06	91.4	0.89	53.82
2.77	227.77	.391E+06	127.0	0.93	51.35
3.02	228.02	.504E+06	170.6	0.97	49.24
3.27	228.27	.644E+06	215.5	0.96	49.84
3.51	228.51	.821E+06	279.7	0.97	48.92
3.76	228.76	.103E+07	363.1	1.00	47.47
4.01	229.01	.128E+07	466.2	1.04	45.89
4.25	229.25	.159E+07	572.0	1.03	46.41
4.50	229.50	.198E+07	719.1	1.04	45.95

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0512)	*******	96.52	34.50	40.47	2.56	0.89
OUTFLOW: ID= 1 (0514)	*******	96.18	35.50	40.46	2.56	0.89

```
| ADD HYD   (0507) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):  3094.49  13.323    29.50    52.45
        + ID2= 2 (0514): 29422.34  96.177    35.50    40.46
          ================================================
          ID = 3 (0507): 32516.83 108.431    35.00    41.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              6ab08fc7-e8e6-4b3d-8177-e9629b714f53\081bb95f
| Ptotal=117.80 mm |    Comments: 50yr/24hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50   10.01 | 12.75    4.12 | 19.00    0.59
                0.50    0.59 |  6.75   10.01 | 13.00    4.12 | 19.25    0.59
                0.75    0.59 |  7.00   10.01 | 13.25    4.12 | 19.50    0.59
                1.00    0.59 |  7.25   10.01 | 13.50    4.12 | 19.75    0.59
                1.25    0.59 |  7.50   10.01 | 13.75    4.12 | 20.00    0.59
                1.50    0.59 |  7.75   10.01 | 14.00    4.12 | 20.25    0.59
                1.75    0.59 |  8.00   10.01 | 14.25    4.12 | 20.50    0.59
                2.00    0.59 |  8.25   10.01 | 14.50    2.36 | 20.75    0.59
                2.25    0.59 |  8.50   27.09 | 14.75    2.36 | 21.00    0.59
                2.50    0.59 |  8.75   27.09 | 15.00    2.36 | 21.25    0.59
                2.75    0.59 |  9.00   27.09 | 15.25    2.36 | 21.50    0.59
                3.00    0.59 |  9.25   27.09 | 15.50    2.36 | 21.75    0.59
                3.25    0.59 |  9.50   27.09 | 15.75    2.36 | 22.00    0.59
                3.50    0.59 |  9.75   27.09 | 16.00    2.36 | 22.25    0.59
                3.75    0.59 | 10.00   27.09 | 16.25    2.36 | 22.50    0.59
                4.00    0.59 | 10.25   27.09 | 16.50    1.18 | 22.75    0.59
                4.25    0.59 | 10.50    7.66 | 16.75    1.18 | 23.00    0.59
                4.50    3.53 | 10.75    7.66 | 17.00    1.18 | 23.25    0.59
                4.75    3.53 | 11.00    7.66 | 17.25    1.18 | 23.50    0.59
                5.00    3.53 | 11.25    7.66 | 17.50    1.18 | 23.75    0.59
                5.25    3.53 | 11.50    7.66 | 17.75    1.18 | 24.00    0.59
                5.50    3.53 | 11.75    7.66 | 18.00    1.18 | 24.25    0.59
                5.75    3.53 | 12.00    7.66 | 18.25    1.18 |
                6.00    3.53 | 12.25    7.66 | 18.50    0.59 |
                6.25    3.53 | 12.50    4.12 | 18.75    0.59 |

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-------------------
| CALIB           |
| NASHYD   (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=  15.998 (i)
     TIME TO PEAK    (hrs)=  29.500
     RUNOFF VOLUME    (mm)=  62.976
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.535

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   7.834 (i)
     TIME TO PEAK    (hrs)=  27.000
     RUNOFF VOLUME    (mm)=  50.983
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.433

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=   9.598 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=   8.498 (i)
     TIME TO PEAK    (hrs)=  23.000
     RUNOFF VOLUME    (mm)=  46.236
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.392

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   2.094 (i)
     TIME TO PEAK    (hrs)=  26.250
     RUNOFF VOLUME    (mm)=  56.073
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.476

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  18.288 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  49.766
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD   (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=  10.776 (i)
     TIME TO PEAK    (hrs)=  19.250
     RUNOFF VOLUME    (mm)=  45.099
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.383
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  16.894 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  46.236
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.392

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   6.314 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  42.880
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.364

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):  2873.64  16.894    22.25    46.24
       + ID2= 2 (0002):   988.72   6.314    20.25    42.88
         ================================================
         ID = 3 (0101):  3862.36  23.056    21.75    45.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         250.00        0.0700
                  43.00         240.00    0.0700 /0.0350  Main Channel
                  44.00         239.20        0.0350      Main Channel
                  45.00         239.20        0.0350      Main Channel
                  46.00         240.00    0.0350 /0.0700  Main Channel
                  63.50         241.00        0.0700
                  71.00         250.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.40   239.60    .642E+04        0.5          0.80     221.73
        0.80   240.00    .171E+05        1.8          1.15     155.20
        1.39   240.59    .764E+05        8.0          1.12     159.62
        1.98   241.18    .214E+06       23.7          1.19     150.23
        2.56   241.76    .385E+06       51.8          1.44     123.91
        3.15   242.35    .575E+06       90.1          1.68     106.38
        3.74   242.94    .784E+06      138.5          1.89      94.40
        4.33   243.53    .101E+07      196.9          2.08      85.71
        4.92   244.12    .126E+07      265.6          2.26      79.08
        5.51   244.71    .153E+07      344.7          2.42      73.81
        6.09   245.29    .181E+07      434.5          2.57      69.50
        6.68   245.88    .212E+07      535.2          2.71      65.89
        7.27   246.47    .244E+07      647.3          2.84      62.81
        7.86   247.06    .278E+07      771.1          2.97      60.13
        8.45   247.65    .314E+07      906.8          3.09      57.77
        9.04   248.24    .352E+07     1054.8          3.20      55.67
        9.62   248.82    .392E+07     1215.5          3.32      53.79
       10.21   249.41    .434E+07     1389.1          3.42      52.09
       10.80   250.00    .478E+07     1576.1          3.53      50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    23.06   21.75  45.38      1.95      1.18
     OUTFLOW: ID= 1 (0102) 3862.36    21.96   24.25  45.38      1.91      1.18


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--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1472.14   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.732

     PEAK FLOW       (cms)=  10.574 (i)
     TIME TO PEAK    (hrs)=  23.500
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0064) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       24.22          8.07
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=      464.04         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       27.09         22.47
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       10.82 (ii)    23.64 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.70          0.46          2.166 (iii)
     TIME TO PEAK    (hrs)=       10.25         10.25          10.25
     RUNOFF VOLUME    (mm)=      116.80         61.86         100.32
     TOTAL RAINFALL   (mm)=      117.80        117.80         117.80
     RUNOFF COEFFICIENT   =        0.99          0.53           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0527) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.6100     10.9070
                          0.1100    10.5752   |   2.1600     11.0260
                          0.6300    10.6908   |   2.7100     11.1114
                          1.1700    10.7958   |   3.1600     11.1951

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0064)     32.300      2.166     10.25      100.32
     OUTFLOW: ID= 1 (0527)     32.300      0.032     24.50       84.27

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.48
                    TIME SHIFT OF PEAK FLOW         (min)=855.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.0721

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| ADD HYD   (0518) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1472.14  10.574    23.50    61.54
       + ID2= 2 (0527):    32.30   0.032    24.50    84.27
         ================================================
         ID = 3 (0518):  1504.44  10.606    23.50    62.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):  3862.36  21.964    24.25    45.38
       + ID2= 2 (0518):  1504.44  10.606    23.50    62.03
         ================================================
         ID = 3 (0103):  5366.80  32.536    24.00    50.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47  10.776    19.25    45.10
       + ID2= 2 (0103):  5366.80  32.536    24.00    50.05
         ================================================
         ID = 3 (0104):  6811.27  41.604    22.75    49.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         237.00        0.1000
               330.00         235.00    0.1000 /0.0350  Main Channel
               331.00         234.20        0.0350      Main Channel
               332.00         234.20        0.0350      Main Channel
               333.00         235.00    0.0350 /0.1000  Main Channel
               425.00         235.10        0.1000
               698.00         236.00        0.1000
              1101.00         239.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.13   234.33    .490E+03       0.1         0.64      82.66
      0.27   234.47    .112E+04       0.3         0.93      56.72
      0.40   234.60    .189E+04       0.7         1.14      45.94
      0.53   234.73    .280E+04       1.2         1.33      39.64
      0.67   234.87    .385E+04       1.8         1.49      35.34
      0.80   235.00    .504E+04       2.6         1.63      32.16
      0.95   235.15    .442E+05       6.3         0.45     116.42
      1.11   235.31    .128E+06      17.7         0.44     120.51
      1.26   235.46    .247E+06      38.2         0.49     107.48
      1.42   235.62    .400E+06      69.8         0.55      95.60
      1.57   235.77    .589E+06     114.0         0.61      86.08
      1.72   235.92    .812E+06     172.6         0.67      78.45
      1.88   236.08    .107E+07     250.3         0.74      71.19
      2.03   236.23    .135E+07     347.8         0.81      64.71
      2.18   236.38    .165E+07     461.9         0.88      59.65
      2.34   236.54    .198E+07     593.4         0.95      55.58
      2.49   236.69    .233E+07     742.8         1.01      52.21
      2.65   236.85    .270E+07     910.6         1.06      49.36
      2.80   237.00    .309E+07    1097.6         1.12      46.91

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0104) 6811.27    41.60   22.75  49.00      1.28      0.49
    OUTFLOW: ID= 1 (0105) 6811.27    40.76   24.50  49.00      1.27      0.49


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--------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   3.048 (i)
     TIME TO PEAK    (hrs)=  16.500
     RUNOFF VOLUME    (mm)=  50.983
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.433

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   3.048    16.50    50.98
       + ID2= 2 (0105):  6811.27  40.761    24.50    49.00
         ================================================
         ID = 3 (0106):  7093.24  42.238    24.00    49.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)= 902.64   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   3.308

     PEAK FLOW       (cms)=   7.261 (i)
     TIME TO PEAK    (hrs)=  21.750
     RUNOFF VOLUME    (mm)=  61.544
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0074) |   Area    (ha)= 135.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.78         33.92
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     951.14         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      27.09         17.59
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.64 (ii)    30.78 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.14          1.37          8.516 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25         10.25
     RUNOFF VOLUME    (mm)=     116.80         47.24         95.93
     TOTAL RAINFALL   (mm)=     117.80        117.80        117.80
     RUNOFF COEFFICIENT   =       0.99          0.40          0.81


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0528) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   6.7900      9.8141
                        0.4600     8.4187   |   9.0800     10.3142
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                        2.6300     8.9048   |  11.4000     10.6733
                        4.9000     9.3462   |  13.2700     11.0255

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0074)    135.700      8.516     10.25      95.93
     OUTFLOW: ID= 1 (0528)    135.700      2.541     12.25      95.90

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.84
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  8.8863

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--------------------
| ADD HYD   (0520) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0007):   902.64   7.261    21.75    61.54
       + ID2= 2 (0528):   135.70   2.541    12.25    95.90
         ================================================
         ID = 3 (0520):  1038.34   7.705    21.75    66.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0073) |   Area    (ha)= 178.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.30       130.60
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1092.09        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      27.09        19.08
                over (min)       15.00        45.00
     Storage Coeff.  (min)=      18.08 (ii)   31.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.21         5.73        6.938 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=     116.80        49.54         55.60
     TOTAL RAINFALL   (mm)=     117.80       117.80        117.80
     RUNOFF COEFFICIENT   =       0.99         0.42          0.47

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  58.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9500      9.2195
                          0.6100     7.5855   |  11.9700     10.0426
                          3.4700     7.7498   |  15.0300     10.8266
                          4.6600     8.5771   |  17.5000     11.5931

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0073)    178.900      6.938     10.25      55.60
     OUTFLOW: ID= 1 (0529)    178.900      0.896     15.50      55.58

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.91
                   TIME SHIFT OF PEAK FLOW         (min)=315.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.6022

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0522) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0520):  1038.34   7.705    21.75    66.03
       + ID2= 2 (0529):   178.90   0.896    15.50    55.58
         ================================================
         ID = 3 (0522):  1217.24   8.276    21.75    64.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0079) |   Area    (ha)= 156.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  30.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.07        95.53
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1021.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      27.09        21.89
                over (min)       15.00        45.00
     Storage Coeff.  (min)=      17.37 (ii)   30.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.53         5.02        8.548 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=     116.80        63.13         79.23
     TOTAL RAINFALL   (mm)=     117.80       117.80        117.80
     RUNOFF COEFFICIENT   =       0.99         0.54          0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0530) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8300      9.2109
                          0.5300     7.7357   |  10.4800      9.8961
                          3.0400     7.9828   |  13.1600     10.5152
                          5.6500     8.6540   |  15.3200     11.1208

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600      8.548     10.25      79.23
     OUTFLOW: ID= 1 (0530)    156.600      2.979     12.00      79.21

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.84
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.9779

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--------------------
| ADD HYD   (0524) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0522):  1217.24   8.276    21.75    64.50
       + ID2= 2 (0530):   156.60   2.979    12.00    79.21
         ================================================
         ID = 3 (0524):  1373.84   8.783    21.50    66.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):  7093.24  42.238    24.00    49.08
       + ID2= 2 (0524):  1373.84   8.783    21.50    66.17
         ================================================
         ID = 3 (0107):  8467.08  50.763    23.75    51.85
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0108)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.00	0.1000	
400.00	231.00	0.1000 /0.0350	Main Channel
401.00	229.70	0.0350	Main Channel
402.00	229.70	0.0350	Main Channel
404.00	230.50	0.0350 /0.1000	Main Channel
495.00	231.00	0.1000	
1234.00	256.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.90	.151E+04	0.1	0.24	395.61
0.40	230.10	.377E+04	0.2	0.35	274.62
0.60	230.30	.677E+04	0.5	0.43	222.06
0.80	230.50	.105E+05	0.9	0.50	190.52
1.03	230.73	.437E+05	2.0	0.27	356.49
1.27	230.97	.134E+06	5.0	0.21	448.69
1.50	231.20	.278E+06	11.4	0.23	405.59
1.73	231.43	.473E+06	21.6	0.26	364.80
1.97	231.67	.718E+06	36.0	0.29	332.76
2.20	231.90	.101E+07	55.1	0.31	306.87
2.43	232.13	.136E+07	79.4	0.33	285.44
2.67	232.37	.176E+07	109.6	0.36	267.34
2.90	232.60	.221E+07	145.9	0.38	251.83
3.13	232.83	.270E+07	189.0	0.40	238.35
3.37	233.07	.325E+07	239.3	0.42	226.51
3.60	233.30	.385E+07	297.1	0.44	216.02
3.83	233.53	.450E+07	363.0	0.46	206.64
4.07	233.77	.520E+07	437.3	0.48	198.20
4.30	234.00	.595E+07	520.5	0.50	190.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0107)	8467.08	50.76	23.75	51.85	2.15	0.30
OUTFLOW: ID= 1 (0108)	8467.08	43.81	28.25	51.85	2.06	0.29

CALIB
NASHYD (0092) | ID= 1 DT=15.0 min

Area (ha)=1102.32 Curve Number (CN)= 64.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
U.H. Tp(hrs)= 16.50

Unit Hyd Qpeak (cms)= 2.620

PEAK FLOW (cms)= 4.895 (i)
TIME TO PEAK (hrs)= 28.000
RUNOFF VOLUME (mm)= 49.766
TOTAL RAINFALL (mm)= 117.800
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0109)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0092):	1102.32	4.895	28.00	49.77
+ ID2= 2 (0108):	8467.08	43.808	28.25	51.85
ID = 3 (0109):	9569.40	48.702	28.25	51.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2842.76	18.288	22.00	49.77
+ ID2= 2 (0109):	9569.40	48.702	28.25	51.61
ID = 3 (0110):	12412.16	64.261	26.75	51.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0111)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.1000	
275.00	232.00	0.1000	
1039.00	230.00	0.1000 /0.0350	Main Channel
1040.00	229.20	0.0350	Main Channel
1041.00	229.20	0.0350	Main Channel
1043.00	230.00	0.0350 /0.1000	Main Channel
1117.00	230.60	0.1000	
1325.00	234.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	229.40	.985E+03	0.0	0.14	431.34
0.40	229.60	.251E+04	0.1	0.20	298.03
0.60	229.80	.457E+04	0.3	0.25	239.97
0.80	230.00	.717E+04	0.6	0.29	205.17
1.07	230.27	.754E+05	2.2	0.11	561.90
1.33	230.53	.272E+06	8.6	0.11	527.12
1.60	230.80	.594E+06	22.7	0.14	436.37
1.87	231.07	.103E+07	46.2	0.16	371.32
2.13	231.33	.158E+07	80.7	0.18	325.64
2.40	231.60	.224E+07	127.8	0.20	291.74
2.67	231.87	.301E+07	189.0	0.22	265.46
2.93	232.13	.389E+07	271.8	0.25	238.27
3.20	232.40	.481E+07	376.4	0.28	212.79
3.47	232.67	.576E+07	496.0	0.31	193.49
3.73	232.93	.674E+07	630.4	0.33	178.30
4.00	233.20	.776E+07	779.4	0.36	165.99
4.27	233.47	.881E+07	943.0	0.38	155.79
4.53	233.73	.990E+07	1121.1	0.41	147.16
4.80	234.00	.110E+08	1313.9	0.43	139.76

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0110)	*******	64.26	26.75	51.19	2.01	0.17
OUTFLOW: ID= 1 (0111)	*******	54.95	31.50	51.18	1.93	0.17

ADD HYD (0112)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0093):	381.73	2.094	26.25	56.07
+ ID2= 2 (0111):	12412.16	54.953	31.50	51.18
ID = 3 (0112):	12793.89	56.884	31.00	51.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0008) | ID= 1 DT=15.0 min

Area (ha)=1549.97 Curve Number (CN)= 60.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.10
U.H. Tp(hrs)= 9.10

Unit Hyd Qpeak (cms)= 6.679

PEAK FLOW (cms)= 10.418 (i)
TIME TO PEAK (hrs)= 20.250
RUNOFF VOLUME (mm)= 45.099
TOTAL RAINFALL (mm)= 117.800
RUNOFF COEFFICIENT = 0.383

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB             |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=  14.570 (i)
     TIME TO PEAK    (hrs)=  24.500
     RUNOFF VOLUME    (mm)=  49.766
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.422

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.62        218.48
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1366.50         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      27.09         22.00
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      20.68 (ii)    33.62 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.89         11.29         13.187 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25          10.25
     RUNOFF VOLUME    (mm)=     116.80         62.30          67.21
     TOTAL RAINFALL   (mm)=     117.80        117.80         117.80
     RUNOFF COEFFICIENT   =       0.99          0.53           0.57

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  14.0000     14.7295
                          0.9500    12.2068   |  18.7400     16.0462
                          5.4300    12.3823   |  23.5200     17.3268
                         10.1100    13.7195   |  27.3900     18.5786

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100     13.187     10.25      67.21
     OUTFLOW: ID= 1 (0525)    280.100      4.848     12.50      67.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.77
                  TIME SHIFT OF PEAK FLOW         (min)=135.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 12.3739

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-------------------
| ADD HYD   (0515) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44  14.570    24.50    49.77
       + ID2= 2 (0525):   280.10   4.848    12.50    67.20
         ================================================
         ID = 3 (0515):  2954.54  15.432    24.50    51.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0004) |   Area    (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=  12.615 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  37.639
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0046) |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61         51.69
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     784.43         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      27.09         19.10
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.82 (ii)    28.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.29          2.43          4.718 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25          10.25
     RUNOFF VOLUME    (mm)=     116.80         51.77          73.23
     TOTAL RAINFALL   (mm)=     117.80        117.80         117.80
     RUNOFF COEFFICIENT   =       0.99          0.44           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0526) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6200     51.9904
                         0.3100    51.1099   |   6.1800     52.3852
                         1.7900    51.2815   |   7.7500     52.7331
                         3.3300    51.6636   |   9.0300     53.0736

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0046)     92.300      4.718     10.25      73.23
     OUTFLOW: ID= 1 (0526)     92.300      0.040     24.75      48.05

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.84
                  TIME SHIFT OF PEAK FLOW         (min)=870.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.5521

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-------------------
| ADD HYD   (0516) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0004):  2580.39  12.615    22.00    37.64
       + ID2= 2 (0526):    92.30   0.040    24.75    48.05
         ================================================
         ID = 3 (0516):  2672.69  12.654    22.00    38.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0515):  2954.54  15.432    24.50    51.42
       + ID2= 2 (0516):  2672.69  12.654    22.00    38.00
         ================================================
         ID = 3 (0201):  5627.23  27.865    23.25    45.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00        239.00        0.1000
                690.00        230.00    0.1000 /0.0350  Main Channel
                691.00        229.20        0.0350      Main Channel
                692.00        229.20        0.0350      Main Channel
                693.00        229.50    0.0350 /0.1000  Main Channel
               1190.00        230.00        0.1000
               1417.00        255.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.30   229.50    .347E+04        0.4         0.84     136.57
      0.80   230.00    .864E+06       45.2         0.36     318.78
      1.30   230.50    .265E+07      274.1         0.71     161.20
      1.80   231.00    .459E+07      651.8         0.97     117.24
      2.30   231.50    .667E+07     1165.3         1.20      95.34
      2.80   232.00    .889E+07     1810.2         1.40      81.89
      3.30   232.50    .113E+08     2585.1         1.57      72.65
      3.80   233.00    .138E+08     3490.4         1.73      65.85
      4.30   233.50    .165E+08     4527.4         1.89      60.59
      4.80   234.00    .193E+08     5697.8         2.03      56.38
      5.30   234.50    .222E+08     7003.8         2.16      52.91
      5.80   235.00    .253E+08     8447.7         2.28      50.00
      6.30   235.50    .286E+08    10032.3         2.40      47.52
      6.80   236.00    .320E+08    11760.1         2.52      45.36
      7.30   236.50    .356E+08    13634.1         2.63      43.46
      7.80   237.00    .393E+08    15657.0         2.73      41.78
      8.30   237.50    .431E+08    17831.7         2.84      40.28
      8.80   238.00    .471E+08    20161.3         2.93      38.92
      9.30   238.50    .512E+08    22648.7         3.03      37.69

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0201) 5627.23    27.86   23.25  45.04      0.61      0.46
    OUTFLOW: ID= 1 (0202) 5627.23    25.47   28.50  45.04      0.58      0.48


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-------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):  1549.97  10.418    20.25    45.10
       + ID2= 2 (0202):  5627.23  25.466    28.50    45.04
         ================================================
         ID = 3 (0203):  7177.20  33.031    25.75    45.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112): 12793.89  56.884    31.00    51.33
       + ID2= 2 (0203):  7177.20  33.031    25.75    45.05
         ================================================
         ID = 3 (0301): 19971.09  87.663    29.50    49.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00        240.00        0.0700
                110.00        239.00        0.0700
                161.00        238.00        0.0700
                250.00        237.00        0.0700
                420.00        236.00        0.0700
                560.00        235.00        0.0700
                589.00        234.40    0.0700 /0.0350  Main Channel
                589.10        233.60        0.0350      Main Channel
                594.00        233.60        0.0350      Main Channel
                594.10        234.40    0.0350 /0.0700  Main Channel
                615.00        235.00        0.0700
                740.00        236.00        0.0700
                860.00        236.50        0.0700
               1340.00        237.00        0.0700
               1460.00        238.00        0.0700
               1470.00        239.00        0.0700
               1510.00        240.00        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.27   233.87    .770E+04        1.0         0.74     132.49
      0.53   234.13    .155E+05        2.9         1.10      88.48
      0.80   234.40    .234E+05        5.5         1.37      71.19
      1.15   234.75    .636E+05       11.6         1.07      91.11
      1.50   235.10    .169E+06       24.5         0.85     114.97
      1.85   235.45    .431E+06       54.5         0.74     131.62
      2.20   235.80    .882E+06      117.3         0.78     125.39
      2.55   236.15    .153E+07      218.3         0.83     117.06
      2.90   236.50    .246E+07      375.3         0.89     109.30
      3.25   236.85    .394E+07      579.0         0.86     113.45
      3.60   237.20    .612E+07     1010.3         0.97     101.01
      3.95   237.55    .851E+07     1631.3         1.12      86.99
      4.30   237.90    .111E+08     2391.8         1.27      77.05
      4.65   238.25    .137E+08     3337.5         1.42      68.52
      5.00   238.60    .164E+08     4438.7         1.58      61.71
      5.35   238.95    .192E+08     5671.0         1.73      56.40
      5.70   239.30    .220E+08     6955.1         1.85      52.75
      6.05   239.65    .249E+08     8355.2         1.96      49.76
      6.40   240.00    .280E+08     9884.7         2.07      47.18

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0301) *******    87.66   29.50  49.08      2.03      0.76
    OUTFLOW: ID= 1 (0302) *******    85.97   31.75  49.07      2.02      0.76


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| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52   8.498    23.00    46.24
       + ID2= 2 (0302): 19971.09  85.975    31.75    49.07
         ================================================
         ID = 3 (0303): 21472.61  92.059    31.00    48.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=  16.328 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  41.798
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.00	0.0500	
72.00	235.00	0.0500	
492.00	230.00	0.0500	
581.00	229.20	0.0500 /0.0350	Main Channel
582.00	228.40	0.0350	Main Channel
583.00	228.40	0.0350	Main Channel
584.00	229.20	0.0350 /0.0500	Main Channel
588.00	229.20	0.0500	
607.00	230.00	0.0500	
627.00	235.00	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	228.67	.302E+04	0.1	0.21	666.69
0.53	228.93	.756E+04	0.3	0.30	465.92
0.80	229.20	.136E+05	0.6	0.37	377.99
1.16	229.56	.111E+06	3.0	0.23	616.66
1.52	229.92	.358E+06	11.5	0.27	519.91
1.89	230.29	.740E+06	30.1	0.35	410.09
2.25	230.65	.122E+07	59.5	0.41	342.49
2.61	231.01	.180E+07	100.6	0.47	298.58
2.97	231.37	.248E+07	154.6	0.53	267.22
3.34	231.74	.326E+07	222.9	0.58	243.40
3.70	232.10	.413E+07	306.6	0.63	224.51
4.06	232.46	.510E+07	406.9	0.68	209.05
4.42	232.82	.617E+07	524.8	0.72	196.10
4.79	233.19	.734E+07	661.4	0.77	185.06
5.15	233.55	.861E+07	817.9	0.81	175.49
5.51	233.91	.998E+07	995.2	0.85	167.10
5.87	234.27	.114E+08	1194.3	0.89	159.67
6.24	234.64	.130E+08	1416.3	0.93	153.03
6.60	235.00	.147E+08	1662.2	0.96	147.05

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0011)	3099.17	16.33	22.50	41.80	1.62	0.29
OUTFLOW: ID= 1 (0401)	3099.17	12.26	29.25	41.80	1.54	0.27

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| CALIB             |
| NASHYD    (0014)  |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   7.314 (i)
     TIME TO PEAK    (hrs)=  36.500
     RUNOFF VOLUME    (mm)=  56.073
     TOTAL RAINFALL   (mm)= 117.800
     RUNOFF COEFFICIENT   =   0.476

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   7.314    36.50    56.07
        + ID2= 2 (0401):  3099.17  12.262    29.25    41.80
          ==========================================
          ID = 3 (0402):  5262.26  19.035    31.00    47.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0501) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61  92.059    31.00    48.88
        + ID2= 2 (0402):  5262.26  19.035    31.00    47.66
          ==========================================
          ID = 3 (0501): 26734.87 111.094    31.00    48.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.385E+03	0.2	0.55	38.92
0.40	233.10	.103E+04	0.6	0.80	26.75
0.60	233.30	.159E+06	39.5	0.32	67.02
0.80	233.50	.366E+06	133.3	0.47	45.74
1.03	233.73	.977E+06	428.7	0.56	37.97
1.27	233.97	.160E+07	914.3	0.74	29.09
1.50	234.20	.222E+07	1556.9	0.90	23.78
1.73	234.43	.285E+07	2336.2	1.05	20.32
1.97	234.67	.348E+07	3240.2	1.20	17.88
2.20	234.90	.411E+07	4260.9	1.33	16.07
2.43	235.13	.474E+07	5359.1	1.45	14.75
2.67	235.37	.539E+07	6537.6	1.56	13.74
2.90	235.60	.605E+07	7819.4	1.66	12.90
3.13	235.83	.673E+07	9203.8	1.76	12.19
3.37	236.07	.743E+07	10683.6	1.85	11.59
3.60	236.30	.814E+07	12247.8	1.93	11.07
3.83	236.53	.887E+07	13912.8	2.01	10.62
4.07	236.77	.961E+07	15679.0	2.09	10.22
4.30	237.00	.104E+08	17546.8	2.17	9.85

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0501)	*******	111.09	31.00	48.64	0.75	0.42
OUTFLOW: ID= 1 (0503)	*******	110.91	31.50	48.64	0.75	0.42

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| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  27.8300     83.9600
                         3.8000    14.0500   |  *******    101.7400
                        11.0800    33.6500   |  *******    145.2700
                        20.8900    61.8900   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0503)   ********  110.913     31.50      48.64
     OUTFLOW: ID= 1 (0510)   ********  110.909     31.50      48.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 86.3737

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| ROUTE CHN (0513) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.00	0.0700	
425.00	235.00	0.0700	
445.00	234.00	0.0700	
480.00	233.50	0.0700	
1535.00	233.50	0.0700 /0.0350	Main Channel
1536.50	232.70	0.0350	Main Channel
1537.50	232.70	0.0350	Main Channel
1540.00	233.50	0.0350 /0.0700	Main Channel
1605.00	233.20	0.0700	
1610.00	233.10	0.0700	
2135.00	233.10	0.0700	
2440.00	233.50	0.0700	
2505.00	233.50	0.0700	
2530.00	234.00	0.0700	
2535.00	235.00	0.0700	
2540.00	236.00	0.0700	
2605.00	238.00	0.0700	
2645.00	241.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	232.90	.291E+03	0.2	0.55	29.43
0.40	233.10	.777E+03	0.6	0.80	20.23
0.60	233.30	.120E+06	39.5	0.32	50.68
0.80	233.50	.277E+06	133.3	0.47	34.59
1.03	233.73	.739E+06	428.7	0.56	28.72
1.27	233.97	.121E+07	914.3	0.74	22.00
1.50	234.20	.168E+07	1556.9	0.90	17.98
1.73	234.43	.215E+07	2336.2	1.05	15.37
1.97	234.67	.263E+07	3240.2	1.20	13.52
2.20	234.90	.311E+07	4260.9	1.33	12.15
2.43	235.13	.359E+07	5359.1	1.45	11.15
2.67	235.37	.408E+07	6537.6	1.56	10.39
2.90	235.60	.458E+07	7819.4	1.66	9.76
3.13	235.83	.509E+07	9203.8	1.76	9.22
3.37	236.07	.562E+07	10683.6	1.85	8.76
3.60	236.30	.615E+07	12247.8	1.93	8.37
3.83	236.53	.670E+07	13912.8	2.01	8.03
4.07	236.77	.727E+07	15679.0	2.09	7.73
4.30	237.00	.784E+07	17546.8	2.17	7.45

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0510)	*******	110.91	31.50	48.63	0.75	0.42
OUTFLOW: ID= 1 (0513)	*******	110.82	32.00	48.63	0.75	0.42

ADD HYD (0504)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):		1059.88	9.598	20.25	61.54
+ ID2= 2 (0513):		26734.87	110.824	32.00	48.63
ID = 3 (0504):		27794.75	115.469	31.00	49.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0505)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):		1627.59	7.834	27.00	50.98
+ ID2= 2 (0504):		27794.75	115.469	31.00	49.13
ID = 3 (0505):		29422.34	122.892	31.00	49.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0506)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.00	0.0500	
323.00	238.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	
650.00	227.00	0.0500	
810.00	229.50	0.0500	
1855.00	240.00	0.0500	
2617.00	259.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	225.80	.292E+05	3.5	0.87	139.36
2.13	227.13	.441E+06	50.6	0.84	145.20
3.45	228.45	.197E+07	262.2	0.97	125.42
4.78	229.78	.557E+07	971.2	1.27	95.57
6.11	231.11	.106E+08	2326.5	1.61	75.63
7.43	232.43	.169E+08	4425.6	1.90	63.77
8.76	233.76	.247E+08	7361.8	2.17	55.90
10.08	235.08	.338E+08	11229.7	2.42	50.22
11.41	236.41	.444E+08	16121.0	2.65	45.87
12.74	237.74	.563E+08	22124.8	2.86	42.40
14.06	239.06	.697E+08	29005.2	3.03	40.02
15.39	240.39	.846E+08	37433.0	3.23	37.66
16.72	241.72	.101E+09	47908.6	3.47	34.97
18.04	243.04	.117E+09	59742.1	3.71	32.73
19.37	244.37	.135E+09	72949.0	3.94	30.83
20.69	245.69	.153E+09	87549.6	4.16	29.20
22.02	247.02	.173E+09	*******	4.37	27.79
23.35	248.35	.193E+09	*******	4.58	26.55
24.67	249.67	.214E+09	*******	4.77	25.45

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0505)	*******	122.89	31.00	49.23	2.58	0.88
OUTFLOW: ID= 1 (0506)	*******	119.70	33.75	49.23	2.55	0.88

RESERVOIR (0512)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	16.2850
27.2000	3.7650	*******	20.9160
76.8000	7.7410	*******	25.9120
*******	11.0650	*******	36.6600
*******	11.9150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0506)	********	119.702	33.75	49.23
OUTFLOW: ID= 1 (0512)	********	119.688	34.00	49.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.99
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 10.5640

ROUTE CHN (0514)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0500	
400.00	229.00	0.0500	
545.00	228.00	0.0500	
602.00	226.00	0.0500	
604.00	225.80	0.0500 /0.0350	Main Channel
605.00	225.00	0.0350	Main Channel
609.00	225.00	0.0350	Main Channel
610.00	225.80	0.0350 /0.0500	Main Channel
614.00	226.00	0.0500	

```
            650.00        227.00        0.0500
            810.00        229.50        0.0500

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   225.20    .243E+04       0.3         0.39     121.91
       0.40   225.40    .515E+04       1.1         0.59      80.58
       0.60   225.60    .815E+04       2.1         0.74      64.02
       0.80   225.80    .114E+05       3.5         0.87      54.69
       1.05   226.05    .184E+05       6.1         0.94      50.48
       1.29   226.29    .346E+05      10.3         0.85      55.99
       1.54   226.54    .620E+05      17.4         0.80      59.38
       1.79   226.79    .101E+06      28.3         0.81      59.18
       2.03   227.03    .151E+06      43.8         0.83      57.35
       2.28   227.28    .215E+06      63.9         0.85      55.99
       2.53   227.53    .295E+06      91.4         0.89      53.82
       2.77   227.77    .391E+06     127.0         0.93      51.35
       3.02   228.02    .504E+06     170.6         0.97      49.24
       3.27   228.27    .644E+06     215.5         0.96      49.84
       3.51   228.51    .821E+06     279.7         0.97      48.92
       3.76   228.76    .103E+07     363.1         1.00      47.47
       4.01   229.01    .128E+07     466.2         1.04      45.89
       4.25   229.25    .159E+07     572.0         1.03      46.41
       4.50   229.50    .198E+07     719.1         1.04      45.95

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0512) *******   119.69   34.00  49.23      2.72      0.92
     OUTFLOW: ID= 1 (0514) *******   119.32   34.75  49.23      2.71      0.92


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0507) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0016):  3094.49  15.998    29.50    62.98
        + ID2= 2 (0514): 29422.34 119.323    34.75    49.23
          ================================================
          ID = 3 (0507): 32516.83 134.289    34.50    50.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   6 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              6ab08fc7-e8e6-4b3d-8177-e9629b714f53\a1de81b1
| Ptotal=130.88 mm |    Comments: 100yr/24hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50   11.13 | 12.75    4.58 | 19.00    0.65
                0.50    0.65 |  6.75   11.13 | 13.00    4.58 | 19.25    0.65
                0.75    0.65 |  7.00   11.13 | 13.25    4.58 | 19.50    0.65
                1.00    0.65 |  7.25   11.13 | 13.50    4.58 | 19.75    0.65
                1.25    0.65 |  7.50   11.13 | 13.75    4.58 | 20.00    0.65
                1.50    0.65 |  7.75   11.13 | 14.00    4.58 | 20.25    0.65
                1.75    0.65 |  8.00   11.13 | 14.25    4.58 | 20.50    0.65
                2.00    0.65 |  8.25   11.13 | 14.50    2.62 | 20.75    0.65
                2.25    0.65 |  8.50   30.11 | 14.75    2.62 | 21.00    0.65
                2.50    0.65 |  8.75   30.11 | 15.00    2.62 | 21.25    0.65
                2.75    0.65 |  9.00   30.11 | 15.25    2.62 | 21.50    0.65
                3.00    0.65 |  9.25   30.11 | 15.50    2.62 | 21.75    0.65
                3.25    0.65 |  9.50   30.11 | 15.75    2.62 | 22.00    0.65
                3.50    0.65 |  9.75   30.11 | 16.00    2.62 | 22.25    0.65
                3.75    0.65 | 10.00   30.11 | 16.25    2.62 | 22.50    0.65
                4.00    0.65 | 10.25   30.11 | 16.50    1.31 | 22.75    0.65
                4.25    0.65 | 10.50    8.51 | 16.75    1.31 | 23.00    0.65
                4.50    3.93 | 10.75    8.51 | 17.00    1.31 | 23.25    0.65
                4.75    3.93 | 11.00    8.51 | 17.25    1.31 | 23.50    0.65
                5.00    3.93 | 11.25    8.51 | 17.50    1.31 | 23.75    0.65
                5.25    3.93 | 11.50    8.51 | 17.75    1.31 | 24.00    0.65
                5.50    3.93 | 11.75    8.51 | 18.00    1.31 | 24.25    0.65
                5.75    3.93 | 12.00    8.51 | 18.25    1.31 |
                6.00    3.93 | 12.25    8.51 | 18.50    0.65 |
                6.25    3.93 | 12.50    4.58 | 18.75    0.65 |

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--------------------
| CALIB            |
| NASHYD    (0016) |   Area    (ha)=3094.49   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  18.10

     Unit Hyd Qpeak  (cms)=   6.704

     PEAK FLOW       (cms)=  18.718 (i)
     TIME TO PEAK    (hrs)=  29.500
     RUNOFF VOLUME    (mm)=  73.659
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.563

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0013) |   Area    (ha)=1627.59   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  15.50

     Unit Hyd Qpeak  (cms)=   4.118

     PEAK FLOW       (cms)=   9.275 (i)
     TIME TO PEAK    (hrs)=  27.000
     RUNOFF VOLUME    (mm)=  60.331
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.461

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0015) |   Area    (ha)=1059.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   9.30

     Unit Hyd Qpeak  (cms)=   4.469

     PEAK FLOW       (cms)=  11.257 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  72.084
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.551

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)=1501.52   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  11.50

     Unit Hyd Qpeak  (cms)=   5.120

     PEAK FLOW       (cms)=  10.114 (i)
     TIME TO PEAK    (hrs)=  22.750
     RUNOFF VOLUME    (mm)=  54.968
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0093) |   Area    (ha)= 381.73   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  14.90

     Unit Hyd Qpeak  (cms)=   1.005

     PEAK FLOW       (cms)=   2.468 (i)
     TIME TO PEAK    (hrs)=  26.250
     RUNOFF VOLUME    (mm)=  66.025
     TOTAL RAINFALL   (mm)= 130.880
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     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0010) |   Area    (ha)=2842.76   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.80

     Unit Hyd Qpeak  (cms)=  10.322

     PEAK FLOW       (cms)=  21.693 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  58.960
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0005) |   Area    (ha)=1444.47   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   8.00

     Unit Hyd Qpeak  (cms)=   7.080

     PEAK FLOW       (cms)=  12.846 (i)
     TIME TO PEAK    (hrs)=  19.000
     RUNOFF VOLUME    (mm)=  53.676
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.410

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0001) |   Area    (ha)=2873.64   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.00

     Unit Hyd Qpeak  (cms)=  10.244

     PEAK FLOW       (cms)=  20.108 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  54.968
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0002) |   Area    (ha)= 988.72   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   7.542 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  51.147
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.391

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):  2873.64  20.108    22.25    54.97
        + ID2= 2 (0002):   988.72   7.542    20.25    51.15
          ================================================
          ID = 3 (0101):  3862.36  27.467    21.75    53.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (0102) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         250.00        0.0700
                 43.00         240.00    0.0700 /0.0350  Main Channel
                 44.00         239.20        0.0350      Main Channel
                 45.00         239.20        0.0350      Main Channel
                 46.00         240.00    0.0350 /0.0700  Main Channel
                 63.50         241.00        0.0700
                 71.00         250.00        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40    239.60    .642E+04       0.5          0.80      221.73
      0.80    240.00    .171E+05       1.8          1.15      155.20
      1.39    240.59    .764E+05       8.0          1.12      159.62
      1.98    241.18    .214E+06      23.7          1.19      150.23
      2.56    241.76    .385E+06      51.8          1.44      123.91
      3.15    242.35    .575E+06      90.1          1.68      106.38
      3.74    242.94    .784E+06     138.5          1.89       94.40
      4.33    243.53    .101E+07     196.9          2.08       85.71
      4.92    244.12    .126E+07     265.6          2.26       79.08
      5.51    244.71    .153E+07     344.7          2.42       73.81
      6.09    245.29    .181E+07     434.5          2.57       69.50
      6.68    245.88    .212E+07     535.2          2.71       65.89
      7.27    246.47    .244E+07     647.3          2.84       62.81
      7.86    247.06    .278E+07     771.1          2.97       60.13
      8.45    247.65    .314E+07     906.8          3.09       57.77
      9.04    248.24    .352E+07    1054.8          3.20       55.67
      9.62    248.82    .392E+07    1215.5          3.32       53.79
     10.21    249.41    .434E+07    1389.1          3.42       52.09
     10.80    250.00    .478E+07    1576.1          3.53       50.53

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0101) 3862.36    27.47   21.75  53.99      2.06      1.22
     OUTFLOW: ID= 1 (0102) 3862.36    26.23   24.25  53.99      2.02      1.20

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-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1472.14   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  12.20

     Unit Hyd Qpeak  (cms)=   4.732

     PEAK FLOW       (cms)=  12.396 (i)
     TIME TO PEAK    (hrs)=  23.250
     RUNOFF VOLUME    (mm)=  72.084
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.551

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0064) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.22          8.07
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     464.04         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      30.11         26.05
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.37 (ii)    22.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.89          0.54          2.435 (iii)
     TIME TO PEAK    (hrs)=      10.25         10.25          10.25
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     RUNOFF VOLUME    (mm)=     129.88        72.39         112.63
     TOTAL RAINFALL   (mm)=     130.88       130.88         130.88
     RUNOFF COEFFICIENT   =       0.99         0.55           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0527) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.6100     10.9070
                          0.1100    10.5752   |   2.1600     11.0260
                          0.6300    10.6908   |   2.7100     11.1114
                          1.1700    10.7958   |   3.1600     11.1951

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0064)     32.300      2.435     10.25     112.63
     OUTFLOW: ID= 1 (0527)     32.300      0.036     24.50      94.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.47
                    TIME SHIFT OF PEAK FLOW         (min)=855.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.4492

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--------------------
| ADD HYD   (0518) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):  1472.14  12.396    23.25    72.08
       + ID2= 2 (0527):    32.30   0.036    24.50    94.62
         ================================================
         ID = 3 (0518):  1504.44  12.432    23.25    72.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):  3862.36  26.232    24.25    53.99
       + ID2= 2 (0518):  1504.44  12.432    23.25    72.57
         ================================================
         ID = 3 (0103):  5366.80  38.637    24.00    59.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):  1444.47  12.846    19.00    53.68
       + ID2= 2 (0103):  5366.80  38.637    24.00    59.20
         ================================================
         ID = 3 (0104):  6811.27  49.521    22.75    58.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.1000
                 330.00         235.00    0.1000 /0.0350  Main Channel
                 331.00         234.20        0.0350      Main Channel
                 332.00         234.20        0.0350      Main Channel
                 333.00         235.00    0.0350 /0.1000  Main Channel
                 425.00         235.10        0.1000
                 698.00         236.00        0.1000
                1101.00         239.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.13    234.33   .490E+03        0.1         0.64      82.66
       0.27    234.47   .112E+04        0.3         0.93      56.72
       0.40    234.60   .189E+04        0.7         1.14      45.94
       0.53    234.73   .280E+04        1.2         1.33      39.64
       0.67    234.87   .385E+04        1.8         1.49      35.34
       0.80    235.00   .504E+04        2.6         1.63      32.16
       0.95    235.15   .442E+05        6.3         0.45     116.42
       1.11    235.31   .128E+06       17.7         0.44     120.51
       1.26    235.46   .247E+06       38.2         0.49     107.48
       1.42    235.62   .400E+06       69.8         0.55      95.60
       1.57    235.77   .589E+06      114.0         0.61      86.08
       1.72    235.92   .812E+06      172.6         0.67      78.45
       1.88    236.08   .107E+07      250.3         0.74      71.19
       2.03    236.23   .135E+07      347.8         0.81      64.71
       2.18    236.38   .165E+07      461.9         0.88      59.65
       2.34    236.54   .198E+07      593.4         0.95      55.58
       2.49    236.69   .233E+07      742.8         1.01      52.21
       2.65    236.85   .270E+07      910.6         1.06      49.36
       2.80    237.00   .309E+07     1097.6         1.12      46.91

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0104) 6811.27    49.52   22.75  58.03      1.32      0.51
     OUTFLOW: ID= 1 (0105) 6811.27    48.54   24.25  58.03      1.31      0.51

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--------------------
| CALIB            |
| NASHYD    (0091) |   Area    (ha)= 281.97   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=   5.80

     Unit Hyd Qpeak  (cms)=   1.906

     PEAK FLOW       (cms)=   3.616 (i)
     TIME TO PEAK    (hrs)=  16.500
     RUNOFF VOLUME    (mm)=  60.331
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.461

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):   281.97   3.616    16.50    60.33
       + ID2= 2 (0105):  6811.27  48.543    24.25    58.03
         ================================================
         ID = 3 (0106):  7093.24  50.320    24.00    58.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0007) |   Area    (ha)= 902.64   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   3.308

     PEAK FLOW       (cms)=   8.514 (i)
     TIME TO PEAK    (hrs)=  21.750
     RUNOFF VOLUME    (mm)=  72.084
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.551

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0074) |   Area    (ha)= 135.70
```

|ID= 1 DT=15.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	101.78	33.92
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	951.14	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	30.11	20.74
over (min)	15.00	30.00
Storage Coeff. (min)=	15.95 (ii)	29.19 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.07	0.04

		TOTALS
PEAK FLOW	(cms)=	7.94	1.72	9.663 (iii)
TIME TO PEAK	(hrs)=	10.25	10.25	10.25
RUNOFF VOLUME	(mm)=	129.88	56.06	107.74
TOTAL RAINFALL	(mm)=	130.88	130.88	130.88
RUNOFF COEFFICIENT	=	0.99	0.43	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0528)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	6.7900	9.8141
0.4600	8.4187	9.0800	10.3142
2.6300	8.9048	11.4000	10.6733
4.9000	9.3462	13.2700	11.0255

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0074)	135.700	9.663	10.25	107.74
OUTFLOW: ID= 1 (0528)	135.700	3.944	10.75	107.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.82
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 9.1759

ADD HYD (0520)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	902.64	8.514	21.75	72.08
+ ID2= 2 (0528):	135.70	3.944	10.75	107.70
ID = 3 (0520):	1038.34	8.960	21.75	76.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0073)

Area (ha)= 178.90
|ID= 1 DT=15.0 min | Total Imp(%)= 27.00 Dir. Conn.(%)= 9.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	48.30	130.60
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	1092.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	30.11	22.44
over (min)	15.00	45.00
Storage Coeff. (min)=	17.33 (ii)	30.16 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	1.35	6.86	8.205 (iii)
TIME TO PEAK	(hrs)=	10.25	10.25	10.25
RUNOFF VOLUME	(mm)=	129.88	58.65	65.06
TOTAL RAINFALL	(mm)=	130.88	130.88	130.88
RUNOFF COEFFICIENT	=	0.99	0.45	0.50

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 58.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0529)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	8.9500	9.2195
0.6100	7.5855	11.9700	10.0426
3.4700	7.7498	15.0300	10.8266
6.4600	8.5771	17.5000	11.5931

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0073)	178.900	8.205	10.25	65.06
OUTFLOW: ID= 1 (0529)	178.900	2.679	12.50	65.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.65
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 7.7087

ADD HYD (0522)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0520):	1038.34	8.960	21.75	76.74
+ ID2= 2 (0529):	178.90	2.679	12.50	65.05
ID = 3 (0522):	1217.24	9.537	21.75	75.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0079)

Area (ha)= 156.60
|ID= 1 DT=15.0 min | Total Imp(%)= 39.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	61.07	95.53
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	1021.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	30.11	25.35
over (min)	15.00	30.00
Storage Coeff. (min)=	16.65 (ii)	28.87 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.07	0.04

		TOTALS
PEAK FLOW	(cms)=	3.93	6.11	10.038 (iii)
TIME TO PEAK	(hrs)=	10.25	10.25	10.25
RUNOFF VOLUME	(mm)=	129.88	73.79	90.62
TOTAL RAINFALL	(mm)=	130.88	130.88	130.88
RUNOFF COEFFICIENT	=	0.99	0.56	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0530)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.8300	9.2109
0.5300	7.7357	10.4800	9.8961

```
                       3.0400     7.9828   |  13.1600     10.5152
                       5.6500     8.6540   |  15.3200     11.1208

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0079)    156.600     10.038     10.25      90.62
     OUTFLOW: ID= 1 (0530)    156.600      4.166     11.25      90.60

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.50
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  8.2840

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| ADD HYD   (0524) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0522):  1217.24   9.537    21.75    75.02
       + ID2= 2 (0530):   156.60   4.166    11.25    90.60
         ================================================
         ID = 3 (0524):  1373.84  11.309    12.50    76.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):  7093.24  50.320    24.00    58.12
       + ID2= 2 (0524):  1373.84  11.309    12.50    76.80
         ================================================
         ID = 3 (0107):  8467.08  60.090    23.75    61.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        234.00        0.1000
                400.00        231.00    0.1000 /0.0350  Main Channel
                401.00        229.70        0.0350      Main Channel
                402.00        229.70        0.0350      Main Channel
                404.00        230.50    0.0350 /0.1000  Main Channel
                495.00        231.00        0.1000
               1234.00        256.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   229.90    .151E+04        0.1         0.24     395.61
       0.40   230.10    .377E+04        0.2         0.35     274.62
       0.60   230.30    .677E+04        0.5         0.43     222.06
       0.80   230.50    .105E+05        0.9         0.50     190.52
       1.03   230.73    .437E+05        2.0         0.27     356.49
       1.27   230.97    .134E+06        5.0         0.21     448.69
       1.50   231.20    .278E+06       11.4         0.23     405.59
       1.73   231.43    .473E+06       21.6         0.26     364.80
       1.97   231.67    .718E+06       36.0         0.29     332.76
       2.20   231.90    .101E+07       55.1         0.31     306.87
       2.43   232.13    .136E+07       79.4         0.33     285.44
       2.67   232.37    .176E+07      109.6         0.36     267.34
       2.90   232.60    .221E+07      145.9         0.38     251.83
       3.13   232.83    .270E+07      189.0         0.40     238.35
       3.37   233.07    .325E+07      239.3         0.42     226.51
       3.60   233.30    .385E+07      297.1         0.44     216.02
       3.83   233.53    .450E+07      363.0         0.46     206.64
       4.07   233.77    .520E+07      437.3         0.48     198.20
       4.30   234.00    .595E+07      520.5         0.50     190.55

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0107) 8467.08    60.09   23.75  61.15      2.25      0.31
     OUTFLOW: ID= 1 (0108) 8467.08    52.31   27.75  61.15      2.17      0.31


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| CALIB            |
| NASHYD    (0092) |   Area    (ha)=1102.32   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
--------------------   U.H. Tp(hrs)=  16.50

     Unit Hyd Qpeak  (cms)=   2.620

     PEAK FLOW       (cms)=   5.802 (i)
     TIME TO PEAK    (hrs)=  28.000
     RUNOFF VOLUME    (mm)=  58.960
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT    =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):  1102.32   5.802    28.00    58.96
       + ID2= 2 (0108):  8467.08  52.312    27.75    61.15
         ================================================
         ID = 3 (0109):  9569.40  58.113    27.75    60.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):  2842.76  21.693    22.00    58.96
       + ID2= 2 (0109):  9569.40  58.113    27.75    60.89
         ================================================
         ID = 3 (0110): 12412.16  76.728    26.50    60.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0111) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        236.00        0.1000
                275.00        232.00        0.1000
               1039.00        230.00    0.1000 /0.0350  Main Channel
               1040.00        229.20        0.0350      Main Channel
               1041.00        229.20        0.0350      Main Channel
               1043.00        230.00    0.0350 /0.1000  Main Channel
               1117.00        230.60        0.1000
               1325.00        234.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   229.40    .985E+03        0.0         0.14     431.34
       0.40   229.60    .251E+04        0.1         0.20     298.03
       0.60   229.80    .457E+04        0.3         0.25     239.97
       0.80   230.00    .717E+04        0.6         0.29     205.17
       1.07   230.27    .754E+05        2.2         0.11     561.90
       1.33   230.53    .272E+06        8.6         0.11     527.12
       1.60   230.80    .594E+06       22.7         0.14     436.37
       1.87   231.07    .103E+07       46.2         0.16     371.32
       2.13   231.33    .158E+07       80.7         0.18     325.64
       2.40   231.60    .224E+07      127.8         0.20     291.74
       2.67   231.87    .301E+07      189.0         0.22     265.46
       2.93   232.13    .389E+07      271.8         0.25     238.27
       3.20   232.40    .481E+07      376.4         0.28     212.79
       3.47   232.67    .576E+07      496.0         0.31     193.49
       3.73   232.93    .674E+07      630.4         0.33     178.30
       4.00   233.20    .776E+07      779.4         0.36     165.99
       4.27   233.47    .881E+07      943.0         0.38     155.79
       4.53   233.73    .990E+07     1121.1         0.41     147.16
       4.80   234.00    .110E+08     1313.9         0.43     139.76

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
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     INFLOW : ID= 2 (0110) *******    76.73   26.50  60.45      2.10      0.18
     OUTFLOW: ID= 1 (0111) *******    65.99   30.75  60.45      2.02      0.17


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-------------------
| ADD HYD   (0112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0093):   381.73   2.468    26.25    66.03
       + ID2= 2 (0111): 12412.16  65.987    30.75    60.45
         ================================================
         ID = 3 (0112): 12793.89  68.291    30.50    60.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0008) |   Area    (ha)=1549.97   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=   9.10

     Unit Hyd Qpeak  (cms)=   6.679

     PEAK FLOW       (cms)=  12.417 (i)
     TIME TO PEAK    (hrs)=  20.250
     RUNOFF VOLUME    (mm)=  53.676
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.410

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0003) |   Area    (ha)=2674.44   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  13.10

     Unit Hyd Qpeak  (cms)=   8.006

     PEAK FLOW       (cms)=  17.276 (i)
     TIME TO PEAK    (hrs)=  24.500
     RUNOFF VOLUME    (mm)=  58.960
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0036) |   Area    (ha)= 280.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   9.00
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                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.62       218.48
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1366.50        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      30.11        25.49
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      19.83 (ii)   32.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.11        13.33        15.438 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=     129.88        72.88         78.01
     TOTAL RAINFALL   (mm)=     130.88       130.88        130.88
     RUNOFF COEFFICIENT   =       0.99         0.56          0.60

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (0525) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  14.0000     14.7295
                          0.9500    12.2068   |  18.7400     16.0462
                          5.4300    12.3823   |  23.5200     17.3268
                         10.1100    13.7195   |  27.3900     18.5786

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0036)    280.100     15.438     10.25      78.01
     OUTFLOW: ID= 1 (0525)    280.100      6.135     11.75      78.00

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.74
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 12.5889

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| ADD HYD   (0515) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):  2674.44  17.276    24.50    58.96
       + ID2= 2 (0525):   280.10   6.135    11.75    78.00
         ================================================
         ID = 3 (0515):  2954.54  18.149    24.50    60.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0004) |   Area    (ha)=2580.39   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  10.70

     Unit Hyd Qpeak  (cms)=   9.457

     PEAK FLOW       (cms)=  15.143 (i)
     TIME TO PEAK    (hrs)=  22.000
     RUNOFF VOLUME    (mm)=  45.129
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0046) |   Area    (ha)=  92.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  33.00
-------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.61        51.69
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     784.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      30.11        22.40
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.21 (ii)   27.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.55         2.89         5.432 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=     129.88        61.17         83.84
     TOTAL RAINFALL   (mm)=     130.88       130.88        130.88
     RUNOFF COEFFICIENT   =       0.99         0.47          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (0526) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6200     51.9904
                          0.3100    51.1099   |   6.1800     52.3852
                          1.7900    51.2815   |   7.7500     52.7331
                          3.3300    51.6636   |   9.0300     53.0736

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0046)     92.300     5.432     10.25      83.84
     OUTFLOW: ID= 1 (0526)     92.300     0.046     24.75      55.02

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.84
                   TIME SHIFT OF PEAK FLOW         (min)=870.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  7.5018

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--------------------
| ADD HYD   (0516) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0004):  2580.39  15.143    22.00    45.13
        + ID2= 2 (0526):    92.30   0.046    24.75    55.02
          ================================================
          ID = 3 (0516):  2672.69  15.188    22.00    45.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0201) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0515):  2954.54  18.149    24.50    60.76
        + ID2= 2 (0516):  2672.69  15.188    22.00    45.47
          ================================================
          ID = 3 (0201):  5627.23  33.068    23.25    53.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         239.00        0.1000
                690.00         230.00    0.1000 /0.0350  Main Channel
                691.00         229.20        0.0350      Main Channel
                692.00         229.20        0.0350      Main Channel
                693.00         229.50    0.0350 /0.1000  Main Channel
               1190.00         230.00        0.1000
               1417.00         255.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.30   229.50    .347E+04         0.4          0.84      136.57
        0.80   230.00    .864E+06        45.2          0.36      318.78
        1.30   230.50    .265E+07       274.1          0.71      161.20
        1.80   231.00    .459E+07       651.8          0.97      117.24
        2.30   231.50    .667E+07      1165.3          1.20       95.34
        2.80   232.00    .889E+07      1810.2          1.40       81.89
        3.30   232.50    .113E+08      2585.1          1.57       72.65
        3.80   233.00    .138E+08      3490.4          1.73       65.85
        4.30   233.50    .165E+08      4527.4          1.89       60.59
        4.80   234.00    .193E+08      5697.8          2.03       56.38
        5.30   234.50    .222E+08      7003.8          2.16       52.91
        5.80   235.00    .253E+08      8447.7          2.28       50.00
        6.30   235.50    .286E+08     10032.3          2.40       47.52
        6.80   236.00    .320E+08     11760.1          2.52       45.36
        7.30   236.50    .356E+08     13634.1          2.63       43.46
        7.80   237.00    .393E+08     15657.0          2.73       41.78
        8.30   237.50    .431E+08     17831.7          2.84       40.28
        8.80   238.00    .471E+08     20161.3          2.93       38.92
        9.30   238.50    .512E+08     22648.7          3.03       37.69
```

```
                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0201) 5627.23    33.07   23.25  53.50      0.66      0.42
     OUTFLOW: ID= 1 (0202) 5627.23    29.88   28.75  53.50      0.63      0.45


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--------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0008):  1549.97  12.417    20.25    53.68
        + ID2= 2 (0202):  5627.23  29.881    28.75    53.50
          ================================================
          ID = 3 (0203):  7177.20  38.709    26.00    53.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0112): 12793.89  68.291    30.50    60.62
        + ID2= 2 (0203):  7177.20  38.709    26.00    53.54
          ================================================
          ID = 3 (0301): 19971.09 105.016    29.25    58.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         240.00        0.0700
                110.00         239.00        0.0700
                161.00         238.00        0.0700
                250.00         237.00        0.0700
                420.00         236.00        0.0700
                560.00         235.00        0.0700
                589.00         234.40    0.0700 /0.0350  Main Channel
                589.10         233.60        0.0350      Main Channel
                594.00         233.60        0.0350      Main Channel
                594.10         234.40    0.0350 /0.0700  Main Channel
                615.00         235.00        0.0700
                740.00         236.00        0.0700
                860.00         236.50        0.0700
               1340.00         237.00        0.0700
               1460.00         238.00        0.0700
               1470.00         239.00        0.0700
               1510.00         240.00        0.0700

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.27   233.87    .770E+04         1.0          0.74      132.49
        0.53   234.13    .155E+05         2.9          1.10       88.48
        0.80   234.40    .234E+05         5.5          1.37       71.19
        1.15   234.75    .636E+05        11.6          1.07       91.11
        1.50   235.10    .169E+06        24.5          0.85      114.97
        1.85   235.45    .431E+06        54.5          0.74      131.62
        2.20   235.80    .882E+06       117.3          0.78      125.39
        2.55   236.15    .153E+07       218.3          0.83      117.06
        2.90   236.50    .246E+07       375.3          0.89      109.30
        3.25   236.85    .394E+07       579.0          0.86      113.45
        3.60   237.20    .612E+07      1010.3          0.97      101.01
        3.95   237.55    .851E+07      1631.3          1.12       86.99
        4.30   237.90    .111E+08      2391.8          1.27       77.05
        4.65   238.25    .137E+08      3337.5          1.42       68.52
        5.00   238.60    .164E+08      4438.7          1.58       61.71
        5.35   238.95    .192E+08      5671.0          1.73       56.40
        5.70   239.30    .220E+08      6955.1          1.85       52.75
        6.05   239.65    .249E+08      8355.2          1.96       49.76
        6.40   240.00    .280E+08      9884.7          2.07       47.18

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (0301) *******   105.02   29.25  58.07      2.13      0.77
     OUTFLOW: ID= 1 (0302) *******   103.05   31.25  58.07      2.12      0.77


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-------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):  1501.52  10.114    22.75    54.97
        + ID2= 2 (0302): 19971.09 103.054    31.25    58.07
          ============================================
          ID = 3 (0303): 21472.61 110.394    30.75    57.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0011) |   Area    (ha)=3099.17   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  11.10

     Unit Hyd Qpeak  (cms)=  10.949

     PEAK FLOW       (cms)=  19.517 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  49.909
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.381

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (0401) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         236.00        0.0500
                  72.00         235.00        0.0500
                 492.00         230.00        0.0500
                 581.00         229.20    0.0500 /0.0350  Main Channel
                 582.00         228.40        0.0350      Main Channel
                 583.00         228.40        0.0350      Main Channel
                 584.00         229.20    0.0350 /0.0500  Main Channel
                 588.00         229.20        0.0500
                 607.00         230.00        0.0500
                 627.00         235.00        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   228.67    .302E+04        0.1        0.21     666.69
       0.53   228.93    .756E+04        0.3        0.30     465.92
       0.80   229.20    .136E+05        0.6        0.37     377.99
       1.16   229.56    .111E+06        3.0        0.23     616.66
       1.52   229.92    .358E+06       11.5        0.27     519.91
       1.89   230.29    .740E+06       30.1        0.35     410.09
       2.25   230.65    .122E+07       59.5        0.41     342.49
       2.61   231.01    .180E+07      100.6        0.47     298.58
       2.97   231.37    .248E+07      154.6        0.53     267.22
       3.34   231.74    .326E+07      222.9        0.58     243.40
       3.70   232.10    .413E+07      306.6        0.63     224.51
       4.06   232.46    .510E+07      406.9        0.68     209.05
       4.42   232.82    .617E+07      524.8        0.72     196.10
       4.79   233.19    .734E+07      661.4        0.77     185.06
       5.15   233.55    .861E+07      817.9        0.81     175.49
       5.51   233.91    .998E+07      995.2        0.85     167.10
       5.87   234.27    .114E+08     1194.3        0.89     159.67
       6.24   234.64    .130E+08     1416.3        0.93     153.03
       6.60   235.00    .147E+08     1662.2        0.96     147.05

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0011) 3099.17    19.52   22.50  49.91      1.68      0.30
     OUTFLOW: ID= 1 (0401) 3099.17    14.77   29.00  49.91      1.59      0.28


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```
| CALIB            |
| NASHYD    (0014) |   Area    (ha)=2163.09   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.10
-------------------   U.H. Tp(hrs)=  25.10

     Unit Hyd Qpeak  (cms)=   3.379

     PEAK FLOW       (cms)=   8.614 (i)
     TIME TO PEAK    (hrs)=  36.500
     RUNOFF VOLUME    (mm)=  66.025
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT   =   0.504

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):  2163.09   8.614    36.50    66.03
        + ID2= 2 (0401):  3099.17  14.771    29.00    49.91
          ============================================
          ID = 3 (0402):  5262.26  22.690    30.75    56.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0501) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303): 21472.61 110.394    30.75    57.85
        + ID2= 2 (0402):  5262.26  22.690    30.75    56.53
          ============================================
          ID = 3 (0501): 26734.87 133.084    30.75    57.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (0503) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         237.00        0.0700
                 425.00         235.00        0.0700
                 445.00         234.00        0.0700
                 480.00         233.50        0.0700
                1535.00         233.50    0.0700 /0.0350  Main Channel
                1536.50         232.70        0.0350      Main Channel
                1537.50         232.70        0.0350      Main Channel
                1540.00         233.50    0.0350 /0.0700  Main Channel
                1605.00         233.20        0.0700
                1610.00         233.10        0.0700
                2135.00         233.10        0.0700
                2440.00         233.50        0.0700
                2505.00         233.50        0.0700
                2530.00         234.00        0.0700
                2535.00         235.00        0.0700
                2540.00         236.00        0.0700
                2605.00         238.00        0.0700
                2645.00         241.00        0.0700

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   232.90    .385E+03        0.2        0.55      38.92
       0.40   233.10    .103E+04        0.6        0.80      26.75
       0.60   233.30    .159E+06       39.5        0.32      67.02
       0.80   233.50    .366E+06      133.3        0.47      45.74
       1.03   233.73    .977E+06      428.7        0.56      37.97
       1.27   233.97    .160E+07      914.3        0.74      29.09
       1.50   234.20    .222E+07     1556.9        0.90      23.78
       1.73   234.43    .285E+07     2336.2        1.05      20.32
       1.97   234.67    .348E+07     3240.2        1.20      17.88
       2.20   234.90    .411E+07     4260.9        1.33      16.07
       2.43   235.13    .474E+07     5359.1        1.45      14.75
       2.67   235.37    .539E+07     6537.6        1.56      13.74
       2.90   235.60    .605E+07     7819.4        1.66      12.90
       3.13   235.83    .673E+07     9203.8        1.76      12.19
```

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      3.37   236.07    .743E+07   10683.6          1.85      11.59
      3.60   236.30    .814E+07   12247.8          1.93      11.07
      3.83   236.53    .887E+07   13912.8          2.01      10.62
      4.07   236.77    .961E+07   15679.0          2.09      10.22
      4.30   237.00    .104E+08   17546.8          2.17       9.85

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0501) *******   133.08   30.75  57.59      0.80      0.47
    OUTFLOW: ID= 1 (0503) *******   133.24   31.00  57.59      0.80      0.47


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--------------------
| RESERVOIR (0510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  27.8300     83.9600
                          3.8000    14.0500   |  *******    101.7400
                         11.0800    33.6500   |  *******    145.2700
                         20.8900    61.8900   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0503)   ********    133.237     31.00      57.59
    OUTFLOW: ID= 1 (0510)   ********    133.204     31.25      57.59

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.97
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 87.0230

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--------------------
| ROUTE CHN (0513) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        237.00        0.0700
               425.00        235.00        0.0700
               445.00        234.00        0.0700
               480.00        233.50        0.0700
              1535.00        233.50    0.0700 /0.0350  Main Channel
              1536.50        232.70        0.0350      Main Channel
              1537.50        232.70        0.0350      Main Channel
              1540.00        233.50    0.0350 /0.0700  Main Channel
              1605.00        233.20        0.0700
              1610.00        233.10        0.0700
              2135.00        233.10        0.0700
              2440.00        233.50        0.0700
              2505.00        233.50        0.0700
              2530.00        234.00        0.0700
              2535.00        235.00        0.0700
              2540.00        236.00        0.0700
              2605.00        238.00        0.0700
              2645.00        241.00        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   232.90    .291E+03       0.2          0.55      29.43
      0.40   233.10    .777E+03       0.6          0.80      20.23
      0.60   233.30    .120E+06      39.5          0.32      50.68
      0.80   233.50    .277E+06     133.3          0.47      34.59
      1.03   233.73    .739E+06     428.7          0.56      28.72
      1.27   233.97    .121E+07     914.3          0.74      22.00
      1.50   234.20    .168E+07    1556.9          0.90      17.98
      1.73   234.43    .215E+07    2336.2          1.05      15.37
      1.97   234.67    .263E+07    3240.2          1.20      13.52
      2.20   234.90    .311E+07    4260.9          1.33      12.15
      2.43   235.13    .359E+07    5359.1          1.45      11.15
      2.67   235.37    .408E+07    6537.6          1.56      10.39
      2.90   235.60    .458E+07    7819.4          1.66       9.76
      3.13   235.83    .509E+07    9203.8          1.76       9.22
      3.37   236.07    .562E+07   10683.6          1.85       8.76
      3.60   236.30    .615E+07   12247.8          1.93       8.37
      3.83   236.53    .670E+07   13912.8          2.01       8.03
      4.07   236.77    .727E+07   15679.0          2.09       7.73
      4.30   237.00    .784E+07   17546.8          2.17       7.45

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0510) *******   133.20   31.25  57.59      0.80      0.47
    OUTFLOW: ID= 1 (0513) *******   133.07   31.50  57.59      0.80      0.46


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0504) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0015):  1059.88  11.257    20.25    72.08
       + ID2= 2 (0513): 26734.87 133.072    31.50    57.59
         ================================================
         ID = 3 (0504): 27794.75 138.630    30.25    58.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0505) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0013):  1627.59   9.275    27.00    60.33
       + ID2= 2 (0504): 27794.75 138.630    30.25    58.14
         ================================================
         ID = 3 (0505): 29422.34 147.564    30.25    58.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0506) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        251.00        0.0500
               323.00        238.00        0.0500
               400.00        229.00        0.0500
               545.00        228.00        0.0500
               602.00        226.00        0.0500
               604.00        225.80    0.0500 /0.0350  Main Channel
               605.00        225.00        0.0350      Main Channel
               609.00        225.00        0.0350      Main Channel
               610.00        225.80    0.0350 /0.0500  Main Channel
               614.00        226.00        0.0500
               650.00        227.00        0.0500
               810.00        229.50        0.0500
              1855.00        240.00        0.0500
              2617.00        259.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.80   225.80    .292E+05       3.5          0.87     139.36
      2.13   227.13    .441E+06      50.6          0.84     145.20
      3.45   228.45    .197E+07     262.2          0.97     125.42
      4.78   229.78    .557E+07     971.2          1.27      95.57
      6.11   231.11    .106E+08    2326.5          1.61      75.63
      7.43   232.43    .169E+08    4425.6          1.90      63.77
      8.76   233.76    .247E+08    7361.8          2.17      55.90
     10.08   235.08    .338E+08   11229.7          2.42      50.22
     11.41   236.41    .444E+08   16121.0          2.65      45.87
     12.74   237.74    .563E+08   22124.8          2.86      42.40
     14.06   239.06    .697E+08   29005.2          3.03      40.02
     15.39   240.39    .846E+08   37433.0          3.23      37.66
     16.72   241.72    .101E+09   47908.6          3.47      34.97
     18.04   243.04    .117E+09   59742.1          3.71      32.73
     19.37   244.37    .135E+09   72949.0          3.94      30.83
     20.69   245.69    .153E+09   87549.6          4.16      29.20
     22.02   247.02    .173E+09   *******          4.37      27.79
     23.35   248.35    .193E+09   *******          4.58      26.55
     24.67   249.67    .214E+09   *******          4.77      25.45

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0505) *******   147.56   30.25  58.26      2.73      0.89
    OUTFLOW: ID= 1 (0506) *******   143.99   33.25  58.26      2.70      0.89


--------------------------------------------------------------------------------
```

```
--------------------
| RESERVOIR (0512) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******     16.2850
                        27.2000     3.7650   |  *******     20.9160
                        76.8000     7.7410   |  *******     25.9120
                        *******    11.0650   |  *******     36.6600
                        *******    11.9150   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0506)   ********    143.991     33.25      58.26
     OUTFLOW: ID= 1 (0512)   ********    144.070     33.25      58.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.05
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 11.1202

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (0514) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        230.00        0.0500
                400.00        229.00        0.0500
                545.00        228.00        0.0500
                602.00        226.00        0.0500
                604.00        225.80    0.0500 /0.0350  Main Channel
                605.00        225.00        0.0350      Main Channel
                609.00        225.00        0.0350      Main Channel
                610.00        225.80    0.0350 /0.0500  Main Channel
                614.00        226.00        0.0500
                650.00        227.00        0.0500
                810.00        229.50        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   225.20    .243E+04       0.3          0.39     121.91
       0.40   225.40    .515E+04       1.1          0.59      80.58
       0.60   225.60    .815E+04       2.1          0.74      64.02
       0.80   225.80    .114E+05       3.5          0.87      54.69
       1.05   226.05    .184E+05       6.1          0.94      50.48
       1.29   226.29    .346E+05      10.3          0.85      55.99
       1.54   226.54    .620E+05      17.4          0.80      59.38
       1.79   226.79    .101E+06      28.3          0.81      59.18
       2.03   227.03    .151E+06      43.8          0.83      57.35
       2.28   227.28    .215E+06      63.9          0.85      55.99
       2.53   227.53    .295E+06      91.4          0.89      53.82
       2.77   227.77    .391E+06     127.0          0.93      51.35
       3.02   228.02    .504E+06     170.6          0.97      49.24
       3.27   228.27    .644E+06     215.5          0.96      49.84
       3.51   228.51    .821E+06     279.7          0.97      48.92
       3.76   228.76    .103E+07     363.1          1.00      47.47
       4.01   229.01    .128E+07     466.2          1.04      45.89
       4.25   229.25    .159E+07     572.0          1.03      46.41
       4.50   229.50    .198E+07     719.1          1.04      45.95

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0512) *******   144.07   33.25  58.26      2.87      0.94
     OUTFLOW: ID= 1 (0514) *******   143.57   34.00  58.26      2.86      0.94


-------------------------------------------------------------------------------

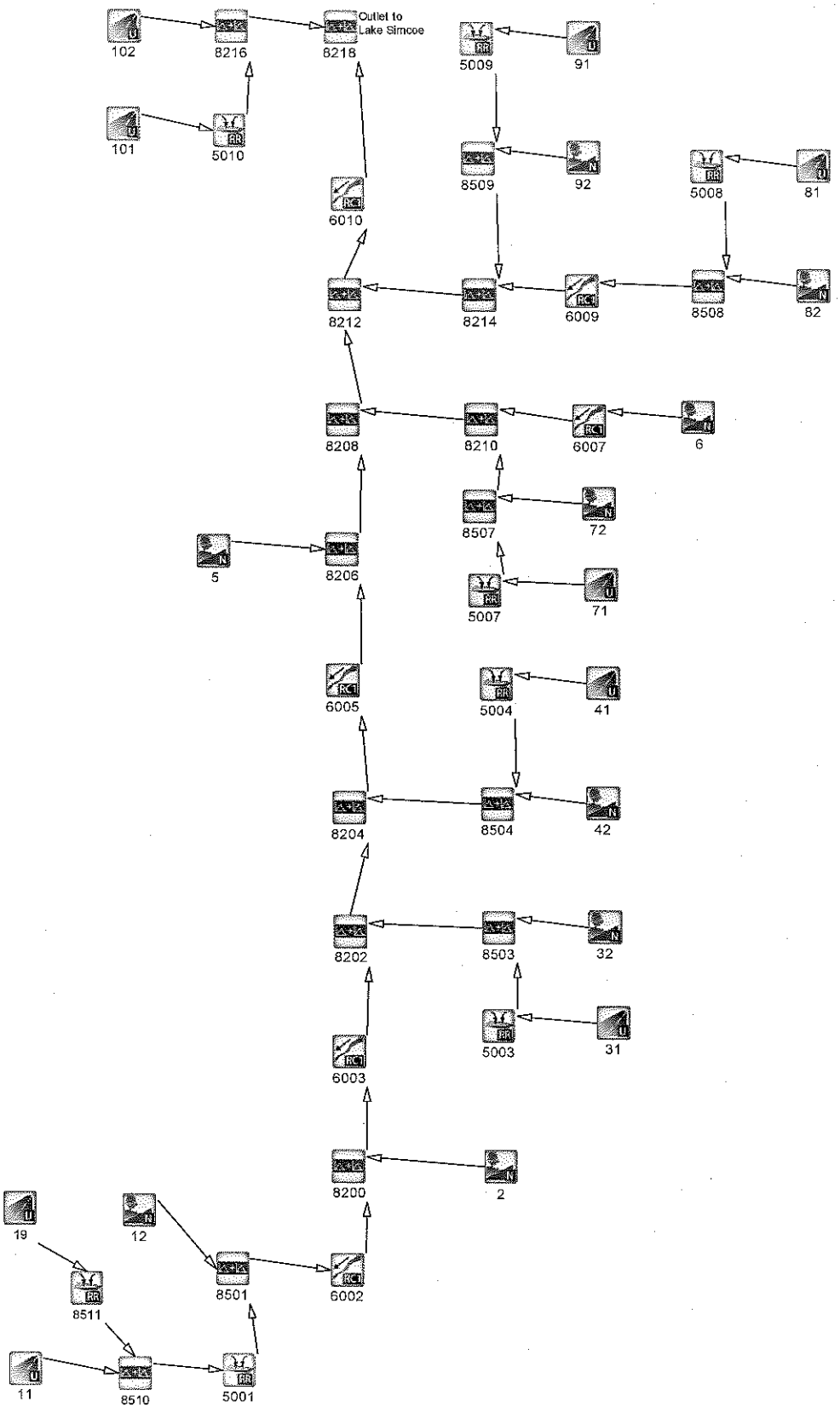
--------------------
| ADD HYD   (0507) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0016):  3094.49  18.718    29.50    73.66
        + ID2= 2 (0514): 29422.34 143.567    34.00    58.26
          ================================================
          ID = 3 (0507): 32516.83 161.383    33.50    59.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

FINISH

==========

MASKINONGE RIVER SUBWATERSHED



FUTURE
MASKINONGE RIVER 2-100 YEAR STORMS

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                 Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\ad939110-f7bb-4285-9226-bce91a941061\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\ad939110-f7bb-4285-9226-bce91a941061\Scenario.sum

DATE: 08/22/2012                          TIME: 02:19:42

USER:

COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              ad939110-f7bb-4285-9226-bce91a941061\343e2ee8
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	1.05	3.25	1.68	6.25	7.56	9.25	1.47
0.50	1.05	3.50	1.68	6.50	7.56	9.50	1.47
0.75	1.05	3.75	1.68	6.75	3.36	9.75	1.47
1.00	1.05	4.00	1.68	7.00	3.36	10.00	1.47
1.25	1.05	4.25	2.52	7.25	2.52	10.25	0.84
1.50	1.05	4.50	2.52	7.50	2.52	10.50	0.84
1.75	1.05	4.75	3.36	7.75	2.52	10.75	0.84
2.00	1.05	5.00	3.36	8.00	2.52	11.00	0.84
2.25	1.26	5.25	5.04	8.25	1.47	11.25	0.84
2.50	1.26	5.50	5.04	8.50	1.47	11.50	0.84
2.75	1.26	5.75	20.16	8.75	1.47	11.75	0.84
3.00	1.26	6.00	55.44	9.00	1.47	12.00	0.84

```
--------------------
| CALIB            |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.74	5.79
Dep. Storage	(mm)=	0.80	2.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	264.95	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	26.42
over (min)		15.00	30.00
Storage Coeff.	(min)=	5.80 (ii)	17.82 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.10	0.05

		TOTALS
PEAK FLOW	(cms)=	0.23	0.23	0.373 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	41.20	11.45	15.91
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.27	0.38

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  61.7    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |
--------------------
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.7050	0.2743
0.0360	0.1287	0.8850	0.3136
0.2040	0.1489	1.0300	0.3521
0.3800	0.1922	1.4300	0.3621
0.5270	0.2294	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0081)	10.530	0.373	6.00	15.91
OUTFLOW: ID= 1 (5008)	10.530	0.032	8.25	15.83

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.46
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1129
```

```
--------------------
| CALIB            |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=   2.300 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.355
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0082):	402.65	2.300	7.75	8.35
+ ID2= 2 (5008):	10.53	0.032	8.25	15.83
ID = 3 (8508):	413.18	2.332	7.75	8.55

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (9.1) ------> Distance	Elevation	Manning	
0.00	232.41	0.0600	
16.80	232.21	0.0600	
28.00	231.55	0.0600	
117.61	229.36	0.0600	
235.21	228.08	0.0600	
296.81	226.96	0.0600	
316.00	226.17	0.0600	
326.00	226.17	0.0600	
332.00	226.04	0.0600 /0.0350	Main Channel
335.50	225.16	0.0350	Main Channel
336.00	225.08	0.0350	Main Channel
337.00	225.08	0.0350	Main Channel
337.90	225.21	0.0350	Main Channel
339.90	225.93	0.0350 /0.0600	Main Channel
345.00	226.28	0.0600	
358.42	226.57	0.0600	
403.22	227.73	0.0600	
448.02	229.07	0.0600	
492.82	230.51	0.0600	
554.43	232.28	0.0600	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	225.36	.255E+04	0.3	0.37	160.52
0.57	225.65	.719E+04	1.1	0.55	107.34
0.85	225.93	.138E+05	2.7	0.70	85.08
1.25	226.33	.405E+05	7.8	0.69	86.59
1.64	226.72	.109E+06	20.0	0.65	91.15
2.04	227.12	.216E+06	41.2	0.68	87.34
2.44	227.52	.372E+06	74.8	0.72	82.92

```
      2.83   227.91    .580E+06     125.6          0.77      77.03
      3.23   228.31    .842E+06     193.5          0.82      72.57
      3.63   228.71    .117E+07     284.7          0.87      68.66
      4.02   229.10    .157E+07     405.4          0.92      64.71
      4.42   229.50    .204E+07     564.5          0.99      60.30
      4.82   229.90    .256E+07     766.1          1.07      55.64
      5.22   230.30    .311E+07    1001.2          1.15      51.82
      5.61   230.69    .371E+07    1269.8          1.22      48.68
      6.01   231.09    .435E+07    1573.3          1.29      46.05
      6.41   231.49    .503E+07    1914.5          1.36      43.77
      6.80   231.88    .575E+07    2314.0          1.44      41.39
      7.20   232.28    .650E+07    2741.3          1.50      39.49

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8508)  413.18     2.33    7.75   8.55      0.78      0.66
OUTFLOW: ID= 1 (6009)  413.18     1.65    8.75   8.54      0.66      0.60


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.66          5.66
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     274.71         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         26.42
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.93 (ii)   17.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.33          0.22          0.468 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      41.20         11.08         17.10
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.26          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5009) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7570      0.3065
                          0.0380     0.1497   |   0.9510      0.3465
                          0.2190     0.1748   |   1.1070      0.3857
                          0.4090     0.2196   |   1.5070      0.3957
                          0.5670     0.2594   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0091)     11.320      0.468      6.00      17.10
     OUTFLOW: ID= 1 (5009)     11.320      0.034      8.25      17.01

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.23
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1334

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 60.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW       (cms)=   1.951 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   7.676
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```

```
--------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0092):   451.25   1.951     8.25     7.68
        + ID2= 2 (5009):    11.32   0.034     8.25    17.01
          ================================================
          ID = 3 (8509):   462.57   1.985     8.25     7.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6009):   413.18   1.651     8.75     8.54
        + ID2= 2 (8509):   462.57   1.985     8.25     7.90
          ================================================
          ID = 3 (8214):   875.75   3.589     8.50     8.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14          1.40
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     130.13         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         24.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       3.79 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06          0.05          0.091 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      41.20         10.61         15.20
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.25          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     219.46        268.24
     Dep. Storage     (mm)=       0.80          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1803.15         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         21.17
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      18.34 (ii)   31.48 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      17.47          5.76         19.769 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      41.20         11.76         22.06
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.28          0.53


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (8511) |
| IN= 2---> OUT= 1 |
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| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  24.3900     10.5911
                         1.6600     5.9307   |  32.6300     12.6704
                         9.4600     6.8569   |  40.9700     14.4958
                        17.6100     8.8657   |  47.7000     16.2820

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     19.769      6.00      22.06
     OUTFLOW: ID= 1 (8511)    487.700      5.103      7.25      22.06

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.82
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  6.3679

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| ADD HYD   (8510) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0011):     2.54   0.091     6.00    15.20
        + ID2= 2 (8511):   487.70   5.103     7.25    22.06
          ================================================
          ID = 3 (8510):   490.24   5.116     7.25    22.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5001) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6830     11.8298
                         0.0540     0.1960   |   5.4380     13.3066
                         1.2810     6.8008   |   6.1990     14.9402
                         2.5090     8.6037   |   6.5990     14.9502
                         3.4630     9.9865   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240      5.116      7.25      22.02
     OUTFLOW: ID= 1 (5001)    490.240      0.900     17.50      22.02

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.59
                    TIME SHIFT OF PEAK FLOW         (min)=615.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.7497

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| CALIB            |
| NASHYD    (0012) |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=   2.619 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   7.728
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0012):   630.33   2.619     8.50     7.73
        + ID2= 2 (5001):   490.24   0.900    17.50    22.02
          ================================================
          ID = 3 (8501):  1120.57   3.161     8.50    13.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (   2.1) ------>
              Distance      Elevation       Manning
                 0.00         235.70        0.0700
                15.10         235.42        0.0700
                30.21         235.01        0.0700
                37.76         234.49        0.0700
                45.31         231.43        0.0700
                56.64         231.55        0.0700
                98.18         229.87        0.0700
               117.06         229.64        0.0700
               124.61         229.03    0.0700 /0.0300  Main Channel
               128.38         228.69        0.0300      Main Channel
               132.16         228.58        0.0300      Main Channel
               143.49         228.98    0.0300 /0.0700  Main Channel
               158.59         229.36        0.0700
               181.25         229.58        0.0700
               200.13         229.96        0.0700
               237.89         231.19        0.0700
               268.09         232.60        0.0700
               302.08         233.40        0.0700
               332.29         234.25        0.0700
               373.82         235.68        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   228.78    .639E+04        0.3         0.26     359.77
      0.40   228.98    .222E+05        1.6         0.40     227.92
      0.79   229.37    .842E+05        9.7         0.63     145.25
      1.19   229.77    .218E+06       25.5         0.65     142.16
      1.58   230.16    .441E+06       53.8         0.67     136.74
      1.98   230.56    .715E+06       94.9         0.73     125.69
      2.37   230.95    .104E+07      148.9         0.79     116.12
      2.76   231.34    .141E+07      217.2         0.85     107.88
      3.16   231.74    .183E+07      299.4         0.90     101.81
      3.55   232.13    .228E+07      403.8         0.97      94.28
      3.95   232.53    .276E+07      523.3         1.04      87.91
      4.34   232.92    .326E+07      650.4         1.10      83.62
      4.74   233.32    .380E+07      792.5         1.15      79.99
      5.13   233.71    .438E+07      954.7         1.20      76.48
      5.52   234.10    .499E+07     1134.7         1.25      73.30
      5.92   234.50    .563E+07     1334.6         1.31      70.34
      6.31   234.89    .631E+07     1540.4         1.35      68.23
      6.71   235.29    .702E+07     1746.8         1.37      67.00
      7.10   235.68    .780E+07     1958.9         1.38      66.34

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57     3.16    8.50  13.98      0.48      0.43
     OUTFLOW: ID= 1 (6002) 1120.57     1.95   11.75  13.98      0.42      0.41

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| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   2.458 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=   7.078
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0002):   869.77   2.458     9.75     7.08
        + ID2= 2 (6002):  1120.57   1.946    11.75    13.98
          ================================================
          ID = 3 (8200):  1990.34   4.254    10.50    10.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (   3.1) ------>
              Distance      Elevation       Manning
                 0.00         234.33        0.0700
                50.41         229.32        0.0700
                94.52         227.15        0.0700
               113.42         226.02        0.0700
               116.57         225.86        0.0700
               125.32         224.53        0.0700
               130.32         224.24    0.0700 /0.0300  Main Channel
               130.82         223.78        0.0300      Main Channel
               131.82         223.63        0.0300      Main Channel
               132.42         223.79        0.0300      Main Channel
               133.42         224.43    0.0300 /0.0700  Main Channel
               163.83         226.19        0.0700
               189.03         227.19        0.0700
               229.99         228.02        0.0700
               270.95         228.65        0.0700
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                286.70        229.01        0.0700
                305.61        229.31        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.20   223.83    .564E+03        0.1          0.26     175.53
        0.41   224.04    .168E+04        0.3          0.44     105.08
        0.61   224.24    .309E+04        0.6          0.56      82.17
        0.93   224.56    .847E+04        1.8          0.57      80.17
        1.24   224.87    .209E+05        4.1          0.54      84.69
        1.56   225.19    .399E+05        8.0          0.55      83.36
        1.88   225.51    .654E+05       13.7          0.57      79.74
        2.19   225.82    .976E+05       21.5          0.61      75.55
        2.51   226.14    .138E+06       31.1          0.62      73.71
        2.83   226.46    .188E+06       43.6          0.64      71.92
        3.15   226.78    .250E+06       59.8          0.66      69.63
        3.46   227.09    .324E+06       80.5          0.68      67.03
        3.78   227.41    .411E+06      103.4          0.69      66.15
        4.10   227.73    .516E+06      132.2          0.70      65.13
        4.41   228.04    .642E+06      168.2          0.72      63.59
        4.73   228.36    .788E+06      210.4          0.73      62.46
        5.05   228.68    .959E+06      262.8          0.75      60.81
        5.36   228.99    .115E+07      328.9          0.79      58.23
        5.68   229.31    .136E+07      401.2          0.81      56.49

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34     4.25   10.50  10.96      1.26      0.54
     OUTFLOW: ID= 1 (6003) 1990.34     3.82   12.00  10.96      1.21      0.54


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| CALIB           |
| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05          2.18
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     203.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         19.56
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       4.96 (ii)   18.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.44          0.06          0.475 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      41.20          8.75          24.00
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.21           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  53.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4170     0.1860
                         0.0210     0.0993   |   0.5230     0.2047
                         0.1210     0.1182   |   0.6090     0.2231
                         0.2250     0.1402   |   1.0090     0.2331
                         0.3120     0.1619   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)     6.230     0.475      6.00      24.00
     OUTFLOW: ID= 1 (5003)     6.230     0.040      7.00      23.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.32
                TIME SHIFT OF PEAK FLOW          (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1031

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-------------------
| CALIB           |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW       (cms)=   1.629 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   6.936
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0032):   461.62   1.629     8.50     6.94
        + ID2= 2 (5003):     6.23   0.040     7.00    23.81
          ================================================
          ID = 3 (8503):   467.85   1.654     8.50     7.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6003):  1990.34   3.825    12.00    10.96
        + ID2= 2 (8503):   467.85   1.654     8.50     7.16
          ================================================
          ID = 3 (8202):  2458.19   4.741    11.00    10.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50          4.16
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     240.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         20.51
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       5.47 (ii)   18.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.28          0.12          0.357 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      41.20          8.56          15.74
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.20           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  50.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5790     0.2368
                         0.0290     0.1168   |   0.7270     0.2669
                         0.1680     0.1367   |   0.8470     0.2965
                         0.3120     0.1706   |   1.2470     0.3065
                         0.4330     0.2010   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)     8.660     0.357      6.00      15.74
     OUTFLOW: ID= 1 (5004)     8.660     0.023      8.25      15.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.56
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0945

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-------------------
| CALIB           |
| NASHYD    (0042) |   Area    (ha)= 376.06   Curve Number   (CN)= 53.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.62
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     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW       (cms)=   1.522 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.954
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.142

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   376.06   1.522     7.75     5.95
       + ID2= 2 (5004):     8.66   0.023     8.25    15.62
         ================================================
         ID = 3 (8504):   384.72   1.545     7.75     6.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8202):  2458.19   4.741    11.00    10.24
       + ID2= 2 (8504):   384.72   1.545     7.75     6.17
         ================================================
         ID = 3 (8204):  2842.91   5.312    10.50     9.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   5.1) ------>
              Distance      Elevation       Manning
                  0.00         225.02        0.0400
                 20.58         224.79        0.0400
                 35.54         223.93        0.0400
                 48.64         223.09        0.0400
                 59.86         222.15        0.0400
                 67.35         221.11        0.0400
                 76.41         219.63    0.0400 /0.0350  Main Channel
                 82.81         218.53        0.0350      Main Channel
                 85.41         218.50        0.0350      Main Channel
                 86.78         218.50        0.0350      Main Channel
                 88.15         218.50        0.0350      Main Channel
                 93.45         218.71        0.0350      Main Channel
                103.45         218.94    0.0350 /0.0400  Main Channel
                109.45         219.25        0.0400
                114.11         220.15        0.0400
                123.47         221.73        0.0400
                136.56         223.41        0.0400
                153.40         224.15        0.0400
                170.24         224.55        0.0400
                185.20         224.54        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.22   218.72    .640E+04         0.5          0.28     204.26
       0.44   218.94    .198E+05         2.2          0.39     147.20
       0.77   219.27    .507E+05         9.3          0.63      91.02
       1.10   219.60    .880E+05        20.9          0.82      70.26
       1.43   219.93    .130E+06        37.7          1.00      57.26
       1.76   220.26    .175E+06        59.1          1.16      49.43
       2.09   220.59    .226E+06        85.1          1.30      44.19
       2.42   220.92    .280E+06       115.8          1.43      40.35
       2.75   221.25    .340E+06       151.3          1.54      37.40
       3.08   221.58    .404E+06       191.9          1.64      35.06
       3.40   221.90    .473E+06       237.5          1.73      33.19
       3.73   222.23    .548E+06       288.1          1.82      31.68
       4.06   222.56    .629E+06       344.1          1.89      30.48
       4.39   222.89    .718E+06       406.8          1.96      29.43
       4.72   223.22    .815E+06       476.1          2.02      28.52
       5.05   223.55    .920E+06       547.9          2.06      28.00
       5.38   223.88    .104E+07       624.5          2.07      27.74
       5.71   224.21    .117E+07       710.0          2.09      27.54
       6.04   224.54    .133E+07       800.8          2.08      27.62

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91     5.31   10.50   9.69      0.58      0.47
     OUTFLOW: ID= 1 (6005) 2842.91     4.72   12.50   9.69      0.56      0.45
```

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0005) |   Area    (ha)= 340.11   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972

     PEAK FLOW       (cms)=   1.781 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  10.335
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):   340.11   1.781     8.75    10.34
       + ID2= 2 (6005):  2842.91   4.725    12.50     9.69
         ================================================
         ID = 3 (8206):  3183.02   5.616    11.50     9.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1375.77   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW       (cms)=   3.064 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=   6.309
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   7.1) ------>
              Distance      Elevation       Manning
                  0.00         225.91        0.0700
                 51.88         225.32        0.0700
                135.69         224.23        0.0700
                183.58         223.08        0.0700
                211.52         223.28        0.0700
                223.49         222.51        0.0700
                231.43         220.69        0.0700
                244.53         219.78    0.0700 /0.0500  Main Channel
                249.23         219.60        0.0500      Main Channel
                249.93         219.46        0.0500      Main Channel
                251.43         219.23        0.0500      Main Channel
                253.50         219.70    0.0500 /0.0700  Main Channel
                261.10         219.90        0.0700
                271.38         221.01        0.0700
                283.36         223.77        0.0700
                295.33         224.21        0.0700
                331.25         226.04        0.0700
                351.20         227.76        0.0700
                371.16         227.49        0.0700
                395.10         228.55        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       0.23   219.46    .112E+04         0.0          0.16     375.56
       0.47   219.70    .471E+04         0.3          0.22     277.80
       0.84   220.07    .267E+05         2.4          0.34     184.45
       1.20   220.43    .626E+05         7.4          0.44     140.97
       1.57   220.80    .110E+06        15.6          0.52     117.94
       1.93   221.16    .165E+06        27.4          0.61     100.71
       2.30   221.53    .225E+06        42.6          0.70      88.16
       2.66   221.89    .290E+06        60.9          0.78      79.20
       3.03   222.26    .358E+06        82.4          0.85      72.44
       3.39   222.62    .431E+06       106.0          0.91      67.79
       3.76   222.99    .513E+06       131.5          0.95      65.01
       4.12   223.35    .628E+06       149.2          0.88      70.14
       4.49   223.72    .788E+06       191.4          0.90      68.58
       4.85   224.08    .974E+06       232.1          0.88      69.94
       5.22   224.45    .120E+07       283.2          0.88      70.45
       5.58   224.81    .147E+07       347.5          0.88      70.32
       5.95   225.18    .178E+07       427.9          0.89      69.46
```

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      6.31   225.54    .215E+07     523.9          0.90      68.38
      6.68   225.91    .257E+07     638.4          0.92      67.05

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (0006) 1375.77     3.06  10.50   6.31     0.88      0.35
    OUTFLOW: ID= 1 (6007) 1375.77     2.36  13.00   6.31     0.83      0.33


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--------------------
| CALIB            |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        28.11
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.64 (ii)   18.36 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.40         0.36          0.626 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      41.20        12.00         16.96
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.29          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.9     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1020      0.4341
                          0.0560     0.2063   |   1.3830      0.4946
                          0.3190     0.2394   |   1.6100      0.5538
                          0.5940     0.3063   |   2.0100      0.5638
                          0.8240     0.3645   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0071)    16.470     0.626     6.00      16.96
     OUTFLOW: ID= 1 (5007)    16.470     0.051     8.25      16.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.22
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1896

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------  U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   2.154 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=   8.614
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0072):   539.30   2.154    9.00     8.61
      + ID2= 2 (5007):    16.47   0.051    8.25    16.90
        ================================================
        ID = 3 (8507):   555.77   2.205    9.00     8.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6007):  1375.77   2.364    13.00     6.31
      + ID2= 2 (8507):   555.77   2.205     9.00     8.86
        ================================================
        ID = 3 (8210):  1931.54   3.658    11.25     7.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8206):  3183.02   5.616    11.50     9.76
      + ID2= 2 (8210):  1931.54   3.658    11.25     7.04
        ================================================
        ID = 3 (8208):  5114.56   9.271    11.25     8.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8208):  5114.56   9.271    11.25     8.73
      + ID2= 2 (8214):   875.75   3.589     8.50     8.21
        ================================================
        ID = 3 (8212):  5990.31  11.676    10.00     8.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (  10.1) ------>
               Distance      Elevation        Manning
                  0.00         223.78         0.0400
                 10.97         224.70         0.0400
                 60.32         222.23         0.0400
                104.19         219.90         0.0400
                126.13         219.00         0.0400
                134.36         218.90    0.0400 /0.0330  Main Channel
                137.10         218.41         0.0330      Main Channel
                139.84         218.30         0.0330      Main Channel
                142.58         216.76         0.0330      Main Channel
                145.32         216.74         0.0330      Main Channel
                148.07         216.71         0.0330      Main Channel
                150.81         217.11         0.0330      Main Channel
                153.55         218.40         0.0330      Main Channel
                156.29         219.01    0.0330 /0.0400  Main Channel
                159.03         219.52         0.0400
                167.26         219.89         0.0400
                170.00         220.09         0.0400
                183.71         221.31         0.0400
                200.16         223.39         0.0400
                271.45         224.04         0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.36   217.07    .680E+04        0.9          0.36     129.75
      0.73   217.44    .165E+05        3.4          0.58      81.12
      1.09   217.81    .278E+05        7.3          0.75      63.18
      1.46   218.17    .405E+05       12.6          0.88      53.42
      1.83   218.54    .561E+05       17.7          0.90      52.70
      2.19   218.90    .764E+05       26.2          0.97      48.52
      2.64   219.35    .118E+06       44.8          1.07      44.04
      3.08   219.79    .180E+06       71.5          1.13      41.83
      3.53   220.24    .264E+06      109.3          1.17      40.26
      3.97   220.68    .366E+06      159.0          1.23      38.34
      4.42   221.13    .485E+06      221.7          1.30      36.43
      4.87   221.58    .620E+06      298.8          1.37      34.58
      5.31   222.02    .771E+06      391.1          1.44      32.85
      5.76   222.47    .937E+06      498.7          1.51      31.30
      6.21   222.92    .112E+07      622.7          1.58      29.93
      6.65   223.36    .132E+07      764.2          1.65      28.69
      7.10   223.81    .155E+07      878.9          1.60      29.46
      7.54   224.25    .186E+07     1057.1          1.61      29.35
      7.99   224.70    .220E+07     1291.1          1.67      28.35

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8212) 5990.31    11.68  10.00   8.66     1.39      0.86
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     OUTFLOW: ID= 1 (6010) 5990.31    11.27   11.00   8.66      1.36      0.84


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| CALIB           |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      99.40       112.09
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1187.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        18.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.27 (ii)   28.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.30         2.40          7.765 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      41.20         8.80         17.22
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.21          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.64        70.63
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     942.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        18.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.43 (ii)   26.39 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.19         1.57          5.150 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      41.20         8.80         17.22
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.21          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5010) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   6.8040      3.7679
                        1.3970     1.4119    |   8.2460      4.4558
                        3.2730     2.3774    |  10.2760      4.7276
                        5.2480     3.0364    |  10.6760      4.7376

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)    133.270      5.150      6.00      17.22
     OUTFLOW: ID= 1 (5010)    133.270      1.105      7.00      17.22

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.46
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1208

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-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0102):   211.49   7.765     6.00    17.22
     + ID2= 2 (5010):   133.27   1.105     7.00    17.22
       ==========================================================
       ID = 3 (8216):   344.76   8.316     6.00    17.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6010):  5990.31  11.275    11.00     8.66
     + ID2= 2 (8216):   344.76   8.316     6.00    17.22
       ==========================================================
       ID = 3 (8218):  6335.07  12.096    10.75     9.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   2 **
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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              ad939110-f7bb-4285-9226-bce91a941061\fc72785f
| Ptotal= 54.40 mm |   Comments: 5-Year 12-Hour SCS II Design Storm
-------------------

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.36 |  3.25    2.18 |  6.25    9.79 |  9.25    1.90
               0.50    1.36 |  3.50    2.18 |  6.50    9.79 |  9.50    1.90
               0.75    1.36 |  3.75    2.18 |  6.75    4.35 |  9.75    1.90
               1.00    1.36 |  4.00    2.18 |  7.00    4.35 | 10.00    1.90
               1.25    1.36 |  4.25    3.26 |  7.25    3.26 | 10.25    1.09
               1.50    1.36 |  4.50    3.26 |  7.50    3.26 | 10.50    1.09
               1.75    1.36 |  4.75    4.35 |  7.75    3.26 | 10.75    1.09
               2.00    1.36 |  5.00    4.35 |  8.00    3.26 | 11.00    1.09
               2.25    1.63 |  5.25    6.53 |  8.25    1.90 | 11.25    1.09
               2.50    1.63 |  5.50    6.53 |  8.50    1.90 | 11.50    1.09
               2.75    1.63 |  5.75   26.11 |  8.75    1.90 | 11.75    1.09
               3.00    1.63 |  6.00   71.81 |  9.00    1.90 | 12.00    1.09

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| CALIB           |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.74         5.79
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     264.95        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        41.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.23 (ii)   15.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.38          0.546 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      53.60        18.00         23.34
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.99         0.33          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.7050      0.2743
                        0.0360     0.1287    |   0.8850      0.3136
                        0.2040     0.1489    |   1.0300      0.3521
                        0.3800     0.1922    |   1.4300      0.3621
                        0.5270     0.2294    |   0.0000      0.0000
```

```
                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0081)     10.530     0.546      6.00      23.34
     OUTFLOW: ID= 1 (5008)     10.530     0.142      6.75      23.25

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.03
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1422

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=   3.750 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  13.526
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT  =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0082):   402.65   3.750     7.75    13.53
      + ID2= 2 (5008):    10.53   0.142     6.75    23.25
        ==============================================
        ID = 3 (8508):   413.18   3.836     7.50    13.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   9.1) ------>
               Distance      Elevation       Manning
                  0.00         232.41        0.0600
                 16.80         232.21        0.0600
                 28.00         231.55        0.0600
                117.61         229.36        0.0600
                235.21         228.08        0.0600
                296.81         226.96        0.0600
                316.00         226.17        0.0600
                326.00         226.17        0.0600
                332.00         226.04    0.0600 /0.0350  Main Channel
                335.50         225.16        0.0350      Main Channel
                336.00         225.08        0.0350      Main Channel
                337.00         225.08        0.0350      Main Channel
                337.90         225.21        0.0350      Main Channel
                339.90         225.93    0.0350 /0.0600  Main Channel
                345.00         226.28        0.0600
                358.42         226.57        0.0600
                403.22         227.73        0.0600
                448.02         229.07        0.0600
                492.82         230.51        0.0600
                554.43         232.28        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
        0.28   225.36    .255E+04         0.3          0.37     160.52
        0.57   225.65    .719E+04         1.1          0.55     107.34
        0.85   225.93    .138E+05         2.7          0.70      85.08
        1.25   226.33    .405E+05         7.8          0.69      86.59
        1.64   226.72    .109E+06        20.0          0.65      91.15
        2.04   227.12    .216E+06        41.2          0.68      87.34
        2.44   227.52    .372E+06        74.8          0.72      82.92
        2.83   227.91    .580E+06       125.6          0.77      77.03
        3.23   228.31    .842E+06       193.5          0.82      72.57
        3.63   228.71    .117E+07       284.7          0.87      68.66
        4.02   229.10    .157E+07       405.4          0.92      64.71
        4.42   229.50    .204E+07       564.5          0.99      60.30
        4.82   229.90    .256E+07       766.1          1.07      55.64
        5.22   230.30    .311E+07      1001.2          1.15      51.82
        5.61   230.69    .371E+07      1269.8          1.22      48.68
        6.01   231.09    .435E+07      1573.3          1.29      46.05
        6.41   231.49    .503E+07      1914.5          1.36      43.77
        6.80   231.88    .575E+07      2314.0          1.44      41.39
        7.20   232.28    .650E+07      2741.3          1.50      39.49

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8508)  413.18    3.84    7.50  13.77      0.94      0.70
     OUTFLOW: ID= 1 (6009)  413.18    2.89    8.75  13.77      0.87      0.70
```

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        5.66          5.66
     Dep. Storage     (mm)=        0.80          2.50
     Average Slope     (%)=        1.00          2.00
     Length            (m)=      274.71         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81         41.85
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        5.35 (ii)    15.35 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.43          0.37          0.671 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       53.60         17.45         24.68
     TOTAL RAINFALL   (mm)=       54.40         54.40         54.40
     RUNOFF COEFFICIENT   =        0.99          0.32          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5009) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |  0.7570     0.3065
                         0.0380     0.1497   |  0.9510     0.3465
                         0.2190     0.1748   |  1.1070     0.3857
                         0.4090     0.2196   |  1.5070     0.3957
                         0.5670     0.2594   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0091)     11.320     0.671      6.00      24.68
     OUTFLOW: ID= 1 (5009)     11.320     0.149      6.75      24.59

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.17
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1658

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 60.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW       (cms)=   3.196 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.230

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0092):   451.25   3.196     8.25    12.49
      + ID2= 2 (5009):    11.32   0.149     6.75    24.59
        ==============================================
        ID = 3 (8509):   462.57   3.262     8.25    12.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6009):   413.18   2.890     8.75    13.77
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       + ID2= 2 (8509):   462.57   3.262     8.25    12.79
         ================================================
         ID = 3 (8214):   875.75   6.067     8.50    13.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0011)  |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.14         1.40
     Dep. Storage     (mm)=      0.80         2.50
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    130.13        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        38.82
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      3.42 (ii)   13.72 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.11          0.184 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=     53.60        16.78         22.30
     TOTAL RAINFALL   (mm)=     54.40        54.40         54.40
     RUNOFF COEFFICIENT   =      0.99         0.31          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0019)  |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    219.46       268.24
     Dep. Storage     (mm)=      0.80         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=   1803.15        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        34.11
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.54 (ii)   27.39 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=     23.76        10.95         30.499 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     53.60        18.82         30.99
     TOTAL RAINFALL   (mm)=     54.40        54.40         54.40
     RUNOFF COEFFICIENT   =      0.99         0.35          0.57


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (8511)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |  24.3900     10.5911
                          1.6600     5.9307    |  32.6300     12.6704
                          9.4600     6.8569    |  40.9700     14.4958
                         17.6100     8.8657    |  47.7000     16.2820

                              AREA      QPEAK     TPEAK       R.V.
                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     30.499      6.00      30.99
     OUTFLOW: ID= 1 (8511)    487.700     11.878      6.75      30.99

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.94
                    TIME SHIFT OF PEAK FLOW       (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  7.5114

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-------------------
| ADD HYD   (8510)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     2.54   0.184     6.00    22.30
       + ID2= 2 (8511):   487.70  11.878     6.75    30.99
         ================================================
         ID = 3 (8510):   490.24  11.902     6.75    30.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5001)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   4.6830     11.8298
                          0.0540     0.1960    |   5.4380     13.3066
                          1.2810     6.8008    |   6.1990     14.9402
                          2.5090     8.6037    |   6.5990     14.9502
                          3.4630     9.9865    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240    11.902      6.75      30.94
     OUTFLOW: ID= 1 (5001)    490.240     1.441     13.25      30.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.11
                    TIME SHIFT OF PEAK FLOW       (min)=390.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  7.0359

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0012)  |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=   4.285 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  12.570
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.231

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8501)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):   630.33   4.285     8.50    12.57
       + ID2= 2 (5001):   490.24   1.441    13.25    30.94
         ================================================
         ID = 3 (8501):  1120.57   5.449     8.50    20.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6002)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (   2.1) ------>
             Distance      Elevation       Manning
                0.00         235.70        0.0700
               15.10         235.42        0.0700
               30.21         235.01        0.0700
               37.76         234.49        0.0700
               45.31         231.43        0.0700
               56.64         231.55        0.0700
               98.18         229.87        0.0700
              117.06         229.64        0.0700
              124.61         229.03    0.0700 /0.0300  Main Channel
              128.38         228.69        0.0300      Main Channel
              132.16         228.58        0.0300      Main Channel
              143.49         228.98    0.0300 /0.0700  Main Channel
              158.59         229.36        0.0700
              181.25         229.58        0.0700
              200.13         229.96        0.0700
              237.89         231.19        0.0700
              268.09         232.60        0.0700
              302.08         233.40        0.0700
              332.29         234.25        0.0700
              373.82         235.68        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   228.78    .639E+04       0.3         0.26     359.77
       0.40   228.98    .222E+05       1.6         0.40     227.92
```

```
      0.79   229.37    .842E+05       9.7          0.63     145.25
      1.19   229.77    .218E+06      25.5          0.65     142.16
      1.58   230.16    .441E+06      53.8          0.67     136.74
      1.98   230.56    .715E+06      94.9          0.73     125.69
      2.37   230.95    .104E+07     148.9          0.79     116.12
      2.76   231.34    .141E+07     217.2          0.85     107.88
      3.16   231.74    .183E+07     299.4          0.90     101.81
      3.55   232.13    .228E+07     403.8          0.97      94.28
      3.95   232.53    .276E+07     523.3          1.04      87.91
      4.34   232.92    .326E+07     650.4          1.10      83.62
      4.74   233.32    .380E+07     792.5          1.15      79.99
      5.13   233.71    .438E+07     954.7          1.20      76.48
      5.52   234.10    .499E+07    1134.7          1.25      73.30
      5.92   234.50    .563E+07    1334.6          1.31      70.34
      6.31   234.89    .631E+07    1540.4          1.35      68.23
      6.71   235.29    .702E+07    1746.8          1.37      67.00
      7.10   235.68    .780E+07    1958.9          1.38      66.34

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57     5.45    8.50  20.61     0.59      0.49
     OUTFLOW: ID= 1 (6002) 1120.57     3.38   11.25  20.61     0.48      0.44


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-------------------
| CALIB             |
| NASHYD    (0002) |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   4.034 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  11.569
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0002):   869.77   4.034     9.75    11.57
       + ID2= 2 (6002):  1120.57   3.383    11.25    20.61
         ================================================
         ID = 3 (8200):  1990.34   7.220    10.25    16.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   3.1) ------>
            Distance      Elevation       Manning
                0.00         234.33        0.0700
               50.41         229.32        0.0700
               94.52         227.15        0.0700
              113.42         226.02        0.0700
              116.57         225.86        0.0700
              125.32         224.53        0.0700
              130.32         224.24    0.0700 /0.0300  Main Channel
              130.82         223.78        0.0300      Main Channel
              131.82         223.63        0.0300      Main Channel
              132.42         223.79        0.0300      Main Channel
              133.42         224.43    0.0300 /0.0700  Main Channel
              163.83         226.19        0.0700
              189.03         227.19        0.0700
              229.99         228.02        0.0700
              270.95         228.65        0.0700
              286.70         229.01        0.0700
              305.61         229.31        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)       (cu.m.)      (cms)         (m/s)      (min)
      0.20   223.83    .564E+03       0.1           0.26      175.53
      0.41   224.04    .168E+04       0.3           0.44      105.08
      0.61   224.24    .309E+04       0.6           0.56       82.17
      0.93   224.56    .847E+04       1.8           0.57       80.17
      1.24   224.87    .209E+05       4.1           0.54       84.69
      1.56   225.19    .399E+05       8.0           0.55       83.36
      1.88   225.51    .654E+05      13.7           0.57       79.74
      2.19   225.82    .976E+05      21.5           0.61       75.55
      2.51   226.14    .138E+06      31.1           0.62       73.71
      2.83   226.46    .188E+06      43.6           0.64       71.92
      3.15   226.78    .250E+06      59.8           0.66       69.63
      3.46   227.09    .324E+06      80.5           0.68       67.03
      3.78   227.41    .411E+06     103.4           0.69       66.15
      4.10   227.73    .516E+06     132.2           0.70       65.13
      4.41   228.04    .642E+06     168.2           0.72       63.50
      4.73   228.36    .788E+06     210.4           0.73       62.46
      5.05   228.68    .959E+06     262.8           0.75       60.81
      5.36   228.99    .115E+07     328.9           0.79       58.23
      5.68   229.31    .136E+07     401.2           0.81       56.49

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34     7.22   10.25  16.66     1.50      0.55
     OUTFLOW: ID= 1 (6003) 1990.34     6.49   11.75  16.66     1.44      0.55


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-------------------
| CALIB             |
| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         2.18
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     203.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        31.52
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.47 (ii)   15.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.57         0.11      0.638 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      53.60        14.01      32.62
     TOTAL RAINFALL   (mm)=      54.40        54.40      54.40
     RUNOFF COEFFICIENT   =       0.99         0.26       0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4170      0.1860
                         0.0210     0.0993   |   0.5230      0.2047
                         0.1210     0.1182   |   0.6090      0.2231
                         0.2250     0.1402   |   1.0090      0.2331
                         0.3120     0.1619   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      6.230     0.638      6.00      32.62
     OUTFLOW: ID= 1 (5003)      6.230     0.128      6.50      32.43

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.11
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1204

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW       (cms)=   2.683 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  11.349
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0032):   461.62   2.683     8.50    11.35
       + ID2= 2 (5003):     6.23   0.128     6.50    32.43
         ================================================
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```
         ID = 3 (8503):   467.85   2.720     8.50    11.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6003):  1990.34   6.492    11.75    16.66
       + ID2= 2 (8503):   467.85   2.720     8.50    11.63
           ================================================
         ID = 3 (8202):  2458.19   8.039    11.00    15.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50         4.16
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     240.28        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        33.07
                 over (min)      15.00        30.00
     Storage Coeff.  (min)=       4.94 (ii)   15.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.37         0.21          0.502 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      53.60        13.72          22.49
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.99         0.25           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  50.9     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5790      0.2368
                         0.0290     0.1168   |   0.7270      0.2669
                         0.1680     0.1367   |   0.8470      0.2965
                         0.3120     0.1706   |   1.2470      0.3065
                         0.4330     0.2010   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)     8.660     0.502     6.00      22.49
     OUTFLOW: ID= 1 (5004)     8.660     0.075     7.00      22.38

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.86
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1233

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-------------------
| CALIB            |
| NASHYD    (0042) |   Area    (ha)= 376.06   Curve Number   (CN)= 53.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------    U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW       (cms)=   2.524 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   9.815
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   376.06   2.524     7.75     9.82
       + ID2= 2 (5004):     8.66   0.075     7.00    22.38
         ================================================
         ID = 3 (8504):   384.72   2.580     7.50    10.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8202):  2458.19   8.039    11.00    15.70
       + ID2= 2 (8504):   384.72   2.580     7.50    10.10
         ================================================
         ID = 3 (8204):  2842.91   8.977    10.50    14.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (   5.1) ------>
              Distance      Elevation       Manning
                 0.00         225.02        0.0400
                20.58         224.79        0.0400
                35.54         223.93        0.0400
                48.64         223.09        0.0400
                59.86         222.15        0.0400
                67.35         221.11        0.0400
                76.41         219.63    0.0400 /0.0350  Main Channel
                82.81         218.53        0.0350      Main Channel
                85.41         218.50        0.0350      Main Channel
                86.78         218.50        0.0350      Main Channel
                88.15         218.50        0.0350      Main Channel
                93.45         218.71        0.0350      Main Channel
               103.45         218.94    0.0350 /0.0400  Main Channel
               109.45         219.25        0.0400
               114.11         220.15        0.0400
               123.47         221.73        0.0400
               136.56         223.41        0.0400
               153.40         224.15        0.0400
               170.24         224.55        0.0400
               185.20         224.54        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.22   218.72    .640E+04        0.5         0.28     204.26
       0.44   218.94    .198E+05        2.2         0.39     147.20
       0.77   219.27    .507E+05        9.3         0.63      91.02
       1.10   219.60    .880E+05       20.9         0.82      70.26
       1.43   219.93    .130E+06       37.7         1.00      57.26
       1.76   220.26    .175E+06       59.1         1.16      49.43
       2.09   220.59    .226E+06       85.1         1.30      44.19
       2.42   220.92    .280E+06      115.8         1.43      40.35
       2.75   221.25    .340E+06      151.3         1.54      37.40
       3.08   221.58    .404E+06      191.9         1.64      35.06
       3.40   221.90    .473E+06      237.5         1.73      33.19
       3.73   222.23    .548E+06      288.1         1.82      31.68
       4.06   222.56    .629E+06      344.1         1.89      30.48
       4.39   222.89    .718E+06      406.8         1.96      29.43
       4.72   223.22    .815E+06      476.1         2.02      28.52
       5.05   223.55    .920E+06      547.9         2.06      28.00
       5.38   223.88    .104E+07      624.5         2.07      27.74
       5.71   224.21    .117E+07      710.0         2.09      27.54
       6.04   224.54    .133E+07      800.8         2.08      27.62

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91     8.98   10.50  14.94      0.76      0.62
     OUTFLOW: ID= 1 (6005) 2842.91     8.40   11.50  14.94      0.73      0.58

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-------------------
| CALIB            |
| NASHYD    (0005) |   Area    (ha)= 340.11   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------    U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972

     PEAK FLOW       (cms)=   2.859 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  16.488
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.303

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):   340.11   2.859     8.50    16.49
       + ID2= 2 (6005):  2842.91   8.397    11.50    14.94
         ================================================
         ID = 3 (8206):  3183.02  10.125    11.00    15.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0006) |   Area    (ha)=1375.77   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW       (cms)=   5.052 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  10.371
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (   7.1) ------>
               Distance      Elevation        Manning
                  0.00         225.91         0.0700
                 51.88         225.32         0.0700
                135.69         224.23         0.0700
                183.58         223.08         0.0700
                211.52         223.28         0.0700
                223.49         222.51         0.0700
                231.43         220.69         0.0700
                244.53         219.78    0.0700 /0.0500  Main Channel
                249.23         219.60         0.0500      Main Channel
                249.93         219.46         0.0500      Main Channel
                251.43         219.23         0.0500      Main Channel
                253.50         219.70    0.0500 /0.0700  Main Channel
                261.10         219.90         0.0700
                271.38         221.01         0.0700
                283.36         223.77         0.0700
                295.33         224.21         0.0700
                331.25         226.04         0.0700
                351.20         227.76         0.0700
                371.16         227.49         0.0700
                395.10         228.55         0.0700

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.23   219.46    .112E+04         0.0         0.16     375.56
       0.47   219.70    .471E+04         0.3         0.22     277.80
       0.84   220.07    .267E+05         2.4         0.34     184.45
       1.20   220.43    .626E+05         7.4         0.44     140.97
       1.57   220.80    .110E+06        15.6         0.52     117.94
       1.93   221.16    .165E+06        27.4         0.61     100.71
       2.30   221.53    .225E+06        42.6         0.70      88.16
       2.66   221.89    .290E+06        60.9         0.78      79.20
       3.03   222.26    .358E+06        82.4         0.85      72.44
       3.39   222.62    .431E+06       106.0         0.91      67.79
       3.76   222.99    .513E+06       131.5         0.95      65.01
       4.12   223.35    .628E+06       149.2         0.88      70.14
       4.49   223.72    .788E+06       191.4         0.90      68.58
       4.85   224.08    .974E+06       232.1         0.88      69.94
       5.22   224.45    .120E+07       283.2         0.88      70.45
       5.58   224.81    .147E+07       347.5         0.88      70.32
       5.95   225.18    .178E+07       427.9         0.89      69.46
       6.31   225.54    .215E+07       523.9         0.90      68.38
       6.68   225.91    .257E+07       638.4         0.92      67.05

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77     5.05   10.50  10.37      1.03      0.38
     OUTFLOW: ID= 1 (6007) 1375.77     3.93   12.75  10.37      0.94      0.36


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| CALIB            |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        44.26
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.98 (ii)  15.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.53         0.60          0.913 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      53.60        18.78         24.70
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.99         0.35          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  62.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                          0.0000     0.0000   |  1.1020     0.4341
                          0.0560     0.2063   |  1.3830     0.4946
                          0.3190     0.2394   |  1.6100     0.5538
                          0.5940     0.3063   |  2.0100     0.5638
                          0.8240     0.3645   |  0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0071)     16.470     0.913      6.00       24.70
     OUTFLOW: ID= 1 (5007)     16.470     0.251      6.75       24.64

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.53
                   TIME SHIFT OF PEAK FLOW        (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2313

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--------------------
| CALIB            |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   3.501 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  13.918
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0072):   539.30   3.501     9.00    13.92
       + ID2= 2 (5007):    16.47   0.251     6.75    24.64
         ================================================
         ID = 3 (8507):   555.77   3.565     9.00    14.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6007):  1375.77   3.930    12.75    10.37
       + ID2= 2 (8507):   555.77   3.565     9.00    14.24
         ================================================
         ID = 3 (8210):  1931.54   6.172    11.00    11.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8208) |
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|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8206):  3183.02  10.125    11.00    15.11
       + ID2= 2 (8210):  1931.54   6.172    11.00    11.48
         ================================================
         ID = 3 (8208):  5114.56  16.297    11.00    13.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8208):  5114.56  16.297    11.00    13.74
       + ID2= 2 (8214):   875.75   6.067     8.50    13.25
         ================================================
         ID = 3 (8212):  5990.31  20.335    10.00    13.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (  10.1) ------>
            Distance      Elevation        Manning
               0.00         223.78         0.0400
              10.97         224.70         0.0400
              60.32         222.23         0.0400
             104.19         219.90         0.0400
             126.13         219.00         0.0400
             134.36         218.90    0.0400 /0.0330  Main Channel
             137.10         218.41         0.0330      Main Channel
             139.84         218.30         0.0330      Main Channel
             142.58         216.76         0.0330      Main Channel
             145.32         216.74         0.0330      Main Channel
             148.07         216.71         0.0330      Main Channel
             150.81         217.11         0.0330      Main Channel
             153.55         218.40         0.0330      Main Channel
             156.29         219.01    0.0330 /0.0400  Main Channel
             159.03         219.52         0.0400
             167.26         219.89         0.0400
             170.00         220.09         0.0400
             183.71         221.31         0.0400
             200.16         223.39         0.0400
             271.45         224.04         0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.36   217.07    .680E+04        0.9        0.36     129.75
        0.73   217.44    .165E+05        3.4        0.58      81.12
        1.09   217.81    .278E+05        7.3        0.75      63.18
        1.46   218.17    .405E+05       12.6        0.88      53.42
        1.83   218.54    .561E+05       17.7        0.90      52.70
        2.19   218.90    .764E+05       26.2        0.97      48.52
        2.64   219.35    .118E+06       44.8        1.07      44.04
        3.08   219.79    .180E+06       71.5        1.13      41.83
        3.53   220.24    .264E+06      109.3        1.17      40.26
        3.97   220.68    .366E+06      159.0        1.23      38.34
        4.42   221.13    .485E+06      221.7        1.30      36.43
        4.87   221.58    .620E+06      298.8        1.37      34.58
        5.31   222.02    .771E+06      391.1        1.44      32.85
        5.76   222.47    .937E+06      498.7        1.51      31.30
        6.21   222.92    .112E+07      622.7        1.58      29.93
        6.65   223.36    .132E+07      764.2        1.65      28.69
        7.10   223.81    .155E+07      878.9        1.60      29.46
        7.54   224.25    .186E+07     1057.1        1.61      29.35
        7.99   224.70    .220E+07     1291.1        1.67      28.35

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 5990.31    20.33   10.00  13.67      1.94      0.92
     OUTFLOW: ID= 1 (6010) 5990.31    19.53   11.00  13.67      1.90      0.91


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------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      99.40        112.09
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1187.41         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         29.30
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.87 (ii)    24.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.50          4.19         11.103 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      53.60         14.11         24.38
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.99          0.26          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.64         70.63
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     942.59         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         29.30
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.21 (ii)    22.74 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.63          2.73          7.331 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      53.60         14.11         24.38
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.99          0.26          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| RESERVOIR (5010) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   6.8040     3.7679
                        1.3970     1.4119    |   8.2460     4.4558
                        3.2730     2.3774    |  10.2760     4.7276
                        5.2480     3.0364    |  10.6760     4.7376

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)    133.270      7.331      6.00      24.38
     OUTFLOW: ID= 1 (5010)    133.270      1.704      7.00      24.38

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.25
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.5829

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------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):   211.49  11.103     6.00    24.38
       + ID2= 2 (5010):   133.27   1.704     7.00    24.38
         ================================================
         ID = 3 (8216):   344.76  11.876     6.00    24.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6010):  5990.31  19.531    11.00    13.67
       + ID2= 2 (8216):   344.76  11.876     6.00    24.38
         ================================================
         ID = 3 (8218):  6335.07  20.660    10.75    14.25
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************


-------------------
|    READ STORM     |    Filename: C:\Users\jscott\AppD
|                   |              ata\Local\Temp\
|                   |              ad939110-f7bb-4285-9226-bce91a941061\a2f4f2dd
| Ptotal= 62.70 mm  |    Comments: 10-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.57 |  3.25    2.51 |  6.25   11.29 |  9.25    2.19
                0.50    1.57 |  3.50    2.51 |  6.50   11.29 |  9.50    2.19
                0.75    1.57 |  3.75    2.51 |  6.75    5.02 |  9.75    2.19
                1.00    1.57 |  4.00    2.51 |  7.00    5.02 | 10.00    2.19
                1.25    1.57 |  4.25    3.76 |  7.25    3.76 | 10.25    1.25
                1.50    1.57 |  4.50    3.76 |  7.50    3.76 | 10.50    1.25
                1.75    1.57 |  4.75    5.02 |  7.75    3.76 | 10.75    1.25
                2.00    1.57 |  5.00    5.02 |  8.00    3.76 | 11.00    1.25
                2.25    1.88 |  5.25    7.52 |  8.25    2.19 | 11.25    1.25
                2.50    1.88 |  5.50    7.52 |  8.50    2.19 | 11.50    1.25
                2.75    1.88 |  5.75   30.10 |  8.75    2.19 | 11.75    1.25
                3.00    1.88 |  6.00   82.76 |  9.00    2.19 | 12.00    1.25

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| CALIB             |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.74         5.79
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     264.95        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        53.26
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.94 (ii)   14.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.35         0.61          0.965 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      61.90        22.88         28.73
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.99         0.36          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000    0.0000    |  0.7050      0.2743
                         0.0360    0.1287    |  0.8850      0.3136
                         0.2040    0.1489    |  1.0300      0.3521
                         0.3800    0.1922    |  1.4300      0.3621
                         0.5270    0.2294    |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0081)     10.530     0.965      6.00      28.73
     OUTFLOW: ID= 1 (5008)     10.530     0.235      6.50      28.64

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.33
                    TIME SHIFT OF PEAK FLOW       (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1573

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-------------------
| CALIB             |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=   4.865 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.470
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.279

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |         AREA     QPEAK     TPEAK      R.V.
-------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (0082):   402.65    4.865      7.50     17.47
        + ID2= 2 (5008):    10.53    0.235      6.50     28.64
          ================================================
          ID = 3 (8508):   413.18    4.967      7.50     17.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (   9.1) ------>
                Distance      Elevation       Manning
                    0.00         232.41        0.0600
                   16.80         232.21        0.0600
                   28.00         231.55        0.0600
                  117.61         229.36        0.0600
                  235.21         228.08        0.0600
                  296.81         226.96        0.0600
                  316.00         226.17        0.0600
                  326.00         226.17        0.0600
                  332.00         226.04    0.0600 /0.0350  Main Channel
                  335.50         225.16        0.0350      Main Channel
                  336.00         225.08        0.0350      Main Channel
                  337.00         225.08        0.0350      Main Channel
                  337.90         225.21        0.0350      Main Channel
                  339.90         225.93    0.0350 /0.0600  Main Channel
                  345.00         226.28        0.0600
                  358.42         226.57        0.0600
                  403.22         227.73        0.0600
                  448.02         229.07        0.0600
                  492.82         230.51        0.0600
                  554.43         232.28        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.28   225.36    .255E+04        0.3         0.37     100.52
       0.57   225.65    .719E+04        1.1         0.55     107.34
       0.85   225.93    .138E+05        2.7         0.70      85.08
       1.25   226.33    .405E+05        7.8         0.69      86.59
       1.64   226.72    .109E+06       20.0         0.65      91.15
       2.04   227.12    .216E+06       41.2         0.68      87.34
       2.44   227.52    .372E+06       74.8         0.72      82.92
       2.83   227.91    .580E+06      125.6         0.77      77.03
       3.23   228.31    .842E+06      193.5         0.82      72.57
       3.63   228.71    .117E+07      284.7         0.87      68.66
       4.02   229.10    .157E+07      405.4         0.92      64.71
       4.42   229.50    .204E+07      564.5         0.99      60.30
       4.82   229.90    .256E+07      766.1         1.07      55.64
       5.22   230.30    .311E+07     1001.2         1.15      51.82
       5.61   230.69    .371E+07     1269.8         1.22      48.68
       6.01   231.09    .435E+07     1573.3         1.29      46.05
       6.41   231.49    .503E+07     1914.5         1.36      43.77
       6.80   231.88    .575E+07     2314.0         1.44      41.39
       7.20   232.28    .650E+07     2741.3         1.50      39.49

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8508)  413.18     4.97    7.50  17.75      1.03      0.69
     OUTFLOW: ID= 1 (6009)  413.18     3.70    8.75  17.75      0.93      0.70

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-------------------
| CALIB             |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.66         5.66
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     274.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        53.44
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.05 (ii)   14.12 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.50         0.60          1.102 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      61.90        22.21          30.15
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.99         0.35           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5009) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7570      0.3065
                          0.0380     0.1497   |   0.9510      0.3465
                          0.2190     0.1748   |   1.1070      0.3857
                          0.4090     0.2196   |   1.5070      0.3957
                          0.5670     0.2594   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0091)     11.320     1.102     6.00      30.15
     OUTFLOW: ID= 1 (5009)     11.320     0.253     6.50      30.06

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.90
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1835

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--------------------
| CALIB            |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 60.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW       (cms)=   4.155 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  16.182
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.258

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):   451.25   4.155    8.25    16.18
       + ID2= 2 (5009):    11.32   0.253    6.50    30.06
         ==========================================
         ID = 3 (8509):   462.57   4.232    8.25    16.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6009):   413.18   3.704    8.75    17.75
       + ID2= 2 (8509):   462.57   4.232    8.25    16.52
         ==========================================
         ID = 3 (8214):   875.75   7.821    8.50    17.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.40
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     130.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        49.67
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.23 (ii)   12.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.14          0.232 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      61.90        21.40          27.47
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.99         0.34           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     219.46       268.24
     Dep. Storage     (mm)=       0.80         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1803.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        43.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.63 (ii)   25.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      28.08        14.65         37.239 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      61.90        24.07          37.31
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.99         0.38           0.60

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (8511) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  24.3900     10.5911
                          1.6600     5.9307   |  32.6300     12.6704
                          9.4600     6.8569   |  40.9700     14.4958
                         17.6100     8.8657   |  47.7000     16.2820

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     37.239     6.00      37.31
     OUTFLOW: ID= 1 (8511)    487.700     15.418     6.75      37.31

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.40
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  8.4508

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--------------------
| ADD HYD   (8510) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     2.54   0.232    6.00    27.47
       + ID2= 2 (8511):   487.70  15.418    6.75    37.31
         ==========================================
         ID = 3 (8510):   490.24  15.448    6.75    37.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5001) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6830     11.8298
```

```
                        0.0540     0.1960   |   5.4380     13.3066
                        1.2810     6.8008   |   6.1990     14.9402
                        2.5090     8.6037   |   6.5990     14.9502
                        3.4630     9.9865   |   0.0000      0.0000

                              AREA      QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240     15.448      6.75      37.26
     OUTFLOW: ID= 1 (5001)    490.240      2.458      9.50      37.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.91
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  8.5289

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0012) |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=   5.567 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  16.281
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.260

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):   630.33   5.567     8.50    16.28
       + ID2= 2 (5001):   490.24   2.458     9.50    37.25
         ================================================
         ID = 3 (8501):  1120.57   7.897     8.50    25.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   2.1) ------>
              Distance      Elevation       Manning
                 0.00         235.70        0.0700
                15.10         235.42        0.0700
                30.21         235.01        0.0700
                37.76         234.49        0.0700
                45.31         231.43        0.0700
                56.64         231.55        0.0700
                98.18         229.87        0.0700
               117.06         229.64        0.0700
               124.61         229.03    0.0700 /0.0300  Main Channel
               128.38         228.69        0.0300      Main Channel
               132.16         228.58        0.0300      Main Channel
               143.49         228.98    0.0300 /0.0700  Main Channel
               158.59         229.36        0.0700
               181.25         229.58        0.0700
               200.13         229.96        0.0700
               237.89         231.19        0.0700
               268.09         232.60        0.0700
               302.08         233.40        0.0700
               332.29         234.25        0.0700
               373.82         235.68        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)       (m/s)      (min)
       0.20   228.78    .639E+04         0.3        0.26     359.77
       0.40   228.98    .222E+05         1.6        0.40     227.92
       0.79   229.37    .842E+05         9.7        0.63     145.25
       1.19   229.77    .218E+06        25.5        0.65     142.16
       1.58   230.16    .441E+06        53.8        0.67     136.74
       1.98   230.56    .715E+06        94.9        0.73     125.69
       2.37   230.95    .104E+07       148.9        0.79     116.12
       2.76   231.34    .141E+07       217.2        0.85     107.88
       3.16   231.74    .183E+07       299.4        0.90     101.81
       3.55   232.13    .228E+07       403.8        0.97      94.28
       3.95   232.53    .276E+07       523.3        1.04      87.91
       4.34   232.92    .326E+07       650.4        1.10      83.62
       4.74   233.32    .380E+07       792.5        1.15      79.99
       5.13   233.71    .438E+07       954.7        1.20      76.48
       5.52   234.10    .499E+07      1134.7        1.25      73.30
       5.92   234.50    .563E+07      1334.6        1.31      70.34
       6.31   234.89    .631E+07      1540.4        1.35      68.23
       6.71   235.29    .702E+07      1746.8        1.37      67.00
       7.10   235.68    .780E+07      1958.9        1.38      66.34

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57     7.90    8.50  25.46      0.71      0.56
     OUTFLOW: ID= 1 (6002) 1120.57     5.02   11.00  25.46      0.56      0.47

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| CALIB             |
| NASHYD    (0002) |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   5.253 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  15.029
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0002):   869.77   5.253     9.75    15.03
       + ID2= 2 (6002):  1120.57   5.021    11.00    25.46
         ================================================
         ID = 3 (8200):  1990.34  10.072    10.25    20.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   3.1) ------>
              Distance      Elevation       Manning
                 0.00         234.33        0.0700
                50.41         229.32        0.0700
                94.52         227.15        0.0700
               113.42         226.02        0.0700
               116.57         225.86        0.0700
               125.32         224.53        0.0700
               130.32         224.24    0.0700 /0.0300  Main Channel
               130.82         223.78        0.0300      Main Channel
               131.82         223.63        0.0300      Main Channel
               132.42         223.79        0.0300      Main Channel
               133.42         224.43    0.0300 /0.0700  Main Channel
               163.83         226.19        0.0700
               189.03         227.19        0.0700
               229.99         228.02        0.0700
               270.95         228.65        0.0700
               286.70         229.01        0.0700
               305.61         229.31        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)    (cu.m.)       (cms)       (m/s)      (min)
       0.20   223.83    .564E+03         0.1        0.26     175.53
       0.41   224.04    .168E+04         0.3        0.44     105.08
       0.61   224.24    .309E+04         0.6        0.56      82.17
       0.93   224.56    .847E+04         1.8        0.57      80.17
       1.24   224.87    .209E+05         4.1        0.54      84.69
       1.56   225.19    .399E+05         8.0        0.55      83.36
       1.88   225.51    .654E+05        13.7        0.57      79.74
       2.19   225.82    .976E+05        21.5        0.61      75.55
       2.51   226.14    .138E+06        31.1        0.62      73.71
       2.83   226.46    .188E+06        43.6        0.64      71.92
       3.15   226.78    .250E+06        59.8        0.66      69.63
       3.46   227.09    .324E+06        80.5        0.68      67.03
       3.78   227.41    .411E+06       103.4        0.69      66.15
       4.10   227.73    .516E+06       132.2        0.70      65.13
       4.41   228.04    .642E+06       168.2        0.72      63.59
       4.73   228.36    .788E+06       210.4        0.73      62.46
       5.05   228.68    .959E+06       262.8        0.75      60.81
       5.36   228.99    .115E+07       328.9        0.79      58.23
       5.68   229.31    .136E+07       401.2        0.81      56.49

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34    10.07   10.25  20.90      1.68      0.56
     OUTFLOW: ID= 1 (6003) 1990.34     9.03   11.75  20.90      1.62      0.55

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| CALIB             |
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| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         2.18
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     203.80        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        40.67
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.22 (ii)   14.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.66         0.17          0.835 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      61.90        18.02         38.64
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.99         0.29          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  53.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4170     0.1860
                         0.0210     0.0993   |   0.5230     0.2047
                         0.1210     0.1182   |   0.6090     0.2231
                         0.2250     0.1402   |   1.0090     0.2331
                         0.3120     0.1619   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)     6.230     0.835      6.00      38.64
     OUTFLOW: ID= 1 (5003)     6.230     0.211      6.25      38.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.24
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1378

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-------------------
| CALIB           |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW       (cms)=   3.500 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  14.753
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0032):   461.62   3.500     8.50    14.75
       + ID2= 2 (5003):     6.23   0.211     6.25    38.45
         ================================================
         ID = 3 (8503):   467.85   3.543     8.50    15.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6003):  1990.34   9.026    11.75    20.90
       + ID2= 2 (8503):   467.85   3.543     8.50    15.07
         ================================================
         ID = 3 (8202):  2458.19  11.040    11.00    19.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50         4.16
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     240.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        42.68
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.66 (ii)   14.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.35          0.772 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      61.90        17.65         27.38
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.99         0.28          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  50.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5790     0.2368
                         0.0290     0.1168   |   0.7270     0.2669
                         0.1680     0.1367   |   0.8470     0.2965
                         0.3120     0.1706   |   1.2470     0.3065
                         0.4330     0.2010   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)     8.660     0.772      6.00      27.38
     OUTFLOW: ID= 1 (5004)     8.660     0.152      6.50      27.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.67
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1357

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-------------------
| CALIB           |
| NASHYD    (0042) |   Area    (ha)= 376.06   Curve Number   (CN)= 53.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW       (cms)=   3.307 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.818
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.204

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   376.06   3.307     7.75    12.82
       + ID2= 2 (5004):     8.66   0.152     6.50    27.27
         ================================================
         ID = 3 (8504):   384.72   3.380     7.50    13.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8202):  2458.19  11.040    11.00    19.79
       + ID2= 2 (8504):   384.72   3.380     7.50    13.14
         ================================================
         ID = 3 (8204):  2842.91  12.217    10.50    18.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   5.1) ------>
              Distance      Elevation       Manning
                 0.00         225.02        0.0400
                20.58         224.79        0.0400
                35.54         223.93        0.0400
                48.64         223.09        0.0400
                59.86         222.15        0.0400
                67.35         221.11        0.0400
                76.41         219.63    0.0400 /0.0350  Main Channel
                82.81         218.53        0.0350      Main Channel
                85.41         218.50        0.0350      Main Channel
                86.78         218.50        0.0350      Main Channel
                88.15         218.50        0.0350      Main Channel
                93.45         218.71        0.0350      Main Channel
               103.45         218.94    0.0350 /0.0400  Main Channel
               109.45         219.25        0.0400
               114.11         220.15        0.0400
               123.47         221.73        0.0400
               136.56         223.41        0.0400
               153.40         224.15        0.0400
               170.24         224.55        0.0400
               185.20         224.54        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.22   218.72    .640E+04         0.5         0.28     204.26
       0.44   218.94    .198E+05         2.2         0.39     147.20
       0.77   219.27    .507E+05         9.3         0.63      91.02
       1.10   219.60    .880E+05        20.9         0.82      70.26
       1.43   219.93    .130E+06        37.7         1.00      57.26
       1.76   220.26    .175E+06        59.1         1.16      49.43
       2.09   220.59    .226E+06        85.1         1.30      44.19
       2.42   220.92    .280E+06       115.8         1.43      40.35
       2.75   221.25    .340E+06       151.3         1.54      37.40
       3.08   221.58    .404E+06       191.9         1.64      35.06
       3.40   221.90    .473E+06       237.5         1.73      33.19
       3.73   222.23    .548E+06       288.1         1.82      31.68
       4.06   222.56    .629E+06       344.1         1.89      30.48
       4.39   222.89    .718E+06       406.8         1.96      29.43
       4.72   223.22    .815E+06       476.1         2.02      28.52
       5.05   223.55    .920E+06       547.9         2.06      28.00
       5.38   223.88    .104E+07       624.5         2.07      27.74
       5.71   224.21    .117E+07       710.0         2.09      27.54
       6.04   224.54    .133E+07       800.8         2.08      27.62

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91    12.22   10.50  18.89      0.85      0.67
     OUTFLOW: ID= 1 (6005) 2842.91    11.51   11.75  18.89      0.83      0.66


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-------------------
| CALIB             |
| NASHYD    (0005) |   Area    (ha)= 340.11   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972

     PEAK FLOW       (cms)=   3.676 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  21.111
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.337

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0005):   340.11   3.676     8.50     21.11
      + ID2= 2 (6005):  2842.91  11.510    11.75     18.89
        ================================================
        ID = 3 (8206):  3183.02  13.657    11.00     19.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1375.77   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW       (cms)=   6.597 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  13.522
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   7.1) ------>
              Distance      Elevation       Manning
                 0.00         225.91        0.0700
                51.88         225.32        0.0700
               135.69         224.23        0.0700
               183.58         223.08        0.0700
               211.52         223.28        0.0700
               223.49         222.51        0.0700
               231.43         220.69        0.0700
               244.53         219.78    0.0700 /0.0500  Main Channel
               249.23         219.60        0.0500      Main Channel
               249.93         219.46        0.0500      Main Channel
               251.43         219.23        0.0500      Main Channel
               253.50         219.70    0.0500 /0.0700  Main Channel
               261.10         219.90        0.0700
               271.38         221.01        0.0700
               283.36         223.77        0.0700
               295.33         224.21        0.0700
               331.25         226.04        0.0700
               351.20         227.76        0.0700
               371.16         227.49        0.0700
               395.10         228.55        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.23   219.46    .112E+04         0.0         0.16     375.56
       0.47   219.70    .471E+04         0.3         0.22     277.80
       0.84   220.07    .267E+05         2.4         0.34     184.45
       1.20   220.43    .626E+05         7.4         0.44     140.97
       1.57   220.80    .110E+06        15.6         0.52     117.94
       1.93   221.16    .165E+06        27.4         0.61     100.71
       2.30   221.53    .225E+06        42.6         0.70      88.16
       2.66   221.89    .290E+06        60.9         0.78      79.20
       3.03   222.26    .358E+06        82.4         0.85      72.44
       3.39   222.62    .431E+06       106.0         0.91      67.79
       3.76   222.99    .513E+06       131.5         0.95      65.01
       4.12   223.35    .628E+06       149.2         0.88      70.14
       4.49   223.72    .788E+06       191.4         0.90      68.58
       4.85   224.08    .974E+06       232.1         0.88      69.94
       5.22   224.45    .120E+07       283.2         0.88      70.45
       5.58   224.81    .147E+07       347.5         0.88      70.32
       5.95   225.18    .178E+07       427.9         0.89      69.46
       6.31   225.54    .215E+07       523.9         0.90      68.38
       6.68   225.91    .257E+07       638.4         0.92      67.05

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77     6.60   10.50  13.52      1.14      0.42
     OUTFLOW: ID= 1 (6007) 1375.77     5.23   12.50  13.52      1.04      0.39


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-------------------
| CALIB             |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        56.29
           over (min)             15.00        15.00
     Storage Coeff.  (min)=       5.65 (ii)   14.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.61         0.96       1.576 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00       6.00
     RUNOFF VOLUME    (mm)=      61.90        23.82      30.29
     TOTAL RAINFALL   (mm)=      62.70        62.70      62.70
     RUNOFF COEFFICIENT   =       0.99         0.38       0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1020      0.4341
                         0.0560     0.2063   |   1.3830      0.4946
                         0.3190     0.2394   |   1.6100      0.5538
                         0.5940     0.3063   |   2.0100      0.5638
                         0.8240     0.3645   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0071)     16.470      1.576      6.00      30.29
     OUTFLOW: ID= 1 (5007)     16.470      0.394      6.50      30.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.02
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2587

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   4.531 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  17.955
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.286

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0072):   539.30   4.531     9.00     17.96
       + ID2= 2 (5007):    16.47   0.394     6.50     30.23
         ================================================
         ID = 3 (8507):   555.77   4.605     9.00     18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6007):  1375.77   5.227    12.50     13.52
       + ID2= 2 (8507):   555.77   4.605     9.00     18.32
         ================================================
         ID = 3 (8210):  1931.54   8.175    11.00     14.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8206):  3183.02  13.657    11.00     19.13
       + ID2= 2 (8210):  1931.54   8.175    11.00     14.90
         ================================================
         ID = 3 (8208):  5114.56  21.832    11.00     17.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8208):  5114.56  21.832    11.00     17.53
       + ID2= 2 (8214):   875.75   7.821     8.50     17.10
         ================================================
         ID = 3 (8212):  5990.31  27.444     9.75     17.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (  10.1) ------>
               Distance      Elevation       Manning
                  0.00         223.78         0.0400
                 10.97         224.70         0.0400
                 60.32         222.23         0.0400
                104.19         219.90         0.0400
                126.13         219.00         0.0400
                134.36         218.90    0.0400 /0.0330  Main Channel
                137.10         218.41         0.0330      Main Channel
                139.84         218.30         0.0330      Main Channel
                142.58         216.76         0.0330      Main Channel
                145.32         216.74         0.0330      Main Channel
                148.07         216.71         0.0330      Main Channel
                150.81         217.11         0.0330      Main Channel
                153.55         218.40         0.0330      Main Channel
                156.29         219.01    0.0330 /0.0400  Main Channel
                159.03         219.52         0.0400
                167.26         219.89         0.0400
                170.00         220.09         0.0400
                183.71         221.31         0.0400
                200.16         223.39         0.0400
                271.45         224.04         0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.36   217.07    .680E+04        0.9         0.36     129.75
        0.73   217.44    .165E+05        3.4         0.58      81.12
        1.09   217.81    .278E+05        7.3         0.75      63.18
        1.46   218.17    .405E+05       12.6         0.88      53.42
        1.83   218.54    .561E+05       17.7         0.90      52.70
        2.19   218.90    .764E+05       26.2         0.97      48.52
        2.64   219.35    .118E+06       44.8         1.07      44.04
        3.08   219.79    .180E+06       71.5         1.13      41.83
        3.53   220.24    .264E+06      109.3         1.17      40.26
        3.97   220.68    .366E+06      159.0         1.23      38.34
        4.42   221.13    .485E+06      221.7         1.30      36.43
        4.87   221.58    .620E+06      298.8         1.37      34.58
        5.31   222.02    .771E+06      391.1         1.44      32.85
        5.76   222.47    .937E+06      498.7         1.51      31.30
        6.21   222.92    .112E+07      622.7         1.58      29.93
        6.65   223.36    .132E+07      764.2         1.65      28.69
        7.10   223.81    .155E+07      878.9         1.60      29.46
        7.54   224.25    .186E+07     1057.1         1.61      29.35
        7.99   224.70    .220E+07     1291.1         1.67      28.35

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 5990.31    27.44    9.75  17.47      2.22      0.98
     OUTFLOW: ID= 1 (6010) 5990.31    26.31   10.75  17.47      2.19      0.97

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-------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      99.40       112.09
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1187.41        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        37.81
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.16 (ii)   22.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      10.00         5.63        13.533 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      61.90        18.15        29.52
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.99         0.29         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     62.64        70.63
     Dep. Storage     (mm)=      0.80         2.50
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    942.59        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        37.81
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.59 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      6.61         3.67         8.915 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     61.90        18.15        29.52
     TOTAL RAINFALL   (mm)=     62.70        62.70        62.70
     RUNOFF COEFFICIENT   =      0.99         0.29         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5010) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.8040      3.7679
                         1.3970     1.4119   |   8.2460      4.4558
                         3.2730     2.3774   |  10.2760      4.7276
                         5.2480     3.0364   |  10.6760      4.7376

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)    133.270     8.915      6.00      29.52
     OUTFLOW: ID= 1 (5010)    133.270     2.290      6.75      29.52

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.69
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.8782

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-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0102):   211.49  13.533     6.00     29.52
      + ID2= 2 (5010):   133.27   2.290     6.75     29.52
        ================================================
        ID = 3 (8216):   344.76  14.466     6.00     29.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6010):  5990.31  26.314    10.75    17.47
      + ID2= 2 (8216):   344.76  14.466     6.00     29.52
        ================================================
        ID = 3 (8218):  6335.07  27.702    10.75    18.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   4 **
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|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              ad939110-f7bb-4285-9226-bce91a941061\2dd0affe
| Ptotal= 73.10 mm |    Comments: 25-Year 12-Hour SCS II Design Storm
-------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs   mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.25    1.83 |  3.25     2.92 |  6.25    13.16 |  9.25     2.56
                0.50    1.83 |  3.50     2.92 |  6.50    13.16 |  9.50     2.56
                0.75    1.83 |  3.75     2.92 |  6.75     5.85 |  9.75     2.56
                1.00    1.83 |  4.00     2.92 |  7.00     5.85 | 10.00     2.56
                1.25    1.83 |  4.25     4.39 |  7.25     4.39 | 10.25     1.46
                1.50    1.83 |  4.50     4.39 |  7.50     4.39 | 10.50     1.46
                1.75    1.83 |  4.75     5.85 |  7.75     4.39 | 10.75     1.46
                2.00    1.83 |  5.00     5.85 |  8.00     4.39 | 11.00     1.46
                2.25    2.19 |  5.25     8.77 |  8.25     2.56 | 11.25     1.46
                2.50    2.19 |  5.50     8.77 |  8.50     2.56 | 11.50     1.46
                2.75    2.19 |  5.75    35.09 |  8.75     2.56 | 11.75     1.46
                3.00    2.19 |  6.00    96.49 |  9.00     2.56 | 12.00     1.46

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| CALIB             |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.74         5.79
     Dep. Storage     (mm)=      0.80         2.50
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    264.95        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        68.78
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.65 (ii)   12.85 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.41         0.83         1.238 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00         6.00
     RUNOFF VOLUME    (mm)=     72.30        29.45        35.88
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.99         0.40         0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7050      0.2743
                         0.0360     0.1287   |   0.8850      0.3136
                         0.2040     0.1489   |   1.0300      0.3521
                         0.3800     0.1922   |   1.4300      0.3621
                         0.5270     0.2294   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0081)    10.530     1.238      6.00      35.88
     OUTFLOW: ID= 1 (5008)    10.530     0.357      6.50      35.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.84
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1888

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=   6.407 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.880
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.313

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0082):   402.65   6.407     7.50     22.88
      + ID2= 2 (5008):    10.53   0.357     6.50     35.79
        ================================================
        ID = 3 (8508):   413.18   6.568     7.50     23.21
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------------------------------------------------------------------
------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
             <------ DATA FOR SECTION (   9.1) ------>
             Distance      Elevation      Manning
                0.00         232.41        0.0600
               16.80         232.21        0.0600
               28.00         231.55        0.0600
              117.61         229.36        0.0600
              235.21         228.08        0.0600
              296.81         226.96        0.0600
              316.00         226.17        0.0600
              326.00         226.17        0.0600
              332.00         226.04    0.0600 /0.0350  Main Channel
              335.50         225.16        0.0350      Main Channel
              336.00         225.08        0.0350      Main Channel
              337.00         225.08        0.0350      Main Channel
              337.90         225.21        0.0350      Main Channel
              339.90         225.93    0.0350 /0.0600  Main Channel
              345.00         226.28        0.0600
              358.42         226.57        0.0600
              403.22         227.73        0.0600
              448.02         229.07        0.0600
              492.82         230.51        0.0600
              554.43         232.28        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
        0.28   225.36    .255E+04         0.3        0.37     160.52
        0.57   225.65    .719E+04         1.1        0.55     107.34
        0.85   225.93    .138E+05         2.7        0.70      85.08
        1.25   226.33    .405E+05         7.8        0.69      86.59
        1.64   226.72    .109E+06        20.0        0.65      91.15
        2.04   227.12    .216E+06        41.2        0.68      87.34
        2.44   227.52    .372E+06        74.8        0.72      82.92
        2.83   227.91    .580E+06       125.6        0.77      77.03
        3.23   228.31    .842E+06       193.5        0.82      72.57
        3.63   228.71    .117E+07       284.7        0.87      68.66
        4.02   229.10    .157E+07       405.4        0.92      64.71
        4.42   229.50    .204E+07       564.5        0.99      60.30
        4.82   229.90    .256E+07       766.1        1.07      55.64
        5.22   230.30    .311E+07      1001.2        1.15      51.82
        5.61   230.69    .371E+07      1269.8        1.22      48.68
        6.01   231.09    .435E+07      1573.3        1.29      46.05
        6.41   231.49    .503E+07      1914.5        1.36      43.77
        6.80   231.88    .575E+07      2314.0        1.44      41.39
        7.20   232.28    .650E+07      2741.3        1.50      39.49

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8508)  413.18     6.57    7.50  23.21      1.15      0.69
     OUTFLOW: ID= 1 (6009)  413.18     4.84    8.75  23.21      1.02      0.69


--------------------------------------------------------------------------------
------------------
| CALIB            |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.66         5.66
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     274.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        69.13
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.75 (ii)   12.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.59         0.81          1.398 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      72.30        28.64          37.37
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.39           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| RESERVOIR (5009) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  0.7570      0.3065
                        0.0380     0.1497   |  0.9510      0.3465
                        0.2190     0.1748   |  1.1070      0.3857
                        0.4090     0.2196   |  1.5070      0.3957
                        0.5670     0.2594   |  0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0091)      11.320     1.398      6.00       37.37
     OUTFLOW: ID= 1 (5009)      11.320     0.389      6.50       37.28

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.83
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.2176

--------------------------------------------------------------------------------
------------------
| CALIB            |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 60.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW     (cms)=   5.482 (i)
     TIME TO PEAK  (hrs)=   8.250
     RUNOFF VOLUME  (mm)=  21.268
     TOTAL RAINFALL (mm)=  73.100
     RUNOFF COEFFICIENT  =   0.291

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):   451.25   5.482     8.25    21.27
       + ID2= 2 (5009):    11.32   0.389     6.50    37.28
         ================================================
         ID = 3 (8509):   462.57   5.580     8.25    21.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6009):   413.18   4.844     8.75    23.21
       + ID2= 2 (8509):   462.57   5.580     8.25    21.66
         ================================================
         ID = 3 (8214):   875.75  10.270     8.50    22.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.40
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     130.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        64.40
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.04 (ii)   11.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.20          0.297 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      72.30        27.66          34.35
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.38           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
          CN*  =  59.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0019)  |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     219.46       268.24
     Dep. Storage     (mm)=       0.80         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1803.15        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        56.67
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.69 (ii)   23.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      33.62        19.81         46.181 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      72.30        31.11         45.53
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.43          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (8511) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  24.3900     10.5911
                         1.6600     5.9307   |  32.6300     12.6704
                         9.4600     6.8569   |  40.9700     14.4958
                        17.6100     8.8657   |  47.7000     16.2820

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     46.181      6.00       45.53
     OUTFLOW: ID= 1 (8511)    487.700     21.106      6.50       45.53

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.70
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  9.8672

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8510) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0011):     2.54   0.297     6.00    34.35
        + ID2= 2 (8511):   487.70  21.106     6.50    45.53
          ================================================
          ID = 3 (8510):   490.24  21.174     6.50    45.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5001) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6830     11.8298
                         0.0540     0.1960   |   5.4380     13.3066
                         1.2810     6.8008   |   6.1990     14.9402
                         2.5090     8.6037   |   6.5990     14.9502
                         3.4630     9.9865   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240     21.174      6.50       45.47
     OUTFLOW: ID= 1 (5001)    490.240      4.064      8.75       45.47

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.19
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 10.8980

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0012)  |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=   7.344 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  21.393
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8501) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0012):   630.33   7.344     8.25    21.39
        + ID2= 2 (5001):   490.24   4.064     8.75    45.47
          ================================================
          ID = 3 (8501):  1120.57  11.379     8.50    31.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   2.1) ------>
              Distance      Elevation       Manning
                 0.00         235.70        0.0700
                15.10         235.42        0.0700
                30.21         235.01        0.0700
                37.76         234.49        0.0700
                45.31         231.43        0.0700
                56.64         231.55        0.0700
                98.18         229.87        0.0700
               117.06         229.64        0.0700
               124.61         229.03    0.0700 /0.0300  Main Channel
               128.38         228.69        0.0300      Main Channel
               132.16         228.58        0.0300      Main Channel
               143.49         228.98    0.0300 /0.0700  Main Channel
               158.59         229.36        0.0700
               181.25         229.58        0.0700
               200.13         229.96        0.0700
               237.89         231.19        0.0700
               268.09         232.60        0.0700
               302.08         233.40        0.0700
               332.29         234.25        0.0700
               373.82         235.68        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   228.78    .639E+04        0.3         0.26     359.77
       0.40   228.98    .222E+05        1.6         0.40     227.92
       0.79   229.37    .842E+05        9.7         0.63     145.25
       1.19   229.77    .218E+06       25.5         0.65     142.16
       1.58   230.16    .441E+06       53.8         0.67     136.74
       1.98   230.56    .715E+06       94.9         0.73     125.69
       2.37   230.95    .104E+07      148.9         0.79     116.12
       2.76   231.34    .141E+07      217.2         0.85     107.88
       3.16   231.74    .183E+07      299.4         0.90     101.81
       3.55   232.13    .228E+07      403.8         0.97      94.28
       3.95   232.53    .276E+07      523.3         1.04      87.91
       4.34   232.92    .326E+07      650.4         1.10      83.62
       4.74   233.32    .380E+07      792.5         1.15      79.99
       5.13   233.71    .438E+07      954.7         1.20      76.48
       5.52   234.10    .499E+07     1134.7         1.25      73.30
       5.92   234.50    .563E+07     1334.6         1.31      70.34
       6.31   234.89    .631E+07     1540.4         1.35      68.23
       6.71   235.29    .702E+07     1746.8         1.37      67.00
       7.10   235.68    .780E+07     1958.9         1.38      66.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57    11.38    8.50  31.92      0.84      0.63
     OUTFLOW: ID= 1 (6002) 1120.57     7.68   10.25  31.92      0.70      0.55

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0002)  |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min  |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   6.943 (i)
```

```
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  19.816
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0002):   869.77   6.943     9.75    19.82
      + ID2= 2 (6002):  1120.57   7.685    10.25    31.92
        ================================================
        ID = 3 (8200):  1990.34  14.507    10.00    26.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   3.1) ------>
               Distance      Elevation       Manning
                  0.00         234.33        0.0700
                 50.41         229.32        0.0700
                 94.52         227.15        0.0700
                113.42         226.02        0.0700
                116.57         225.86        0.0700
                125.32         224.53        0.0700
                130.32         224.24    0.0700 /0.0300  Main Channel
                130.82         223.78        0.0300      Main Channel
                131.82         223.63        0.0300      Main Channel
                132.42         223.79        0.0300      Main Channel
                133.42         224.43    0.0300 /0.0700  Main Channel
                163.83         226.19        0.0700
                189.03         227.19        0.0700
                229.99         228.02        0.0700
                270.95         228.65        0.0700
                286.70         229.01        0.0700
                305.61         229.31        0.0700

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.20   223.83    .564E+03         0.1          0.26      175.53
       0.41   224.04    .168E+04         0.3          0.44      105.08
       0.61   224.24    .309E+04         0.6          0.56       82.17
       0.93   224.56    .847E+04         1.8          0.57       80.17
       1.24   224.87    .269E+05         4.1          0.54       84.69
       1.56   225.19    .399E+05         8.0          0.55       83.36
       1.88   225.51    .654E+05        13.7          0.57       79.74
       2.19   225.82    .976E+05        21.5          0.61       75.55
       2.51   226.14    .138E+06        31.1          0.62       73.71
       2.83   226.46    .188E+06        43.6          0.64       71.92
       3.15   226.78    .250E+06        59.8          0.66       69.63
       3.46   227.09    .324E+06        80.5          0.68       67.03
       3.78   227.41    .411E+06       103.4          0.69       66.15
       4.10   227.73    .516E+06       132.2          0.70       65.13
       4.41   228.04    .642E+06       168.2          0.72       63.59
       4.73   228.36    .788E+06       210.4          0.73       62.46
       5.05   228.68    .959E+06       262.8          0.75       60.81
       5.36   228.99    .115E+07       328.9          0.79       58.23
       5.68   229.31    .136E+07       401.2          0.81       56.49

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34    14.51   10.00  26.63      1.91      0.58
     OUTFLOW: ID= 1 (6003) 1990.34    12.81   11.50  26.63      1.83      0.57


--------------------------------------------------------------------------------

-------------------
| CALIB            |
| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         2.18
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     203.80        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        53.23
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.97 (ii)   13.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.77         0.24          1.011 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      72.30        23.50          46.43
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.32           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  53.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |  (cms)    (ha.m.)
                         0.0000     0.0000   |  0.4170     0.1860
                         0.0210     0.0993   |  0.5230     0.2047
                         0.1210     0.1182   |  0.6090     0.2231
                         0.2250     0.1402   |  1.0090     0.2331
                         0.3120     0.1619   |  0.0000     0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      6.230     1.011      6.00      46.43
     OUTFLOW: ID= 1 (5003)      6.230     0.289      6.25      46.25

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.59
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1586

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW      (cms)=   4.636 (i)
     TIME TO PEAK   (hrs)=   8.500
     RUNOFF VOLUME   (mm)=  19.467
     TOTAL RAINFALL  (mm)=  73.100
     RUNOFF COEFFICIENT  =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0032):   461.62   4.636     8.50    19.47
      + ID2= 2 (5003):     6.23   0.289     6.25    46.25
        ================================================
        ID = 3 (8503):   467.85   4.689     8.50    19.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6003):  1990.34  12.808    11.50    26.63
      + ID2= 2 (8503):   467.85   4.689     8.50    19.82
        ================================================
        ID = 3 (8202):  2458.19  15.612    11.00    25.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50         4.16
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     240.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        55.90
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.39 (ii)   13.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
```

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                                                    *TOTALS*
     PEAK FLOW      (cms)=       0.50         0.47          0.973 (iii)
     TIME TO PEAK   (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME   (mm)=      72.30        23.03         33.87
     TOTAL RAINFALL  (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT  =       0.99         0.32          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  50.9    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5790      0.2368
                         0.0290     0.1168   |   0.7270      0.2669
                         0.1680     0.1367   |   0.8470      0.2965
                         0.3120     0.1706   |   1.2470      0.3065
                         0.4330     0.2010   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)     8.660     0.973      6.00       33.87
     OUTFLOW: ID= 1 (5004)     8.660     0.243      6.50       33.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.98
                  TIME SHIFT OF PEAK FLOW       (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1553

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-------------------
| CALIB             |
| NASHYD    (0042) |   Area     (ha)= 376.06   Curve Number   (CN)= 53.3
|ID= 1 DT=15.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW       (cms)=   4.405 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.004
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.233

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   376.06   4.405     7.50     17.00
       + ID2= 2 (5004):     8.66   0.243     6.50     33.75
         ================================================
         ID = 3 (8504):   384.72   4.512     7.50     17.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8202):  2458.19  15.612    11.00     25.34
       + ID2= 2 (8504):   384.72   4.512     7.50     17.38
         ================================================
         ID = 3 (8204):  2842.91  17.221    10.50     24.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   5.1) ------>
            Distance      Elevation       Manning
                0.00         225.02        0.0400
               20.58         224.79        0.0400
               35.54         223.93        0.0400
               48.64         223.09        0.0400
               59.86         222.15        0.0400
               67.35         221.11        0.0400
               76.41         219.63    0.0400 /0.0350  Main Channel
               82.81         218.53        0.0350      Main Channel
               85.41         218.50        0.0350      Main Channel
               86.78         218.50        0.0350      Main Channel
               88.15         218.50        0.0350      Main Channel
               93.45         218.71        0.0350      Main Channel
              103.45         218.94    0.0350 /0.0400  Main Channel
              109.45         219.25        0.0400
              114.11         220.15        0.0400
              123.47         221.73        0.0400
              136.56         223.41        0.0400
              153.40         224.15        0.0400
              170.24         224.55        0.0400
              185.20         224.54        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.22   218.72    .640E+04       0.5         0.28      204.26
       0.44   218.94    .198E+05       2.2         0.39      147.20
       0.77   219.27    .507E+05       9.3         0.63       91.02
       1.10   219.60    .880E+05      20.9         0.82       70.26
       1.43   219.93    .130E+06      37.7         1.00       57.26
       1.76   220.26    .175E+06      59.1         1.16       49.43
       2.09   220.59    .226E+06      85.1         1.30       44.19
       2.42   220.92    .280E+06     115.8         1.43       40.35
       2.75   221.25    .340E+06     151.3         1.54       37.40
       3.08   221.58    .404E+06     191.9         1.64       35.06
       3.40   221.90    .473E+06     237.5         1.73       33.19
       3.73   222.23    .548E+06     288.1         1.82       31.68
       4.06   222.56    .629E+06     344.1         1.89       30.48
       4.39   222.89    .718E+06     406.8         1.96       29.43
       4.72   223.22    .815E+06     476.1         2.02       28.52
       5.05   223.55    .920E+06     547.9         2.06       28.00
       5.38   223.88    .104E+07     624.5         2.07       27.74
       5.71   224.21    .117E+07     710.0         2.09       27.54
       6.04   224.54    .133E+07     800.8         2.08       27.62

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91    17.22   10.50  24.26      0.99      0.75
     OUTFLOW: ID= 1 (6005) 2842.91    16.25   11.50  24.26      0.97      0.73

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0005) |   Area     (ha)= 340.11   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972

     PEAK FLOW       (cms)=   4.789 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  27.377
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.375

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):   340.11   4.789     8.50     27.38
       + ID2= 2 (6005):  2842.91  16.247    11.50     24.26
         ================================================
         ID = 3 (8206):  3183.02  19.117    11.00     24.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area     (ha)=1375.77   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW       (cms)=   8.749 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  17.902
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.245

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   7.1) ------>
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```
              Distance      Elevation       Manning
                 0.00         225.91        0.0700
                51.88         225.32        0.0700
               135.69         224.23        0.0700
               183.58         223.08        0.0700
               211.52         223.28        0.0700
               223.49         222.51        0.0700
               231.43         220.69        0.0700
               244.53         219.78    0.0700 /0.0500  Main Channel
               249.23         219.60        0.0500      Main Channel
               249.93         219.46        0.0500      Main Channel
               251.43         219.23        0.0500      Main Channel
               253.50         219.70    0.0500 /0.0700  Main Channel
               261.10         219.90        0.0700
               271.38         221.01        0.0700
               283.36         223.77        0.0700
               295.33         224.21        0.0700
               331.25         226.04        0.0700
               351.20         227.76        0.0700
               371.16         227.49        0.0700
               395.10         228.55        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.23   219.46   .112E+04       0.0         0.16     375.56
       0.47   219.70   .471E+04       0.3         0.22     277.80
       0.84   220.07   .267E+05       2.4         0.34     184.45
       1.20   220.43   .626E+05       7.4         0.44     140.97
       1.57   220.80   .110E+06      15.6         0.52     117.94
       1.93   221.16   .165E+06      27.4         0.61     100.71
       2.30   221.53   .225E+06      42.6         0.70      88.16
       2.66   221.89   .290E+06      60.9         0.78      79.20
       3.03   222.26   .358E+06      82.4         0.85      72.44
       3.39   222.62   .431E+06     106.0         0.91      67.79
       3.76   222.99   .513E+06     131.5         0.95      65.01
       4.12   223.35   .628E+06     149.2         0.88      70.14
       4.49   223.72   .788E+06     191.4         0.90      68.58
       4.85   224.08   .974E+06     232.1         0.88      69.94
       5.22   224.45   .120E+07     283.2         0.88      70.45
       5.58   224.81   .147E+07     347.5         0.88      70.32
       5.95   225.18   .178E+07     427.9         0.89      69.46
       6.31   225.54   .215E+07     523.9         0.90      68.38
       6.68   225.91   .257E+07     638.4         0.92      67.05

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77    8.75   10.50  17.90      1.26      0.45
     OUTFLOW: ID= 1 (6007) 1375.77    7.23   12.50  17.90      1.18      0.43


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-------------------
| CALIB           |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        72.49
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.32 (ii)   13.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.72         1.29          2.012 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      72.30        30.58          37.68
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.42           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.9     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1020     0.4341
                         0.0560     0.2063   |   1.3830     0.4946
                         0.3190     0.2394   |   1.6100     0.5538
                         0.5940     0.3063   |   2.0100     0.5638
                         0.8240     0.3645   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0071)    16.470     2.012     6.00      37.68
     OUTFLOW: ID= 1 (5007)    16.470     0.594     6.50      37.62

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.53
               TIME SHIFT OF PEAK FLOW          (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.3104

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-------------------
| CALIB           |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   5.946 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  23.485
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0072):   539.30   5.946     9.00    23.49
        + ID2= 2 (5007):    16.47   0.594     6.50    37.62
          ================================================
          ID = 3 (8507):   555.77   6.037     9.00    23.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6007):  1375.77   7.226    12.50    17.90
        + ID2= 2 (8507):   555.77   6.037     9.00    23.90
          ================================================
          ID = 3 (8210):  1931.54  11.041    11.00    19.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8206):  3183.02  19.117    11.00    24.59
        + ID2= 2 (8210):  1931.54  11.041    11.00    19.63
          ================================================
          ID = 3 (8208):  5114.56  30.158    11.00    22.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8208):  5114.56  30.158    11.00    22.72
        + ID2= 2 (8214):   875.75  10.270     8.50    22.39
          ================================================
          ID = 3 (8212):  5990.31  37.224    10.00    22.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (  10.1) ------>
             Distance      Elevation       Manning
                0.00         223.78        0.0400
               10.97         224.70        0.0400
               60.32         222.23        0.0400
              104.19         219.90        0.0400
              126.13         219.00        0.0400
              134.36         218.90    0.0400 /0.0330  Main Channel
```

137.10	218.41	0.0330		Main Channel
139.84	218.30	0.0330		Main Channel
142.58	216.76	0.0330		Main Channel
145.32	216.74	0.0330		Main Channel
148.07	216.71	0.0330		Main Channel
150.81	217.11	0.0330		Main Channel
153.55	218.40	0.0330		Main Channel
156.29	219.01	0.0330 /0.0400		Main Channel
159.03	219.52	0.0400		
167.26	219.89	0.0400		
170.00	220.09	0.0400		
183.71	221.31	0.0400		
200.16	223.39	0.0400		
271.45	224.04	0.0400		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	217.07	.680E+04	0.9	0.36	129.75
0.73	217.44	.165E+05	3.4	0.58	81.12
1.09	217.81	.278E+05	7.3	0.75	63.18
1.46	218.17	.405E+05	12.6	0.88	53.42
1.83	218.54	.561E+05	17.7	0.90	52.70
2.19	218.90	.764E+05	26.2	0.97	48.52
2.64	219.35	.118E+06	44.8	1.07	44.04
3.08	219.79	.180E+06	71.5	1.13	41.83
3.53	220.24	.264E+06	109.3	1.17	40.26
3.97	220.68	.366E+06	159.0	1.23	38.34
4.42	221.13	.485E+06	221.7	1.30	36.43
4.87	221.58	.620E+06	298.8	1.37	34.58
5.31	222.02	.771E+06	391.1	1.44	32.85
5.76	222.47	.937E+06	498.7	1.51	31.30
6.21	222.92	.112E+07	622.7	1.58	29.93
6.65	223.36	.132E+07	764.2	1.65	28.69
7.10	223.81	.155E+07	878.9	1.60	29.46
7.54	224.25	.186E+07	1057.1	1.61	29.35
7.99	224.70	.220E+07	1291.1	1.67	28.35

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8212)	5990.31	37.22	10.00	22.67	2.45	1.03
OUTFLOW:	ID= 1 (6010)	5990.31	36.04	10.75	22.67	2.42	1.02

CALIB	
STANDHYD (0102)	Area (ha)= 211.49
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	99.40	112.09
Dep. Storage	(mm)=	0.80	2.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	1187.41	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	49.49
over (min)		15.00	30.00
Storage Coeff. (min)=		11.44 (ii)	20.79 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.05

		TOTALS
PEAK FLOW	(cms)=	11.92 7.66 16.775 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.00
RUNOFF VOLUME	(mm)=	72.30 23.67 36.31
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.32 0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0101)	Area (ha)= 133.27
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.64	70.63
Dep. Storage	(mm)=	0.80	2.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	942.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	49.49
over (min)		15.00	30.00
Storage Coeff. (min)=		9.96 (ii)	19.31 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.05

		TOTALS
PEAK FLOW	(cms)=	7.85 4.99 11.023 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.00
RUNOFF VOLUME	(mm)=	72.30 23.67 36.31
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.32 0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5010)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.8040	3.7679
	1.3970	1.4119	8.2460	4.4558
	3.2730	2.3774	10.2760	4.7276
	5.2480	3.0364	10.6760	4.7376

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (0101)	133.270	11.023	6.00	36.31
OUTFLOW:	ID= 1 (5010)	133.270	3.048	6.75	36.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.65
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 2.2644

ADD HYD (8216)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	211.49	16.775	6.00	36.31
+ ID2= 2 (5010):	133.27	3.048	6.75	36.31
ID = 3 (8216):	344.76	17.920	6.00	36.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8218)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6010):	5990.31	36.039	10.75	22.67
+ ID2= 2 (8216):	344.76	17.920	6.00	36.31
ID = 3 (8218):	6335.07	37.672	10.75	23.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 5 **
****

READ STORM	Filename: C:\Users\jscott\AppData\Local\Temp\ad939110-f7bb-4285-9226-bce91a941061\7ae15a6b
Ptotal= 80.80 mm	Comments: 50-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	2.02	3.25	3.23	6.25	14.54	9.25	2.83
0.50	2.02	3.50	3.23	6.50	14.54	9.50	2.83
0.75	2.02	3.75	3.23	6.75	6.46	9.75	2.83
1.00	2.02	4.00	3.23	7.00	6.46	10.00	2.83
1.25	2.02	4.25	4.85	7.25	4.85	10.25	1.62
1.50	2.02	4.50	4.85	7.50	4.85	10.50	1.62
1.75	2.02	4.75	6.46	7.75	4.85	10.75	1.62
2.00	2.02	5.00	6.46	8.00	4.85	11.00	1.62
2.25	2.42	5.25	9.70	8.25	2.83	11.25	1.62
2.50	2.42	5.50	9.70	8.50	2.83	11.50	1.62
2.75	2.42	5.75	38.78	8.75	2.83	11.75	1.62
3.00	2.42	6.00	106.66	9.00	2.83	12.00	1.62

CALIB	
STANDHYD (0081)	Area (ha)= 10.53
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 15.00

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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.74          5.79
     Dep. Storage     (mm)=      0.80          2.50
     Average Slope     (%)=      1.00          2.00
     Length            (m)=    264.95         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         80.95
               over (min)      15.00         15.00
     Storage Coeff.  (min)=     4.47 (ii)   12.15 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.11          0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.46          1.00      1.453 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.00      6.00
     RUNOFF VOLUME    (mm)=     80.00         34.60     41.41
     TOTAL RAINFALL   (mm)=     80.80         80.80     80.80
     RUNOFF COEFFICIENT   =      0.99          0.43      0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7050      0.2743
                          0.0360     0.1287   |   0.8850      0.3136
                          0.2040     0.1489   |   1.0300      0.3521
                          0.3800     0.1922   |   1.4300      0.3621
                          0.5270     0.2294   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0081)     10.530     1.453      6.00      41.41
     OUTFLOW: ID= 1 (5008)     10.530     0.430      6.50      41.33

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.60
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2086

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--------------------
| CALIB            |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=   7.640 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.182
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0082):   402.65   7.640     7.50    27.18
        + ID2= 2 (5008):    10.53   0.430     6.50    41.33
          ================================================
          ID = 3 (8508):   413.18   7.849     7.50    27.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (   9.1) ------>
             Distance      Elevation       Manning
                0.00         232.41        0.0600
               16.80         232.21        0.0600
               28.00         231.55        0.0600
              117.61         229.36        0.0600
              235.21         228.08        0.0600
              296.81         226.96        0.0600
              316.00         226.17        0.0600
              326.00         226.17        0.0600
              332.00         226.04     0.0600 /0.0350  Main Channel
              335.50         225.16        0.0350       Main Channel
              336.00         225.08        0.0350       Main Channel
              337.00         225.08        0.0350       Main Channel
              337.90         225.21        0.0350       Main Channel
              339.90         225.93     0.0350 /0.0600  Main Channel
              345.00         226.28        0.0600
              358.42         226.57        0.0600
              403.22         227.73        0.0600
              448.02         229.07        0.0600
              492.82         230.51        0.0600
              554.43         232.28        0.0600

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
      0.28   225.36    .255E+04        0.3          0.37      160.52
      0.57   225.65    .719E+04        1.1          0.55      107.34
      0.85   225.93    .138E+05        2.7          0.70       85.08
      1.25   226.33    .405E+05        7.8          0.69       86.59
      1.64   226.72    .109E+06       20.0          0.65       91.15
      2.04   227.12    .216E+06       41.2          0.68       87.34
      2.44   227.52    .372E+06       74.8          0.72       82.92
      2.83   227.91    .580E+06      125.6          0.77       77.03
      3.23   228.31    .842E+06      193.5          0.82       72.57
      3.63   228.71    .117E+07      284.7          0.87       68.66
      4.02   229.10    .157E+07      405.4          0.92       64.71
      4.42   229.50    .204E+07      564.5          0.99       60.30
      4.82   229.90    .256E+07      766.1          1.07       55.64
      5.22   230.30    .311E+07     1001.2          1.15       51.82
      5.61   230.69    .371E+07     1269.8          1.22       48.68
      6.01   231.09    .435E+07     1573.3          1.29       46.05
      6.41   231.49    .503E+07     1914.5          1.36       43.77
      6.80   231.88    .575E+07     2314.0          1.44       41.39
      7.20   232.28    .650E+07     2741.3          1.50       39.49

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8508)  413.18    7.85    7.50  27.54      1.25      0.69
     OUTFLOW: ID= 1 (6009)  413.18    5.75    8.75  27.54      1.09      0.69


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--------------------
| CALIB            |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.66          5.66
     Dep. Storage     (mm)=      0.80          2.50
     Average Slope     (%)=      1.00          2.00
     Length            (m)=    274.71         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=    106.66         81.46
               over (min)      15.00         15.00
     Storage Coeff.  (min)=      4.57 (ii)   12.23 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.11          0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.65          0.98      1.631 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.00      6.00
     RUNOFF VOLUME    (mm)=     80.00         33.68     42.95
     TOTAL RAINFALL   (mm)=     80.80         80.80     80.80
     RUNOFF COEFFICIENT   =      0.99          0.42      0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5009) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7570      0.3065
                          0.0380     0.1497   |   0.9510      0.3465
                          0.2190     0.1748   |   1.1070      0.3857
                          0.4090     0.2196   |   1.5070      0.3957
                          0.5670     0.2594   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0091)     11.320     1.631      6.00      42.95
     OUTFLOW: ID= 1 (5009)     11.320     0.473      6.25      42.86
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                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.02
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2391

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-------------------
| CALIB           |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 60.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW       (cms)=   6.545 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  25.328
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.313

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0092):   451.25   6.545     8.25    25.33
       + ID2= 2 (5009):    11.32   0.473     6.25    42.86
         ================================================
         ID = 3 (8509):   462.57   6.660     8.25    25.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6009):   413.18   5.751     8.75    27.54
       + ID2= 2 (8509):   462.57   6.660     8.25    25.76
         ================================================
         ID = 3 (8214):   875.75  12.226     8.50    26.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0011) |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.40
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     130.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        76.01
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.92 (ii)   10.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.24          0.348 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      80.00        32.58          39.69
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.99         0.40           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0019) |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     219.46       268.24
     Dep. Storage     (mm)=       0.80         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1803.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        66.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.12 (ii)   22.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      37.78        23.95         53.114 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      80.00        36.61         51.80
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.99         0.45          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (8511) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  24.3900     10.5911
                          1.6600     5.9307   |  32.6300     12.6704
                          9.4600     6.8569   |  40.9700     14.4958
                         17.6100     8.8657   |  47.7000     16.2820

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     53.114      6.00       51.80
     OUTFLOW: ID= 1 (8511)    487.700     24.685      6.50       51.79

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.48
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 10.7627

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-------------------
| ADD HYD   (8510) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     2.54   0.348     6.00    39.69
       + ID2= 2 (8511):   487.70  24.685     6.50    51.79
         ================================================
         ID = 3 (8510):   490.24  24.762     6.50    51.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5001) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6830     11.8298
                          0.0540     0.1960   |   5.4380     13.3066
                          1.2810     6.8008   |   6.1990     14.9402
                          2.5090     8.6037   |   6.5990     14.9502
                          3.4630     9.9865   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240     24.762      6.50       51.73
     OUTFLOW: ID= 1 (5001)    490.240      5.140      8.75       51.73

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.76
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 12.7469

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-------------------
| CALIB           |
| NASHYD    (0012) |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=   8.770 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  25.472
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8501) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):   630.33   8.770    8.25     25.47
       + ID2= 2 (5001):   490.24   5.140    8.75     51.73
         ================================================
         ID = 3 (8501):  1120.57  13.891    8.50     36.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   2.1) ------>
            Distance      Elevation       Manning
               0.00         235.70        0.0700
              15.10         235.42        0.0700
              30.21         235.01        0.0700
              37.76         234.49        0.0700
              45.31         231.43        0.0700
              56.64         231.55        0.0700
              98.18         229.87        0.0700
             117.06         229.64        0.0700
             124.61         229.03    0.0700 /0.0300  Main Channel
             128.38         228.69        0.0300      Main Channel
             132.16         228.58        0.0300      Main Channel
             143.49         228.98    0.0300 /0.0700  Main Channel
             158.59         229.36        0.0700
             181.25         229.58        0.0700
             200.13         229.96        0.0700
             237.89         231.19        0.0700
             268.09         232.60        0.0700
             302.08         233.40        0.0700
             332.29         234.25        0.0700
             373.82         235.68        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   228.78   .639E+04        0.3         0.26     359.77
       0.40   228.98   .222E+05        1.6         0.40     227.92
       0.79   229.37   .842E+05        9.7         0.63     145.25
       1.19   229.77   .218E+06       25.5         0.65     142.16
       1.58   230.16   .441E+06       53.8         0.67     136.74
       1.98   230.56   .715E+06       94.9         0.73     125.69
       2.37   230.95   .104E+07      148.9         0.79     116.12
       2.76   231.34   .141E+07      217.2         0.85     107.88
       3.16   231.74   .183E+07      299.4         0.90     101.81
       3.55   232.13   .228E+07      403.8         0.97      94.28
       3.95   232.53   .276E+07      523.3         1.04      87.91
       4.34   232.92   .326E+07      650.4         1.10      83.62
       4.74   233.32   .380E+07      792.5         1.15      79.99
       5.13   233.71   .438E+07      954.7         1.20      76.48
       5.52   234.10   .499E+07     1134.7         1.25      73.30
       5.92   234.50   .563E+07     1334.6         1.31      70.34
       6.31   234.89   .631E+07     1540.4         1.35      68.23
       6.71   235.29   .702E+07     1746.8         1.37      67.00
       7.10   235.68   .780E+07     1958.9         1.38      66.34

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57    13.89    8.50  36.96      0.90      0.64
     OUTFLOW: ID= 1 (6002) 1120.57     9.98   10.50  36.96      0.80      0.63


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| CALIB             |
| NASHYD    (0002)  |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   8.299 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  23.650
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0002):   869.77   8.299     9.75     23.65
       + ID2= 2 (6002):  1120.57   9.981    10.50     36.96
         ================================================
         ID = 3 (8200):  1990.34  18.054    10.25     31.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (   3.1) ------>
            Distance      Elevation       Manning
               0.00         234.33        0.0700
              50.41         229.32        0.0700
              94.52         227.15        0.0700
             113.42         226.02        0.0700
             116.57         225.86        0.0700
             125.32         224.53        0.0700
             130.32         224.24    0.0700 /0.0300  Main Channel
             130.82         223.78        0.0300      Main Channel
             131.82         223.63        0.0300      Main Channel
             132.42         223.79        0.0300      Main Channel
             133.42         224.43    0.0300 /0.0700  Main Channel
             163.83         226.19        0.0700
             189.03         227.19        0.0700
             229.99         228.02        0.0700
             270.95         228.65        0.0700
             286.70         229.01        0.0700
             305.61         229.31        0.0700

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.83   .564E+03        0.1         0.26     175.53
       0.41   224.04   .168E+04        0.3         0.44     105.08
       0.61   224.24   .309E+04        0.6         0.56      82.17
       0.93   224.56   .847E+04        1.8         0.57      80.17
       1.24   224.87   .209E+05        4.1         0.54      84.69
       1.56   225.19   .399E+05        8.0         0.55      83.36
       1.88   225.51   .654E+05       13.7         0.57      79.74
       2.19   225.82   .976E+05       21.5         0.61      75.55
       2.51   226.14   .138E+06       31.1         0.62      73.71
       2.83   226.46   .188E+06       43.6         0.64      71.92
       3.15   226.78   .250E+06       59.8         0.66      69.63
       3.46   227.09   .324E+06       80.5         0.68      67.03
       3.78   227.41   .411E+06      103.4         0.69      66.15
       4.10   227.73   .516E+06      132.2         0.70      65.13
       4.41   228.04   .642E+06      168.2         0.72      63.59
       4.73   228.36   .788E+06      210.4         0.73      62.46
       5.05   228.68   .959E+06      262.8         0.75      60.81
       5.36   228.99   .115E+07      328.9         0.79      58.23
       5.68   229.31   .136E+07      401.2         0.81      56.49

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34    18.05   10.25  31.14      2.05      0.59
     OUTFLOW: ID= 1 (6003) 1990.34    16.05   11.50  31.14      1.97      0.58


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-------------------
| CALIB             |
| STANDHYD  (0031)  |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05          2.18
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     203.80         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         63.23
               over (min)       15.00         15.00
     Storage Coeff.  (min)=      3.82 (ii)   12.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08

                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.86          0.29          1.147 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00           6.00
     RUNOFF VOLUME    (mm)=      80.00         27.85          52.36
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.99          0.34           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
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| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4170      0.1860
                         0.0210     0.0993   |   0.5230      0.2047
                         0.1210     0.1182   |   0.6090      0.2231
                         0.2250     0.1402   |   1.0090      0.2331
                         0.3120     0.1619   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      6.230     1.147      6.00      52.36
     OUTFLOW: ID= 1 (5003)      6.230     0.352      6.25      52.17

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.70
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1751

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW       (cms)=   5.549 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  23.246
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0032):   461.62   5.549     8.50    23.25
       + ID2= 2 (5003):     6.23   0.352     6.25    52.17
         ================================================
         ID = 3 (8503):   467.85   5.610     8.50    23.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6003):  1990.34  16.052    11.50    31.14
       + ID2= 2 (8503):   467.85   5.610     8.50    23.63
         ================================================
         ID = 3 (8202):  2458.19  19.403    11.00    29.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50          4.16
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     240.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         66.44
               over (min)       15.00         15.00
     Storage Coeff.  (min)=       4.21 (ii)   12.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.55          0.58          1.131 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00           6.00
     RUNOFF VOLUME    (mm)=      80.00         27.31          38.90
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.99          0.34           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  50.9    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5790      0.2368
                         0.0290     0.1168   |   0.7270      0.2669
                         0.1680     0.1367   |   0.8470      0.2965
                         0.3120     0.1706   |   1.2470      0.3065
                         0.4330     0.2010   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)      8.660     1.131      6.00      38.90
     OUTFLOW: ID= 1 (5004)      8.660     0.314      6.25      38.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.72
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1729

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-------------------
| CALIB            |
| NASHYD    (0042) |   Area    (ha)= 376.06   Curve Number   (CN)= 53.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW       (cms)=   5.297 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.380
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   376.06   5.297     7.50    20.38
       + ID2= 2 (5004):     8.66   0.314     6.25    38.79
         ================================================
         ID = 3 (8504):   384.72   5.435     7.50    20.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8202):  2458.19  19.403    11.00    29.71
       + ID2= 2 (8504):   384.72   5.435     7.50    20.79
         ================================================
         ID = 3 (8204):  2842.91  21.251    10.50    28.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (   5.1) ------>
             Distance      Elevation       Manning
                 0.00         225.02        0.0400
                20.58         224.79        0.0400
                35.54         223.93        0.0400
                48.64         223.09        0.0400
                59.86         222.15        0.0400
                67.35         221.11        0.0400
                76.41         219.63   0.0400 /0.0350  Main Channel
                82.81         218.53        0.0350      Main Channel
                85.41         218.50        0.0350      Main Channel
                86.78         218.50        0.0350      Main Channel
                88.15         218.50        0.0350      Main Channel
                93.45         218.71        0.0350      Main Channel
               103.45         218.94   0.0350 /0.0400  Main Channel
               109.45         219.25        0.0400
               114.11         220.15        0.0400
               123.47         221.73        0.0400
               136.56         223.41        0.0400
               153.40         224.15        0.0400
               170.24         224.55        0.0400
               185.20         224.54        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.22   218.72    .640E+04        0.5         0.28     204.26
      0.44   218.94    .198E+05        2.2         0.39     147.20
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      0.77   219.27    .507E+05       9.3          0.63      91.02
      1.10   219.60    .880E+05      20.9          0.82      70.26
      1.43   219.93    .130E+06      37.7          1.00      57.26
      1.76   220.26    .175E+06      59.1          1.16      49.43
      2.09   220.59    .226E+06      85.1          1.30      44.19
      2.42   220.92    .280E+06     115.8          1.43      40.35
      2.75   221.25    .340E+06     151.3          1.54      37.40
      3.08   221.58    .404E+06     191.9          1.64      35.06
      3.40   221.90    .473E+06     237.5          1.73      33.19
      3.73   222.23    .548E+06     288.1          1.82      31.68
      4.06   222.56    .629E+06     344.1          1.89      30.48
      4.39   222.89    .718E+06     406.8          1.96      29.43
      4.72   223.22    .815E+06     476.1          2.02      28.52
      5.05   223.55    .920E+06     547.9          2.06      28.00
      5.38   223.88    .104E+07     624.5          2.07      27.74
      5.71   224.21    .117E+07     710.0          2.09      27.54
      6.04   224.54    .133E+07     800.8          2.08      27.62

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91    21.25   10.50  28.51     1.11      0.82
     OUTFLOW: ID= 1 (6005) 2842.91    20.36   11.25  28.51     1.08      0.81


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-------------------
| CALIB             |
| NASHYD    (0005) |   Area    (ha)= 340.11   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972

     PEAK FLOW       (cms)=   5.667 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  32.308
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.400

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):   340.11   5.667     8.50     32.31
       + ID2= 2 (6005):  2842.91  20.362    11.25    28.51
         ================================================
         ID = 3 (8206):  3183.02  23.788    11.00    28.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1375.77   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW       (cms)=  10.483 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  21.428
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   7.1) ------>
             Distance     Elevation       Manning
                 0.00        225.91        0.0700
                51.88        225.32        0.0700
               135.69        224.23        0.0700
               183.58        223.08        0.0700
               211.52        223.28        0.0700
               223.49        222.51        0.0700
               231.43        220.69        0.0700
               244.53        219.78    0.0700 /0.0500  Main Channel
               249.23        219.60        0.0500      Main Channel
               249.93        219.46        0.0500      Main Channel
               251.43        219.23        0.0500      Main Channel
               253.50        219.70    0.0500 /0.0700  Main Channel
               261.10        219.90        0.0700
               271.38        221.01        0.0700
               283.36        223.77        0.0700
               295.33        224.21        0.0700
               331.25        226.04        0.0700
               351.20        227.76        0.0700
               371.16        227.49        0.0700
               395.10        228.55        0.0700

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
            0.23   219.46    .112E+04       0.0         0.16     375.56
            0.47   219.70    .471E+04       0.3         0.22     277.80
            0.84   220.07    .267E+05       2.4         0.34     184.45
            1.20   220.43    .626E+05       7.4         0.44     140.97
            1.57   220.80    .110E+06      15.6         0.52     117.94
            1.93   221.16    .165E+06      27.4         0.61     100.71
            2.30   221.53    .225E+06      42.6         0.70      88.16
            2.66   221.89    .290E+06      60.9         0.78      79.20
            3.03   222.26    .358E+06      82.4         0.85      72.44
            3.39   222.62    .431E+06     106.0         0.91      67.79
            3.76   222.99    .513E+06     131.5         0.95      65.01
            4.12   223.35    .628E+06     149.2         0.88      70.14
            4.49   223.72    .788E+06     191.4         0.90      68.58
            4.85   224.08    .974E+06     232.1         0.88      69.94
            5.22   224.45    .120E+07     283.2         0.88      70.45
            5.58   224.81    .147E+07     347.5         0.88      70.32
            5.95   225.18    .178E+07     427.9         0.89      69.46
            6.31   225.54    .215E+07     523.9         0.90      68.38
            6.68   225.91    .257E+07     638.4         0.92      67.05

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77    10.48   10.50  21.43     1.34      0.47
     OUTFLOW: ID= 1 (6007) 1375.77     8.68   12.25  21.43     1.26      0.45


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-------------------
| CALIB             |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        85.16
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       5.11 (ii)  12.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.80         1.55          2.355 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      80.00        35.87         43.37
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.99         0.44          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  62.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  1.1020      0.4341
                         0.0560      0.2063   |  1.3830      0.4946
                         0.3190      0.2394   |  1.6100      0.5538
                         0.5940      0.3063   |  2.0100      0.5638
                         0.8240      0.3645   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (0071)     16.470      2.355      6.00       43.37
     OUTFLOW: ID= 1 (5007)     16.470      0.706      6.50       43.32

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.96
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3407

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
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```
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   7.072 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  27.876
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0072):   539.30   7.072     9.00    27.88
      + ID2= 2 (5007):    16.47   0.706     6.50    43.32
        ==========================================================
        ID = 3 (8507):   555.77   7.177     9.00    28.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6007):  1375.77   8.678    12.25    21.43
      + ID2= 2 (8507):   555.77   7.177     9.00    28.33
        ==========================================================
        ID = 3 (8210):  1931.54  13.384    10.75    23.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (8206):  3183.02  23.798    11.00    28.91
      + ID2= 2 (8210):  1931.54  13.384    10.75    23.41
        ==========================================================
        ID = 3 (8208):  5114.56  37.161    10.75    26.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)   (cms)    (hrs)     (mm)
        ID1= 1 (8208):  5114.56  37.161    10.75    26.84
      + ID2= 2 (8214):   875.75  12.226     8.50    26.60
        ==========================================================
        ID = 3 (8212):  5990.31  45.529    10.25    26.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (  10.1) ------>
             Distance      Elevation       Manning
                0.00         223.78        0.0400
               10.97         224.70        0.0400
               60.32         222.23        0.0400
              104.19         219.90        0.0400
              126.13         219.00        0.0400
              134.36         218.90    0.0400 /0.0330  Main Channel
              137.10         218.41        0.0330      Main Channel
              139.84         218.30        0.0330      Main Channel
              142.58         216.76        0.0330      Main Channel
              145.32         216.74        0.0330      Main Channel
              148.07         216.71        0.0330      Main Channel
              150.81         217.11        0.0330      Main Channel
              153.55         218.40        0.0330      Main Channel
              156.29         219.01    0.0330 /0.0400  Main Channel
              159.03         219.52        0.0400
              167.26         219.89        0.0400
              170.00         220.09        0.0400
              183.71         221.31        0.0400
              200.16         223.39        0.0400
              271.45         224.04        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.36   217.07    .680E+04        0.9         0.36     129.75
      0.73   217.44    .165E+05        3.4         0.58      81.12
      1.09   217.81    .278E+05        7.3         0.75      63.18
      1.46   218.17    .405E+05       12.6         0.88      53.42
      1.83   218.54    .561E+05       17.7         0.90      52.70
      2.19   218.90    .764E+05       26.2         0.97      48.52
      2.64   219.35    .118E+06       44.8         1.07      44.04
      3.08   219.79    .180E+06       71.5         1.13      41.83
      3.53   220.24    .264E+06      109.3         1.17      40.26
      3.97   220.68    .366E+06      159.0         1.23      38.34
      4.42   221.13    .485E+06      221.7         1.30      36.43
      4.87   221.58    .620E+06      298.8         1.37      34.58
      5.31   222.02    .771E+06      391.1         1.44      32.85
      5.76   222.47    .937E+06      498.7         1.51      31.30
      6.21   222.92    .112E+07      622.7         1.58      29.93
      6.65   223.36    .132E+07      764.2         1.65      28.69
      7.10   223.81    .155E+07      878.9         1.60      29.46
      7.54   224.25    .186E+07     1057.1         1.61      29.35
      7.99   224.70    .220E+07     1291.1         1.67      28.35

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8212) 5990.31    45.53   10.25  26.80      2.65      1.07
    OUTFLOW: ID= 1 (6010) 5990.31    44.25   10.75  26.80      2.62      1.07

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-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      99.40       112.09
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1187.41        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        58.78
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.99 (ii)   19.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      13.35         9.33        19.305 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      80.00        28.05        41.56
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.99         0.35         0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.64        70.63
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     942.59        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        58.78
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.57 (ii)   18.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.78         6.07        12.665 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      80.00        28.05        41.56
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.99         0.35         0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5010) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.8040     3.7679
                         1.3970     1.4119   |   8.2460     4.4558
                         3.2730     2.3774   |  10.2760     4.7276
                         5.2480     3.0364   |  10.6760     4.7376

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)    133.270     12.665      6.00      41.56
     OUTFLOW: ID= 1 (5010)    133.270      3.789      6.75      41.56

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.92
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.5674

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------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):   211.49  19.305     6.00    41.56
       + ID2= 2 (5010):   133.27   3.789     6.75    41.56
         ==========================================================
         ID = 3 (8216):   344.76  20.614     6.00    41.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6010):  5990.31  44.253    10.75    26.80
       + ID2= 2 (8216):   344.76  20.614     6.00    41.56
         ==========================================================
         ID = 3 (8218):  6335.07  46.059    10.75    27.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   6 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              ad939110-f7bb-4285-9226-bce91a941061\7d312c97
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
-------------------
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                  0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                  0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                  1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                  1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                  1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                  1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                  2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                  2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                  2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                  2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                  3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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------------------
| CALIB            |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.74          5.79
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     264.95         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         93.61
                 over (min)      15.00         15.00
     Storage Coeff.  (min)=       4.31 (ii)   11.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.50          1.18          1.679 (iii)
     TIME TO PEAK   (hrs)=       6.00          6.00           6.00
     RUNOFF VOLUME   (mm)=      87.70         39.96          47.12
     TOTAL RAINFALL  (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT  =       0.99          0.45           0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| RESERVOIR (5008) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7050     0.2743
                         0.0360     0.1287   |   0.8850     0.3136
                         0.2040     0.1489   |   1.0300     0.3521
                         0.3800     0.1922   |   1.4300     0.3621
                         0.5270     0.2294   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0081)    10.530      1.679      6.00      47.12
     OUTFLOW: ID= 1 (5008)    10.530      0.518      6.25      47.04

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.83
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2299

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------------------
| CALIB            |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 63.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW      (cms)=   8.941 (i)
     TIME TO PEAK   (hrs)=   7.500
     RUNOFF VOLUME   (mm)=  31.709
     TOTAL RAINFALL  (mm)=  88.500
     RUNOFF COEFFICIENT  =   0.358

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0082):   402.65   8.941     7.50    31.71
       + ID2= 2 (5008):    10.53   0.518     6.25    47.04
         ==========================================================
         ID = 3 (8508):   413.18   9.181     7.50    32.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------

              <------ DATA FOR SECTION (   9.1) ------>
              Distance      Elevation       Manning
                 0.00         232.41        0.0600
                16.80         232.21        0.0600
                28.00         231.55        0.0600
               117.61         229.36        0.0600
               235.21         228.08        0.0600
               296.81         226.96        0.0600
               316.00         226.17        0.0600
               326.00         226.17        0.0600
               332.00         226.04    0.0600 /0.0350  Main Channel
               335.50         225.16        0.0350      Main Channel
               336.00         225.08        0.0350      Main Channel
               337.00         225.08        0.0350      Main Channel
               337.90         225.21        0.0350      Main Channel
               339.90         225.93    0.0350 /0.0600  Main Channel
               345.00         226.28        0.0600
               358.42         226.57        0.0600
               403.22         227.73        0.0600
               448.02         229.07        0.0600
               492.82         230.51        0.0600
               554.43         232.28        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
```

0.28	225.36	.255E+04	0.3	0.37	160.52
0.57	225.65	.719E+04	1.1	0.55	107.34
0.85	225.93	.138E+05	2.7	0.70	85.08
1.25	226.33	.405E+05	7.8	0.69	86.59
1.64	226.72	.109E+06	20.0	0.65	91.15
2.04	227.12	.216E+06	41.2	0.68	87.34
2.44	227.52	.372E+06	74.8	0.72	82.92
2.83	227.91	.580E+06	125.6	0.77	77.03
3.23	228.31	.842E+06	193.5	0.82	72.57
3.63	228.71	.117E+07	284.7	0.87	68.66
4.02	229.10	.157E+07	405.4	0.92	64.71
4.42	229.50	.204E+07	564.5	0.99	60.30
4.82	229.90	.256E+07	766.1	1.07	55.64
5.22	230.30	.311E+07	1001.2	1.15	51.82
5.61	230.69	.371E+07	1269.8	1.22	48.68
6.01	231.09	.435E+07	1573.3	1.29	46.05
6.41	231.49	.503E+07	1914.5	1.36	43.77
6.80	231.88	.575E+07	2314.0	1.44	41.39
7.20	232.28	.650E+07	2741.3	1.50	39.49

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8508)	413.18	9.18	7.50	32.10	1.29	0.68
OUTFLOW: ID= 1 (6009)	413.18	6.72	8.75	32.10	1.16	0.69

CALIB			
STANDHYD (0091)	Area (ha)= 11.32		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 20.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.66	5.66
Dep. Storage (mm)=	0.80	2.50
Average Slope (%)=	1.00	2.00
Length (m)=	274.71	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	116.82	94.31
over (min)	15.00	15.00
Storage Coeff. (min)=	4.40 (ii)	11.63 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW (cms)=	0.72	1.874 (iii)
TIME TO PEAK (hrs)=	6.00	6.00
RUNOFF VOLUME (mm)=	87.70	38.94	48.69
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	0.99	0.44	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5009)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.7570	0.3065
	0.0380	0.1497		0.9510	0.3465
	0.2190	0.1748		1.1070	0.3857
	0.4090	0.2196		1.5070	0.3957
	0.5670	0.2594		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0091)	11.320	1.874	6.00	48.69
OUTFLOW: ID= 1 (5009)	11.320	0.571	6.25	48.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.49
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2623

CALIB			
NASHYD (0092)	Area (ha)= 451.25	Curve Number (CN)= 60.8	
ID= 1 DT=15.0 min	Ia (mm)= 2.50	# of Linear Res.(N)= 3.50	
	U.H. Tp(hrs)= 2.11		

Unit Hyd Qpeak (cms)= 9.199

PEAK FLOW (cms)= 7.670 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 29.613
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.335

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8509)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0092):	451.25	7.670	8.25	29.61
+ ID2= 2 (5009):	11.32	0.571	6.25	48.61
ID = 3 (8509):	462.57	7.804	8.25	30.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8214)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6009):	413.18	6.718	8.75	32.10
+ ID2= 2 (8509):	462.57	7.804	8.25	30.08
ID = 3 (8214):	875.75	14.300	8.50	31.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0011)	Area (ha)= 2.54		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 15.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.14	1.40
Dep. Storage (mm)=	0.80	2.50
Average Slope (%)=	1.00	2.00
Length (m)=	130.13	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	116.82	88.14
over (min)	15.00	15.00
Storage Coeff. (min)=	2.81 (ii)	10.24 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09

		TOTALS
PEAK FLOW (cms)=	0.12	0.28	0.402 (iii)
TIME TO PEAK (hrs)=	6.00	6.00	6.00
RUNOFF VOLUME (mm)=	87.70	37.71	45.21
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	0.99	0.43	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0019)	Area (ha)= 487.70		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 35.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	219.46	268.24
Dep. Storage (mm)=	0.80	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	1803.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	116.82	77.17
over (min)	15.00	30.00
Storage Coeff. (min)=	13.61 (ii)	21.44 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.05

		TOTALS
PEAK FLOW (cms)=	41.99	28.32	60.283 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	87.70	42.31	58.19
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	0.99	0.48	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)

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     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (8511) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  24.3900     10.5911
                         1.6600     5.9307   |  32.6300     12.6704
                         9.4600     6.8569   |  40.9700     14.4958
                        17.6100     8.8657   |  47.7000     16.2820

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)    (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0019)    487.700     60.283      6.00      58.19
     OUTFLOW: ID= 1 (8511)    487.700     28.752      6.50      58.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.70
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 11.7540

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-------------------
| ADD HYD   (8510) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     2.54   0.402     6.00     45.21
       + ID2= 2 (8511):   487.70  28.752     6.50     58.19
         ==========================================
         ID = 3 (8510):   490.24  28.838     6.50     58.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5001) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6830     11.8298
                         0.0540     0.1960   |   5.4380     13.3066
                         1.2810     6.8008   |   6.1990     14.9402
                         2.5090     8.6037   |   6.5990     14.9502
                         3.4630     9.9865   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)    (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8510)    490.240     28.838      6.50      58.13
     OUTFLOW: ID= 1 (5001)    490.240      6.070      8.75      58.12

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.05
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 14.6955

--------------------------------------------------------------------------------
------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)= 630.33   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.24

     Unit Hyd Qpeak  (cms)=  12.094

     PEAK FLOW       (cms)=  10.278 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  29.776
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):   630.33  10.278     8.25     29.78
       + ID2= 2 (5001):   490.24   6.070     8.75     58.12
         ==========================================
         ID = 3 (8501):  1120.57  16.320     8.50     42.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   2.1) ------>
              Distance      Elevation       Manning
                0.00        235.70        0.0700
               15.10        235.42        0.0700
               30.21        235.01        0.0700
               37.76        234.49        0.0700
               45.31        231.43        0.0700
               56.64        231.55        0.0700
               98.18        229.87        0.0700
              117.06        229.64        0.0700
              124.61        229.03    0.0700 /0.0300  Main Channel
              128.38        228.69        0.0300      Main Channel
              132.16        228.58        0.0300      Main Channel
              143.49        228.98    0.0300 /0.0700  Main Channel
              158.59        229.36        0.0700
              181.25        229.58        0.0700
              200.13        229.96        0.0700
              237.89        231.19        0.0700
              268.09        232.60        0.0700
              302.08        233.40        0.0700
              332.29        234.25        0.0700
              373.82        235.68        0.0700

     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   228.78    .639E+04        0.3         0.26      359.77
      0.40   228.98    .222E+05        1.6         0.40      227.92
      0.79   229.37    .842E+05        9.7         0.63      145.25
      1.19   229.77    .218E+06       25.5         0.65      142.16
      1.58   230.16    .441E+06       53.8         0.67      136.74
      1.98   230.56    .715E+06       94.9         0.73      125.69
      2.37   230.95    .104E+07      148.9         0.79      116.12
      2.76   231.34    .141E+07      217.2         0.85      107.88
      3.16   231.74    .183E+07      299.4         0.90      101.81
      3.55   232.13    .228E+07      403.8         0.97       94.28
      3.95   232.53    .276E+07      523.3         1.04       87.91
      4.34   232.92    .326E+07      650.4         1.10       83.62
      4.74   233.32    .380E+07      792.5         1.15       79.99
      5.13   233.71    .438E+07      954.7         1.20       76.48
      5.52   234.10    .499E+07     1134.7         1.25       73.30
      5.92   234.50    .563E+07     1334.6         1.31       70.34
      6.31   234.89    .631E+07     1540.4         1.35       68.23
      6.71   235.29    .702E+07     1746.8         1.37       67.00
      7.10   235.68    .780E+07     1958.9         1.38       66.34

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57    16.32    8.50  42.18      0.96      0.64
     OUTFLOW: ID= 1 (6002) 1120.57    11.62   10.75  42.18      0.84      0.63


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------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 869.77   Curve Number   (CN)= 58.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=   9.737 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  27.708
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.313

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0002):   869.77   9.737     9.75     27.71
       + ID2= 2 (6002):  1120.57  11.624    10.75     42.18
         ==========================================
         ID = 3 (8200):  1990.34  21.077    10.25     35.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (   3.1) ------>
              Distance      Elevation       Manning
                0.00        234.33        0.0700
               50.41        229.32        0.0700
               94.52        227.15        0.0700
              113.42        226.02        0.0700
              116.57        225.86        0.0700
              125.32        224.53        0.0700
              130.32        224.24    0.0700 /0.0300  Main Channel
```

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              130.82        223.78        0.0300      Main Channel
              131.82        223.63        0.0300      Main Channel
              132.42        223.79        0.0300      Main Channel
              133.42        224.43    0.0300 /0.0700  Main Channel
              163.83        226.19        0.0700
              189.03        227.19        0.0700
              229.99        228.02        0.0700
              270.95        228.65        0.0700
              286.70        229.01        0.0700
              305.61        229.31        0.0700

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   223.83    .564E+03       0.1          0.26     175.53
       0.41   224.04    .168E+04       0.3          0.44     105.08
       0.61   224.24    .309E+04       0.6          0.56      82.17
       0.93   224.56    .847E+04       1.8          0.57      80.17
       1.24   224.87    .209E+05       4.1          0.54      84.69
       1.56   225.19    .399E+05       8.0          0.55      83.36
       1.88   225.51    .654E+05      13.7          0.57      79.74
       2.19   225.82    .976E+05      21.5          0.61      75.55
       2.51   226.14    .138E+06      31.1          0.62      73.71
       2.83   226.46    .188E+06      43.6          0.64      71.92
       3.15   226.78    .250E+06      59.8          0.66      69.63
       3.46   227.09    .324E+06      80.5          0.68      67.03
       3.78   227.41    .411E+06     103.4          0.69      66.15
       4.10   227.73    .516E+06     132.2          0.70      65.13
       4.41   228.04    .642E+06     168.2          0.72      63.59
       4.73   228.36    .788E+06     210.4          0.73      62.46
       5.05   228.68    .959E+06     262.8          0.75      60.81
       5.36   228.99    .115E+07     328.9          0.79      58.23
       5.68   229.31    .136E+07     401.2          0.81      56.49

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34    21.08   10.25  35.85      2.18      0.60
     OUTFLOW: ID= 1 (6003) 1990.34    19.03   11.50  35.85      2.09      0.60


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| CALIB            |
| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         2.18
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     203.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        73.76
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       3.68 (ii)   11.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.94         0.35          1.286 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      87.70        32.42          58.40
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.99         0.37           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  53.5     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5003) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4170      0.1860
                          0.0210     0.0993   |   0.5230      0.2047
                          0.1210     0.1182   |   0.6090      0.2231
                          0.2250     0.1402   |   1.0090      0.2331
                          0.3120     0.1619   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)     6.230     1.286      6.00      58.40
     OUTFLOW: ID= 1 (5003)     6.230     0.420      6.25      58.21

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.64
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1922
```

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0032) |   Area    (ha)= 461.62   Curve Number   (CN)= 57.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW       (cms)=   6.519 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  27.247
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0032):   461.62   6.519     8.50    27.25
        + ID2= 2 (5003):     6.23   0.420     6.25    58.21
          ================================================
          ID = 3 (8503):   467.85   6.589     8.50    27.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6003):  1990.34  19.032    11.50    35.85
        + ID2= 2 (8503):   467.85   6.589     8.50    27.66
          ================================================
          ID = 3 (8202):  2458.19  22.919    10.75    34.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50         4.16
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     240.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        77.54
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       4.06 (ii)   11.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.61         0.69          1.298 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      87.70        31.81          44.10
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.99         0.36           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  50.9    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5004) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5790      0.2368
                          0.0290     0.1168   |   0.7270      0.2669
                          0.1680     0.1367   |   0.8470      0.2965
                          0.3120     0.1706   |   1.2470      0.3065
                          0.4330     0.2010   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0041)     8.660     1.298      6.00      44.10
     OUTFLOW: ID= 1 (5004)     8.660     0.376      6.25      43.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.98
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
```

MAXIMUM STORAGE USED (ha.m.)= 0.1877

CALIB				
NASHYD (0042)	Area	(ha)= 376.06	Curve Number	(CN)= 53.3
ID= 1 DT=15.0 min	Ia	(mm)= 2.50	# of Linear Res.(N)= 3.50	
	U.H. Tp(hrs)= 1.62			

Unit Hyd Qpeak (cms)= 9.964

PEAK FLOW (cms)= 6.249 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 23.972
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.271

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8504) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0042):	376.06	6.249	7.50	23.97
+ ID2= 2 (5004):	8.66	0.376	6.25	43.99
ID = 3 (8504):	384.72	6.420	7.50	24.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8204) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8202):	2458.19	22.919	10.75	34.29
+ ID2= 2 (8504):	384.72	6.420	7.50	24.42
ID = 3 (8204):	2842.91	25.169	10.50	32.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6005) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5.1) ------>

Distance	Elevation	Manning	
0.00	225.02	0.0400	
20.58	224.79	0.0400	
35.54	223.93	0.0400	
48.64	223.09	0.0400	
59.86	222.15	0.0400	
67.35	221.11	0.0400	
76.41	219.63	0.0400 /0.0350	Main Channel
82.81	218.53	0.0350	Main Channel
85.41	218.50	0.0350	Main Channel
86.78	218.50	0.0350	Main Channel
88.15	218.50	0.0350	Main Channel
93.45	218.71	0.0350	Main Channel
103.45	218.94	0.0350 /0.0400	Main Channel
109.45	219.25	0.0400	
114.11	220.15	0.0400	
123.47	221.73	0.0400	
136.56	223.41	0.0400	
153.40	224.15	0.0400	
170.24	224.55	0.0400	
185.20	224.54	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	218.72	.640E+04	0.5	0.28	204.26
0.44	218.94	.198E+05	2.2	0.39	147.20
0.77	219.27	.507E+05	9.3	0.63	91.02
1.10	219.60	.880E+05	20.9	0.82	70.26
1.43	219.93	.130E+06	37.7	1.00	57.26
1.76	220.26	.175E+06	59.1	1.16	49.43
2.09	220.59	.226E+06	85.1	1.30	44.19
2.42	220.92	.280E+06	115.8	1.43	40.35
2.75	221.25	.340E+06	151.3	1.54	37.40
3.08	221.58	.404E+06	191.9	1.64	35.06
3.40	221.90	.473E+06	237.5	1.73	33.19
3.73	222.23	.548E+06	288.1	1.82	31.68
4.06	222.56	.629E+06	344.1	1.89	30.48
4.39	222.89	.718E+06	406.8	1.96	29.43
4.72	223.22	.815E+06	476.1	2.02	28.52
5.05	223.55	.920E+06	547.9	2.06	28.00
5.38	223.88	.104E+07	624.5	2.07	27.74
5.71	224.21	.117E+07	710.0	2.09	27.54
6.04	224.54	.133E+07	800.8	2.08	27.62

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8204)	2842.91	25.17	10.50	32.96	1.18	0.86
OUTFLOW: ID= 1 (6005)	2842.91	24.09	11.25	32.96	1.16	0.85

CALIB				
NASHYD (0005)	Area	(ha)= 340.11	Curve Number	(CN)= 69.5
ID= 1 DT=15.0 min	Ia	(mm)= 2.50	# of Linear Res.(N)= 3.50	
	U.H. Tp(hrs)= 2.45			

Unit Hyd Qpeak (cms)= 5.972

PEAK FLOW (cms)= 6.586 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 37.455
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8206) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0005):	340.11	6.586	8.50	37.45
+ ID2= 2 (6005):	2842.91	24.091	11.25	32.96
ID = 3 (8206):	3183.02	28.151	10.75	33.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0006)	Area	(ha)=1375.77	Curve Number	(CN)= 55.0
ID= 1 DT=15.0 min	Ia	(mm)= 2.50	# of Linear Res.(N)= 3.50	
	U.H. Tp(hrs)= 3.90			

Unit Hyd Qpeak (cms)= 15.192

PEAK FLOW (cms)= 12.327 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 25.172
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.284

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6007) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (7.1) ------>

Distance	Elevation	Manning	
0.00	225.91	0.0700	
51.88	225.32	0.0700	
135.69	224.23	0.0700	
183.58	223.08	0.0700	
211.52	223.28	0.0700	
223.49	222.51	0.0700	
231.43	220.69	0.0700	
244.53	219.78	0.0700 /0.0500	Main Channel
249.23	219.60	0.0500	Main Channel
249.93	219.46	0.0500	Main Channel
251.43	219.23	0.0500	Main Channel
253.50	219.70	0.0500 /0.0700	Main Channel
261.10	219.90	0.0700	
271.38	221.01	0.0700	
283.36	223.77	0.0700	
295.33	224.21	0.0700	
331.25	226.04	0.0700	
351.20	227.76	0.0700	
371.16	227.49	0.0700	
395.10	228.55	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	219.46	.112E+04	0.0	0.16	375.56
0.47	219.70	.471E+04	0.3	0.22	277.80
0.84	220.07	.267E+05	2.4	0.34	184.45
1.20	220.43	.626E+05	7.4	0.44	140.97
1.57	220.80	.110E+06	15.6	0.52	117.94
1.93	221.16	.165E+06	27.4	0.61	100.71
2.30	221.53	.225E+06	42.6	0.70	88.16
2.66	221.89	.290E+06	60.9	0.78	79.20
3.03	222.26	.358E+06	82.4	0.85	72.44

```
      3.39   222.62    .431E+06     106.0          0.91      67.79
      3.76   222.99    .513E+06     131.5          0.95      65.01
      4.12   223.35    .628E+06     149.2          0.88      70.14
      4.49   223.72    .788E+06     191.4          0.90      68.58
      4.85   224.08    .974E+06     232.1          0.88      69.94
      5.22   224.45    .120E+07     283.2          0.88      70.45
      5.58   224.81    .147E+07     347.5          0.88      70.32
      5.95   225.18    .178E+07     427.9          0.89      69.46
      6.31   225.54    .215E+07     523.9          0.90      68.38
      6.68   225.91    .257E+07     638.4          0.92      67.05

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77   12.33   10.50  25.17     1.42      0.49
     OUTFLOW: ID= 1 (6007) 1375.77   10.26   12.25  25.17     1.32      0.46


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-------------------
| CALIB             |
| STANDHYD  (0071)  |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74         8.73
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     331.36        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        98.32
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.93 (ii)   12.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.88         1.83          2.714 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      87.70        41.37         49.24
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.99         0.47          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5007) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------     (cms)     (ha.m.)    |   (cms)     (ha.m.)
                        0.0000     0.0000    |   1.1020     0.4341
                        0.0560     0.2063    |   1.3830     0.4946
                        0.3190     0.2394    |   1.6100     0.5538
                        0.5940     0.3063    |   2.0100     0.5638
                        0.8240     0.3645    |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0071)     16.470      2.714      6.00      49.24
     OUTFLOW: ID= 1 (5007)     16.470      0.851      6.25      49.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.36
                  TIME SHIFT OF PEAK FLOW       (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3762

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0072)  |   Area    (ha)= 539.30   Curve Number   (CN)= 64.2
|ID= 1 DT=15.0 min  |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW       (cms)=   8.259 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  32.491
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0072):   539.30   8.259     9.00    32.49
        + ID2= 2 (5007):    16.47   0.851     6.25    49.19
          ================================================
          ID = 3 (8507):   555.77   8.378     9.00    32.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6007):  1375.77  10.259    12.25    25.17
        + ID2= 2 (8507):   555.77   8.378     9.00    32.99
          ================================================
          ID = 3 (8210):  1931.54  15.793    10.75    27.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8206):  3183.02  28.151    10.75    33.44
        + ID2= 2 (8210):  1931.54  15.793    10.75    27.42
          ================================================
          ID = 3 (8208):  5114.56  43.943    10.75    31.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8208):  5114.56  43.943    10.75    31.17
        + ID2= 2 (8214):   875.75  14.300     8.50    31.03
          ================================================
          ID = 3 (8212):  5990.31  54.144    10.00    31.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (  10.1) ------>
             Distance      Elevation       Manning
                0.00         223.78        0.0400
               10.97         224.70        0.0400
               60.32         222.23        0.0400
              104.19         219.90        0.0400
              126.13         219.00        0.0400
              134.36         218.90    0.0400 /0.0330  Main Channel
              137.10         218.41        0.0330      Main Channel
              139.84         218.30        0.0330      Main Channel
              142.58         216.76        0.0330      Main Channel
              145.32         216.74        0.0330      Main Channel
              148.07         216.71        0.0330      Main Channel
              150.81         217.11        0.0330      Main Channel
              153.55         218.40        0.0330      Main Channel
              156.29         219.01    0.0330 /0.0400  Main Channel
              159.03         219.52        0.0400
              167.26         219.89        0.0400
              170.00         220.09        0.0400
              183.71         221.31        0.0400
              200.16         223.39        0.0400
              271.45         224.04        0.0400

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)         (m/s)       (min)
           0.36    217.07    .680E+04       0.9           0.36      129.75
           0.73    217.44    .165E+05       3.4           0.58       81.12
           1.09    217.81    .278E+05       7.3           0.75       63.18
           1.46    218.17    .405E+05      12.6           0.88       53.42
           1.83    218.54    .561E+05      17.7           0.90       52.70
           2.19    218.90    .764E+05      26.2           0.97       48.52
           2.64    219.35    .118E+06      44.8           1.07       44.04
           3.08    219.79    .180E+06      71.5           1.13       41.83
           3.53    220.24    .264E+06     109.3           1.17       40.26
           3.97    220.68    .366E+06     159.0           1.23       38.34
           4.42    221.13    .485E+06     221.7           1.30       36.43
           4.87    221.58    .620E+06     298.8           1.37       34.58
           5.31    222.02    .771E+06     391.1           1.44       32.85
           5.76    222.47    .937E+06     498.7           1.51       31.30
           6.21    222.92    .112E+07     622.7           1.58       29.93
           6.65    223.36    .132E+07     764.2           1.65       28.69
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      7.10   223.81    .155E+07     878.9          1.60      29.46
      7.54   224.25    .186E+07    1057.1          1.61      29.35
      7.99   224.70    .220E+07    1291.1          1.67      28.35

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8212) 5990.31    54.14   10.00  31.15      2.79      1.09
    OUTFLOW: ID= 1 (6010) 5990.31    52.39   10.75  31.15      2.76      1.09


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--------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      99.40       112.09
    Dep. Storage     (mm)=       0.80         2.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=    1187.41        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     116.82        68.57
              over (min)        15.00        30.00
    Storage Coeff.  (min)=     10.59 (ii)   18.80 (ii)
    Unit Hyd. Tpeak (min)=     15.00        30.00
    Unit Hyd. peak  (cms)=      0.09         0.05
                                                      *TOTALS*
    PEAK FLOW       (cms)=     14.80        11.11       21.936 (iii)
    TIME TO PEAK    (hrs)=      6.00         6.25         6.00
    RUNOFF VOLUME    (mm)=     87.70        32.66        46.97
    TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
    RUNOFF COEFFICIENT   =      0.99         0.37         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      62.64        70.63
    Dep. Storage     (mm)=       0.80         2.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=     942.59        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     116.82        68.57
              over (min)        15.00        30.00
    Storage Coeff.  (min)=      9.22 (ii)   17.43 (ii)
    Unit Hyd. Tpeak (min)=     15.00        30.00
    Unit Hyd. peak  (cms)=      0.09         0.05
                                                      *TOTALS*
    PEAK FLOW       (cms)=      9.72         7.22        14.371 (iii)
    TIME TO PEAK    (hrs)=      6.00         6.25         6.00
    RUNOFF VOLUME    (mm)=     87.70        32.66        46.97
    TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
    RUNOFF COEFFICIENT   =      0.99         0.37         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5010) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  6.8040      3.7679
                          1.3970     1.4119   |  8.2460      4.4558
                          3.2730     2.3774   | 10.2760      4.7276
                          5.2480     3.0364   | 10.6760      4.7376

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0101)    133.270    14.371      6.00      46.97
    OUTFLOW: ID= 1 (5010)    133.270     4.612      6.75      46.97

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.09
               TIME SHIFT OF PEAK FLOW         (min)= 45.00

                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.8601

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):   211.49  21.936     6.00     46.97
       + ID2= 2 (5010):   133.27   4.612     6.75     46.97
         ================================================
         ID = 3 (8216):   344.76  23.489     6.00     46.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6010):  5990.31  52.388    10.75    31.15
       + ID2= 2 (8216):   344.76  23.489     6.00    46.97
         ================================================
         ID = 3 (8218):  6335.07  54.358    10.75    32.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
================================================================================================================
```

FUTURE
MASKINONGE RIVER REGIONAL STORM

```
       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual Otthymo 2.4r\VO2\voin.dat
  Output  filename: C:\Users\jscott\AppData\Local\Temp\0cf93cf3-cda7-49d3-bc01-11871e34e470\Scenario.out
  Summary filename: C:\Users\jscott\AppData\Local\Temp\0cf93cf3-cda7-49d3-bc01-11871e34e470\Scenario.sum

DATE: 08/22/2012                          TIME: 02:21:44

USER:

COMMENTS: _____
```

```
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************
```

```
-------------------
|    READ STORM    |    Filename: C:\Users\jscott\AppD
|                  |              ata\Local\Temp\
|                  |              0cf93cf3-cda7-49d3-bc01-11871e34e470\89c83670
| Ptotal=212.00 mm |    Comments: 12-Hour Hurricane Hazel
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	6.00	3.25	13.00	6.25	23.00	9.25	53.00
0.50	6.00	3.50	13.00	6.50	23.00	9.50	53.00
0.75	6.00	3.75	13.00	6.75	23.00	9.75	53.00
1.00	6.00	4.00	13.00	7.00	23.00	10.00	53.00
1.25	4.00	4.25	17.00	7.25	13.00	10.25	38.00
1.50	4.00	4.50	17.00	7.50	13.00	10.50	38.00
1.75	4.00	4.75	17.00	7.75	13.00	10.75	38.00
2.00	4.00	5.00	17.00	8.00	13.00	11.00	38.00
2.25	6.00	5.25	13.00	8.25	13.00	11.25	13.00
2.50	6.00	5.50	13.00	8.50	13.00	11.50	13.00
2.75	6.00	5.75	13.00	8.75	13.00	11.75	13.00
3.00	6.00	6.00	13.00	9.00	13.00	12.00	13.00

```
-------------------
| MODIFY STORM     |    MODIFYING PARAMETERS
| CASE= 1          |    Multiplication Factor=  0.92
-------------------    Time shift  (min)    =  0.00
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.250	5.52	3.250	11.96	6.250	21.16	9.25	48.76
0.500	5.52	3.500	11.96	6.500	21.16	9.50	48.76
0.750	5.52	3.750	11.96	6.750	21.16	9.75	48.76
1.000	5.52	4.000	11.96	7.000	21.16	10.00	48.76
1.250	3.68	4.250	15.64	7.250	11.96	10.25	34.96
1.500	3.68	4.500	15.64	7.500	11.96	10.50	34.96
1.750	3.68	4.750	15.64	7.750	11.96	10.75	34.96
2.000	3.68	5.000	15.64	8.000	11.96	11.00	34.96
2.250	5.52	5.250	11.96	8.250	11.96	11.25	11.96
2.500	5.52	5.500	11.96	8.500	11.96	11.50	11.96
2.750	5.52	5.750	11.96	8.750	11.96	11.75	11.96
3.000	5.52	6.000	11.96	9.000	11.96	12.00	11.96

```
-------------------
| CALIB            |
| STANDHYD  (0081) |   Area    (ha)=  10.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.74	5.79
Dep. Storage (mm)=	0.80	2.50
Average Slope (%)=	1.00	2.00
Length (m)=	264.95	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	48.76	70.99
over (min)	15.00	15.00
Storage Coeff. (min)=	6.11 (ii)	14.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.07

			TOTALS
PEAK FLOW	(cms)=	0.21	1.12	1.338 (iii)
TIME TO PEAK	(hrs)=	10.00	10.00	10.00
RUNOFF VOLUME	(mm)=	194.24	157.26	162.80
TOTAL RAINFALL	(mm)=	195.04	195.04	195.04
RUNOFF COEFFICIENT	=	1.00	0.81	0.83

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN* =  78.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0082) |   Area    (ha)= 402.65   Curve Number   (CN)= 80.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=  10.622

     PEAK FLOW       (cms)=  31.281 (i)
     TIME TO PEAK    (hrs)=  11.500
     RUNOFF VOLUME    (mm)= 145.473
     TOTAL RAINFALL   (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.746

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8508) |
|   1 +  2 =  3    |
-------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0081):	10.53	1.338	10.00	162.80
+ ID2= 2 (0082):	402.65	31.281	11.50	145.47
ID = 3 (8508):	413.18	31.687	11.50	145.91

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (9.1) ------>

Distance	Elevation	Manning	
0.00	232.41	0.0600	
16.80	232.21	0.0600	
28.00	231.55	0.0600	
117.61	229.36	0.0600	
235.21	228.08	0.0600	
296.81	226.96	0.0600	
316.00	226.17	0.0600	
326.00	226.17	0.0600	
332.00	226.04	0.0600 /0.0350	Main Channel
335.50	225.16	0.0350	Main Channel
336.00	225.08	0.0350	Main Channel
337.00	225.08	0.0350	Main Channel
337.90	225.21	0.0350	Main Channel
339.90	225.93	0.0350 /0.0600	Main Channel
345.00	226.28	0.0600	
358.42	226.57	0.0600	
403.22	227.73	0.0600	
448.02	229.07	0.0600	
492.82	230.51	0.0600	
554.43	232.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	225.36	.255E+04	0.3	0.37	160.52
0.57	225.65	.719E+04	1.1	0.55	107.34
0.85	225.93	.138E+05	2.7	0.70	85.08
1.25	226.33	.405E+05	7.8	0.69	86.59
1.64	226.72	.109E+06	20.0	0.65	91.15
2.04	227.12	.216E+06	41.2	0.68	87.34
2.44	227.52	.372E+06	74.8	0.72	82.92

```
      2.83   227.91    .580E+06     125.6          0.77      77.03
      3.23   228.31    .842E+06     193.5          0.82      72.57
      3.63   228.71    .117E+07     284.7          0.87      68.66
      4.02   229.10    .157E+07     405.4          0.92      64.71
      4.42   229.50    .204E+07     564.5          0.99      60.30
      4.82   229.90    .256E+07     766.1          1.07      55.64
      5.22   230.30    .311E+07    1001.2          1.15      51.82
      5.61   230.69    .371E+07    1269.8          1.22      48.68
      6.01   231.09    .435E+07    1573.3          1.29      46.05
      6.41   231.49    .503E+07    1914.5          1.36      43.77
      6.80   231.88    .575E+07    2314.0          1.44      41.39
      7.20   232.28    .650E+07    2741.3          1.50      39.49

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8508)  413.18    31.69   11.50 145.91      1.86      0.67
OUTFLOW: ID= 1 (6009)  413.18    25.76   12.50 145.91      1.75      0.66


--------------------------------------------------------------------------------
------------------
| CALIB            |
| STANDHYD  (0091) |   Area    (ha)=  11.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  20.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.66          5.66
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     274.71         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      48.76         73.33
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       6.24 (ii)   14.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.31          1.13          1.441 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24        156.60        164.13
     TOTAL RAINFALL   (mm)=     195.04        195.04        195.04
     RUNOFF COEFFICIENT   =       1.00          0.80          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  77.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB            |
| NASHYD    (0092) |   Area    (ha)= 451.25   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
------------------   U.H. Tp(hrs)=   2.11

     Unit Hyd Qpeak  (cms)=   9.199

     PEAK FLOW       (cms)=  30.405 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)= 140.331
     TOTAL RAINFALL   (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.719

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8509) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0091):    11.32   1.441    10.00   164.13
       + ID2= 2 (0092):   451.25  30.405    12.00   140.33
         ================================================
         ID = 3 (8509):   462.57  30.778    12.00   140.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6009):   413.18  25.762    12.50   145.91
       + ID2= 2 (8509):   462.57  30.778    12.00   140.91
         ================================================
         ID = 3 (8214):   875.75  55.887    12.25   143.27
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB            |
| NASHYD    (0012) |   Area    (ha)= 630.33   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
------------------   U.H. Tp(hrs)=   1.79

     Unit Hyd Qpeak  (cms)=  15.195

     PEAK FLOW       (cms)=  45.996 (i)
     TIME TO PEAK    (hrs)=  11.750
     RUNOFF VOLUME    (mm)= 140.334
     TOTAL RAINFALL   (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.720

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   2.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14          1.40
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     130.13         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      48.76         70.38
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       3.99 (ii)   12.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.27          0.322 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24        154.62        160.56
     TOTAL RAINFALL   (mm)=     195.04        195.04        195.04
     RUNOFF COEFFICIENT   =       1.00          0.79          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  77.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)= 487.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     219.46       268.24
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1803.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.76        55.26
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      19.31 (ii)   28.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.06         0.04
                                                         *TOTALS*
     PEAK FLOW       (cms)=      22.34        35.89        57.871 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25        10.00
     RUNOFF VOLUME    (mm)=     194.04       161.24       172.72
     TOTAL RAINFALL   (mm)=     195.04       195.04       195.04
     RUNOFF COEFFICIENT   =       0.99         0.83         0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8510) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     2.54   0.322    10.00   160.56
       + ID2= 2 (0019):   487.70  57.871    10.00   172.72
```

```
          ================================================
          ID = 3 (8510):   490.24  58.193    10.00   172.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0012):   630.33  45.996    11.75   140.33
        + ID2= 2 (8510):   490.24  58.193    10.00   172.66
          ================================================
          ID = 3 (8501):  1120.57  88.735    11.00   154.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6002) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (   2.1) ------>
               Distance      Elevation       Manning
                   0.00         235.70        0.0700
                  15.10         235.42        0.0700
                  30.21         235.01        0.0700
                  37.76         234.49        0.0700
                  45.31         231.43        0.0700
                  56.64         231.55        0.0700
                  98.18         229.87        0.0700
                 117.06         229.64        0.0700
                 124.61         229.03    0.0700 /0.0300  Main Channel
                 128.38         228.69        0.0300      Main Channel
                 132.16         228.58        0.0300      Main Channel
                 143.49         228.98    0.0300 /0.0700  Main Channel
                 158.59         229.36        0.0700
                 181.25         229.58        0.0700
                 200.13         229.96        0.0700
                 237.89         231.19        0.0700
                 268.09         232.60        0.0700
                 302.08         233.40        0.0700
                 332.29         234.25        0.0700
                 373.82         235.68        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
        0.20   228.78   .639E+04        0.3          0.26     359.77
        0.40   228.98   .222E+05        1.6          0.40     227.92
        0.79   229.37   .842E+05        9.7          0.63     145.25
        1.19   229.77   .218E+06       25.5          0.65     142.16
        1.58   230.16   .441E+06       53.8          0.67     136.74
        1.98   230.56   .715E+06       94.9          0.73     125.69
        2.37   230.95   .104E+07      148.9          0.79     116.12
        2.76   231.34   .141E+07      217.2          0.85     107.88
        3.16   231.74   .183E+07      299.4          0.90     101.81
        3.55   232.13   .228E+07      403.8          0.97      94.28
        3.95   232.53   .276E+07      523.3          1.04      87.91
        4.34   232.92   .326E+07      650.4          1.10      83.62
        4.74   233.32   .380E+07      792.5          1.15      79.99
        5.13   233.71   .438E+07      954.7          1.20      76.48
        5.52   234.10   .499E+07     1134.7          1.25      73.30
        5.92   234.50   .563E+07     1334.6          1.31      70.34
        6.31   234.89   .631E+07     1540.4          1.35      68.23
        6.71   235.29   .702E+07     1746.8          1.37      67.00
        7.10   235.68   .780E+07     1958.9          1.38      66.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8501) 1120.57    88.73   11.00 154.48      1.92      0.72
     OUTFLOW: ID= 1 (6002) 1120.57    63.08   12.00 154.47      1.67      0.68
```

```
--------------------
| CALIB            |
| NASHYD    (0002) |   Area    (ha)= 869.77   Curve Number   (CN)= 76.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
--------------------   U.H. Tp(hrs)=   3.32

     Unit Hyd Qpeak  (cms)=  11.293

     PEAK FLOW       (cms)=  44.932 (i)
     TIME TO PEAK    (hrs)=  13.000
     RUNOFF VOLUME    (mm)= 136.796
     TOTAL RAINFALL   (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.701

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0002):   869.77  44.932    13.00   136.80
        + ID2= 2 (6002):  1120.57  63.076    12.00   154.47
          ================================================
          ID = 3 (8200):  1990.34 104.731    12.25   146.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6003) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (   3.1) ------>
               Distance      Elevation       Manning
                   0.00         234.33        0.0700
                  50.41         229.32        0.0700
                  94.52         227.15        0.0700
                 113.42         226.02        0.0700
                 116.57         225.86        0.0700
                 125.32         224.53        0.0700
                 130.32         224.24    0.0700 /0.0300  Main Channel
                 130.82         223.78        0.0300      Main Channel
                 131.82         223.63        0.0300      Main Channel
                 132.42         223.79        0.0300      Main Channel
                 133.42         224.43    0.0300 /0.0700  Main Channel
                 163.83         226.19        0.0700
                 189.03         227.19        0.0700
                 229.99         228.02        0.0700
                 270.95         228.65        0.0700
                 286.70         229.01        0.0700
                 305.61         229.31        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)         (m/s)      (min)
        0.20   223.83   .564E+03        0.1          0.26     175.53
        0.41   224.04   .168E+04        0.3          0.44     105.08
        0.61   224.24   .309E+04        0.6          0.56      82.17
        0.93   224.56   .847E+04        1.8          0.57      80.17
        1.24   224.87   .209E+05        4.1          0.54      84.69
        1.56   225.19   .399E+05        8.0          0.55      83.36
        1.88   225.51   .654E+05       13.7          0.57      79.74
        2.19   225.82   .976E+05       21.5          0.61      75.55
        2.51   226.14   .138E+06       31.1          0.62      73.71
        2.83   226.46   .188E+06       43.6          0.64      71.92
        3.15   226.78   .250E+06       59.8          0.66      69.63
        3.46   227.09   .324E+06       80.5          0.68      67.03
        3.78   227.41   .411E+06      103.4          0.69      66.15
        4.10   227.73   .516E+06      132.2          0.70      65.13
        4.41   228.04   .642E+06      168.2          0.72      63.59
        4.73   228.36   .788E+06      210.4          0.73      62.46
        5.05   228.68   .959E+06      262.8          0.75      60.81
        5.36   228.99   .115E+07      328.9          0.79      58.23
        5.68   229.31   .136E+07      401.2          0.81      56.49

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8200) 1990.34   104.73   12.25 146.75      3.79      0.69
     OUTFLOW: ID= 1 (6003) 1990.34    95.75   13.25 146.75      3.67      0.69
```

```
--------------------
| CALIB            |
| STANDHYD  (0031) |   Area    (ha)=   6.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  47.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.05         2.18
     Dep. Storage     (mm)=      0.80         2.50
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    203.80        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     48.76        66.65
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      5.22 (ii)   13.52 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.40         0.40          0.794 (iii)
     TIME TO PEAK    (hrs)=     10.00        10.00          10.00
     RUNOFF VOLUME    (mm)=    194.24       145.52         168.41
     TOTAL RAINFALL   (mm)=    195.04       195.04         195.04
     RUNOFF COEFFICIENT   =      1.00         0.75           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.5    Ia = Dep. Storage  (Above)
```

```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0032) |   Area    (ha)= 461.62   Curve Number    (CN)= 75.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.40

     Unit Hyd Qpeak  (cms)=   8.267

     PEAK FLOW      (cms)=  28.389 (i)
     TIME TO PEAK   (hrs)=  12.250
     RUNOFF VOLUME   (mm)= 135.483
     TOTAL RAINFALL  (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.695

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8503) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0031):    6.23   0.794    10.00   168.41
      + ID2= 2 (0032):   461.62  28.389    12.25   135.48
        ================================================
        ID = 3 (8503):   467.85  28.429    12.25   135.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6003):  1990.34  95.754    13.25   146.75
      + ID2= 2 (8503):   467.85  28.429    12.25   135.92
        ================================================
        ID = 3 (8202):  2458.19 122.355    12.75   144.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD   (0041) |   Area    (ha)=   8.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  22.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.50         4.16
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     240.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.76        70.97
                 over (min)      15.00        15.00
     Storage Coeff.  (min)=       5.76 (ii)  13.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.81          1.063 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24       143.74        154.85
     TOTAL RAINFALL   (mm)=     195.04       195.04        195.04
     RUNOFF COEFFICIENT   =       1.00         0.74          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0042) |   Area    (ha)= 376.06   Curve Number    (CN)= 72.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   9.964

     PEAK FLOW      (cms)=  26.685 (i)
     TIME TO PEAK   (hrs)=  11.750
     RUNOFF VOLUME   (mm)= 127.907
     TOTAL RAINFALL  (mm)= 195.040
     RUNOFF COEFFICIENT   =   0.656

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8504) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0041):    8.66   1.063    10.00   154.85
      + ID2= 2 (0042):   376.06  26.685    11.75   127.91
        ================================================
        ID = 3 (8504):   384.72  26.977    11.50   128.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8202):  2458.19 122.355    12.75   144.69
      + ID2= 2 (8504):   384.72  26.977    11.50   128.51
        ================================================
        ID = 3 (8204):  2842.91 144.331    12.50   142.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6005) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <----- DATA FOR SECTION (   5.1) ------>
                Distance      Elevation        Manning
                  0.00        225.02         0.0400
                 20.58        224.79         0.0400
                 35.54        223.93         0.0400
                 48.64        223.09         0.0400
                 59.86        222.15         0.0400
                 67.35        221.11         0.0400
                 76.41        219.63    0.0400 /0.0350  Main Channel
                 82.81        218.53         0.0350      Main Channel
                 85.41        218.50         0.0350      Main Channel
                 86.78        218.50         0.0350      Main Channel
                 88.15        218.50         0.0350      Main Channel
                 93.45        218.71         0.0350      Main Channel
                103.45        218.94    0.0350 /0.0400  Main Channel
                109.45        219.25         0.0400
                114.11        220.15         0.0400
                123.47        221.73         0.0400
                136.56        223.41         0.0400
                153.40        224.15         0.0400
                170.24        224.55         0.0400
                185.20        224.54         0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.22    218.72    .640E+04        0.5         0.28     204.26
      0.44    218.94    .198E+05        2.2         0.39     147.20
      0.77    219.27    .507E+05        9.3         0.63      91.02
      1.10    219.60    .880E+05       20.9         0.82      70.26
      1.43    219.93    .130E+06       37.7         1.00      57.26
      1.76    220.26    .175E+06       59.1         1.16      49.43
      2.09    220.59    .226E+06       85.1         1.30      44.19
      2.42    220.92    .280E+06      115.8         1.43      40.35
      2.75    221.25    .340E+06      151.3         1.54      37.40
      3.08    221.58    .404E+06      191.9         1.64      35.06
      3.40    221.90    .473E+06      237.5         1.73      33.19
      3.73    222.23    .548E+06      288.1         1.82      31.68
      4.06    222.56    .629E+06      344.1         1.89      30.48
      4.39    222.89    .718E+06      406.8         1.96      29.43
      4.72    223.22    .815E+06      476.1         2.02      28.52
      5.05    223.55    .920E+06      547.9         2.06      28.00
      5.38    223.88    .104E+07      624.5         2.07      27.74
      5.71    224.21    .117E+07      710.0         2.09      27.54
      6.04    224.54    .133E+07      800.8         2.08      27.62

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8204) 2842.91   144.33   12.50 142.50      2.68      1.52
     OUTFLOW: ID= 1 (6005) 2842.91   140.13   13.00 142.50      2.64      1.50

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD     (0005) |   Area    (ha)= 340.11   Curve Number    (CN)= 84.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.45

     Unit Hyd Qpeak  (cms)=   5.972
```

```
     PEAK FLOW      (cms)=  22.803 (i)
     TIME TO PEAK   (hrs)=  12.250
     RUNOFF VOLUME   (mm)= 155.029
     TOTAL RAINFALL  (mm)= 195.040
     RUNOFF COEFFICIENT  =   0.795

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)   (hrs)     (mm)
        ID1= 1 (0005):   340.11  22.803    12.25   155.03
      + ID2= 2 (6005):  2842.91 140.128    13.00   142.50
        ====================================================
        ID = 3 (8206):  3183.02 162.096    12.75   143.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0006) |   Area    (ha)=1375.77   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   3.90

     Unit Hyd Qpeak  (cms)=  15.192

     PEAK FLOW      (cms)=  61.979 (i)
     TIME TO PEAK   (hrs)=  13.500
     RUNOFF VOLUME   (mm)= 131.562
     TOTAL RAINFALL  (mm)= 195.040
     RUNOFF COEFFICIENT  =   0.675

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6007) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (   7.1) ------>
               Distance      Elevation       Manning
                  0.00         225.91        0.0700
                 51.88         225.32        0.0700
                135.69         224.23        0.0700
                183.58         223.08        0.0700
                211.52         223.28        0.0700
                223.49         222.51        0.0700
                231.43         220.69        0.0700
                244.53         219.78    0.0700 /0.0500  Main Channel
                249.23         219.60        0.0500      Main Channel
                249.93         219.46        0.0500      Main Channel
                251.43         219.23        0.0500      Main Channel
                253.50         219.70    0.0500 /0.0700  Main Channel
                261.10         219.90        0.0700
                271.38         221.01        0.0700
                283.36         223.77        0.0700
                295.33         224.21        0.0700
                331.25         226.04        0.0700
                351.20         227.76        0.0700
                371.16         227.49        0.0700
                395.10         228.55        0.0700

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.23   219.46    .112E+04       0.0         0.16      375.56
      0.47   219.70    .471E+04       0.3         0.22      277.80
      0.84   220.07    .267E+05       2.4         0.34      184.45
      1.20   220.43    .626E+05       7.4         0.44      140.97
      1.57   220.80    .110E+06      15.6         0.52      117.94
      1.93   221.16    .165E+06      27.4         0.61      100.71
      2.30   221.53    .225E+06      42.6         0.70       88.16
      2.66   221.89    .290E+06      60.9         0.78       79.20
      3.03   222.26    .358E+06      82.4         0.85       72.44
      3.39   222.62    .431E+06     106.0         0.91       67.79
      3.76   222.99    .513E+06     131.5         0.95       65.01
      4.12   223.35    .628E+06     149.2         0.88       70.14
      4.49   223.72    .788E+06     191.4         0.90       68.58
      4.85   224.08    .974E+06     232.1         0.88       69.94
      5.22   224.45    .120E+07     283.2         0.88       70.45
      5.58   224.81    .147E+07     347.5         0.88       70.32
      5.95   225.18    .178E+07     427.9         0.89       69.46
      6.31   225.54    .215E+07     523.9         0.90       68.38
      6.68   225.91    .257E+07     638.4         0.92       67.05

                                <---- hydrograph ---->  <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0006) 1375.77    61.98   13.50 131.56      2.68      0.78
     OUTFLOW: ID= 1 (6007) 1375.77    57.11   14.25 131.56      2.58      0.76
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-------------------
| CALIB             |
| STANDHYD  (0071) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.74          8.73
     Dep. Storage     (mm)=       0.80          2.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     331.36         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      48.76         72.49
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.99 (ii)    15.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.38          1.69          2.070 (iii)
     TIME TO PEAK    (hrs)=      10.00         10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24        159.75        165.61
     TOTAL RAINFALL   (mm)=     195.04        195.04        195.04
     RUNOFF COEFFICIENT   =       1.00          0.82          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0072) |   Area    (ha)= 539.30   Curve Number   (CN)= 81.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   2.50   # of Linear Res.(N)= 3.50
-------------------   U.H. Tp(hrs)=   2.74

     Unit Hyd Qpeak  (cms)=   8.477

     PEAK FLOW      (cms)=  32.979 (i)
     TIME TO PEAK   (hrs)=  12.500
     RUNOFF VOLUME   (mm)= 147.493
     TOTAL RAINFALL  (mm)= 195.040
     RUNOFF COEFFICIENT  =   0.756

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8507) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)   (hrs)     (mm)
        ID1= 1 (0071):    16.47   2.070    10.00   165.61
      + ID2= 2 (0072):   539.30  32.979    12.50   147.49
        ====================================================
        ID = 3 (8507):   555.77  33.108    12.50   148.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)   (hrs)     (mm)
        ID1= 1 (6007):  1375.77  57.110    14.25   131.56
      + ID2= 2 (8507):   555.77  33.108    12.50   148.03
        ====================================================
        ID = 3 (8210):  1931.54  84.235    13.50   136.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)   (cms)   (hrs)     (mm)
        ID1= 1 (8206):  3183.02 162.096    12.75   143.84
      + ID2= 2 (8210):  1931.54  84.235    13.50   136.30
        ====================================================
        ID = 3 (8208):  5114.56 244.116    13.00   140.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8208):  5114.56 244.116    13.00   140.99
      + ID2= 2 (8214):   875.75  55.887    12.25   143.27
        ================================================
        ID = 3 (8212):  5990.31 296.527    12.75   141.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6010) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (  10.1) ------>
             Distance      Elevation       Manning
                0.00        223.78        0.0400
               10.97        224.70        0.0400
               60.32        222.23        0.0400
              104.19        219.90        0.0400
              126.13        219.00        0.0400
              134.36        218.90    0.0400 /0.0330  Main Channel
              137.10        218.41        0.0330      Main Channel
              139.84        218.30        0.0330      Main Channel
              142.58        216.76        0.0330      Main Channel
              145.32        216.74        0.0330      Main Channel
              148.07        216.71        0.0330      Main Channel
              150.81        217.11        0.0330      Main Channel
              153.55        218.40        0.0330      Main Channel
              156.29        219.01    0.0330 /0.0400  Main Channel
              159.03        219.52        0.0400
              167.26        219.89        0.0400
              170.00        220.09        0.0400
              183.71        221.31        0.0400
              200.16        223.39        0.0400
              271.45        224.04        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.36   217.07    .680E+04        0.9        0.36      129.75
       0.73   217.44    .165E+05        3.4        0.58       81.12
       1.09   217.81    .278E+05        7.3        0.75       63.18
       1.46   218.17    .405E+05       12.6        0.88       53.42
       1.83   218.54    .561E+05       17.7        0.90       52.70
       2.19   218.90    .764E+05       26.2        0.97       48.52
       2.64   219.35    .118E+06       44.8        1.07       44.04
       3.08   219.79    .180E+06       71.5        1.13       41.83
       3.53   220.24    .264E+06      109.3        1.17       40.26
       3.97   220.68    .366E+06      159.0        1.23       38.34
       4.42   221.13    .485E+06      221.7        1.30       36.43
       4.87   221.58    .620E+06      298.8        1.37       34.58
       5.31   222.02    .771E+06      391.1        1.44       32.85
       5.76   222.47    .937E+06      498.7        1.51       31.30
       6.21   222.92    .112E+07      622.7        1.58       29.93
       6.65   223.36    .132E+07      764.2        1.65       28.69
       7.10   223.81    .155E+07      878.9        1.60       29.46
       7.54   224.25    .186E+07     1057.1        1.61       29.35
       7.99   224.70    .220E+07     1291.1        1.67       28.35

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8212) 5990.31   296.53   12.75 141.32      4.85      1.36
     OUTFLOW: ID= 1 (6010) 5990.31   286.79   13.25 141.32      4.79      1.35


------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0101) |   Area    (ha)= 133.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.64        70.63
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     942.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.76        61.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.08 (ii)   21.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.66        11.00        15.653 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24       146.91        159.21
     TOTAL RAINFALL   (mm)=     195.04       195.04        195.04
     RUNOFF COEFFICIENT   =       1.00         0.75          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 211.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  26.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      99.40       112.09
     Dep. Storage     (mm)=       0.80         2.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1187.41        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.76        61.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.03 (ii)   23.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.34        17.15        24.492 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     194.24       146.91        159.21
     TOTAL RAINFALL   (mm)=     195.04       195.04        195.04
     RUNOFF COEFFICIENT   =       1.00         0.75          0.82


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0101):   133.27  15.653    10.00   159.21
      + ID2= 2 (0102):   211.49  24.492    10.00   159.21
        ================================================
        ID = 3 (8216):   344.76  40.145    10.00   159.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (8218) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6010):  5990.31 286.787    13.25   141.32
      + ID2= 2 (8216):   344.76  40.145    10.00   159.21
        ================================================
        ID = 3 (8218):  6335.07 287.335    13.25   142.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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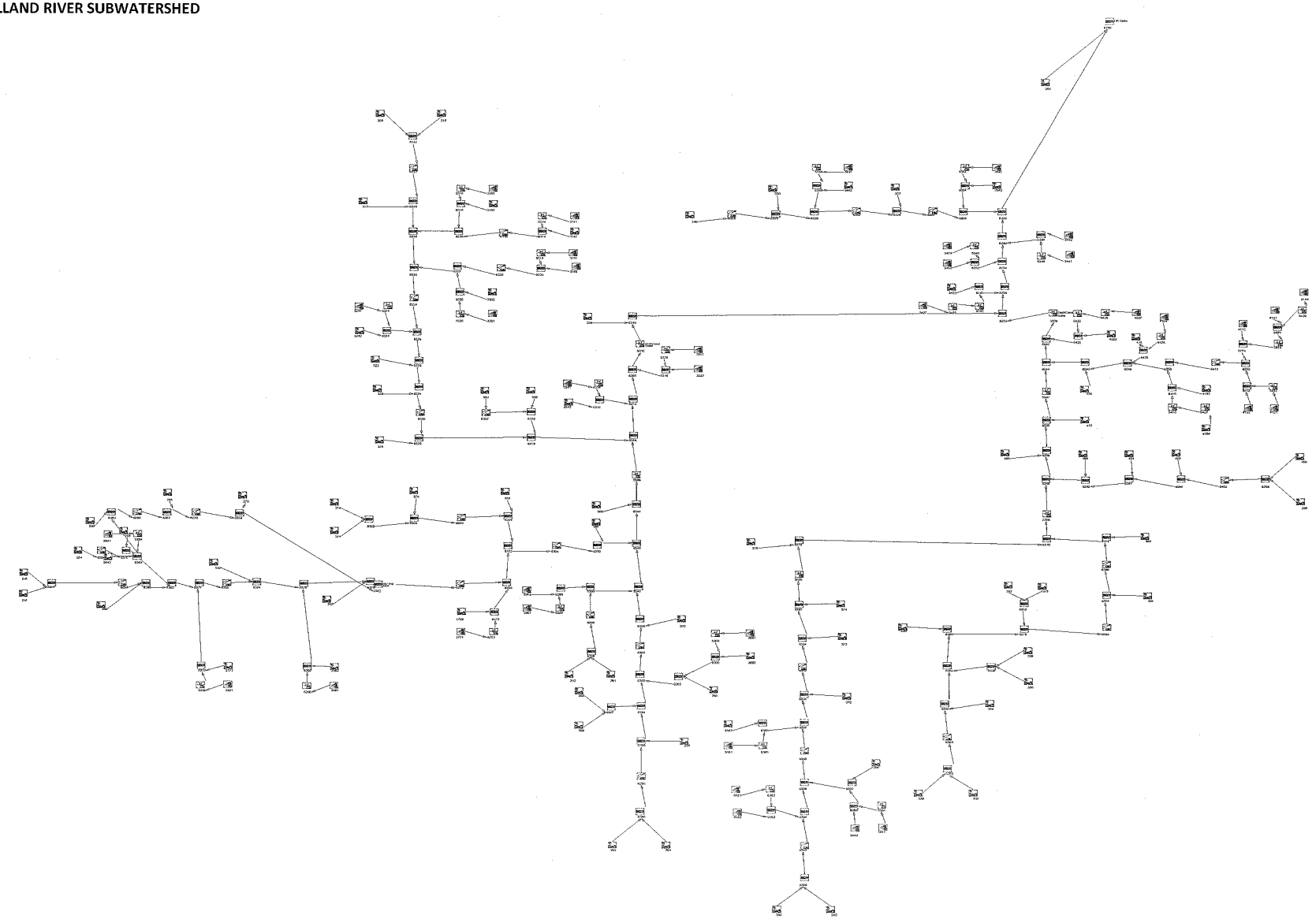
WEST HOLLAND RIVER SUBWATERSHED



```
==========================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\ec3b5098-78b3-448d-a2b0-630e907e78a7\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\ec3b5098-78b3-448d-a2b0-630e907e78a7\Scenario.sum

DATE: 08/29/2012                          TIME: 01:55:17

USER:


COMMENTS: _____________________________________________________

----------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ec3b5098-78b3-448d-a2b0-630e907e78a7\e1d252a5
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.05 |  3.25    1.68 |  6.25    7.56 |  9.25    1.47
                0.50    1.05 |  3.50    1.68 |  6.50    7.56 |  9.50    1.47
                0.75    1.05 |  3.75    1.68 |  6.75    3.36 |  9.75    1.47
                1.00    1.05 |  4.00    1.68 |  7.00    3.36 | 10.00    1.47
                1.25    1.05 |  4.25    2.52 |  7.25    2.52 | 10.25    0.84
                1.50    1.05 |  4.50    2.52 |  7.50    2.52 | 10.50    0.84
                1.75    1.05 |  4.75    3.36 |  7.75    2.52 | 10.75    0.84
                2.00    1.05 |  5.00    3.36 |  8.00    2.52 | 11.00    0.84
                2.25    1.26 |  5.25    5.04 |  8.25    1.47 | 11.25    0.84
                2.50    1.26 |  5.50    5.04 |  8.50    1.47 | 11.50    0.84
                2.75    1.26 |  5.75   20.16 |  8.75    1.47 | 11.75    0.84
                3.00    1.26 |  6.00   55.44 |  9.00    1.47 | 12.00    0.84

----------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        58.61
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.56 (ii)   28.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.92         2.92         7.759 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      40.00        18.37          26.59
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.44           0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

----------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        16.49
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      22.60 (ii)   44.60 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.28         3.90         8.110 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50           6.25
     RUNOFF VOLUME    (mm)=      40.00        13.37          19.49
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.32           0.46


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

----------------------------------------------------------------------------
--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300      6.6504
                          0.4310     3.5677   |   9.1580      7.5825
                          1.6680     3.8178   |  10.9790      8.5125
                          3.5970     4.8509   |  11.3790      8.5225
                          5.3070     5.7381   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640      8.110      6.25      19.49
     OUTFLOW: ID= 1 (5166)    293.640      1.685      8.25      19.49

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.77
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.8268

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   141.06   7.759     6.00    26.59
        + ID2= 2 (5166):   293.64   1.685     8.25    19.49
          ================================================
          ID = 3 (8134):   434.70   7.864     6.00    21.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

----------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=      26.48        93.87
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     895.73        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.44
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.84 (ii)   41.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.31         1.43          2.862 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        10.81          15.77
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.26           0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1641)  |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min  |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86        33.03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     871.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        23.35
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.60 (ii)   33.74 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.85         1.25          7.368 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        15.30          28.39
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.36           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.4260      4.5513
                         0.3860     1.9228   |   9.2330      4.9251
                         3.3700     2.2339   |   9.9990      5.2982
                         4.5710     3.3613   |  10.3990      5.3082
                         5.7170     4.0568   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890      7.368      6.00      28.39
     OUTFLOW: ID= 1 (5164)    113.890      1.446      7.00      28.38

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.63
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.0371

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-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35   2.862     6.00    15.77
        + ID2= 2 (5164):   113.89   1.446     7.00    28.38
          ================================================
          ID = 3 (8132):   234.24   3.062     6.00    21.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0152)  |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   0.386 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.335
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1481)  |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02        32.73
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     641.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         2.78
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      12.15 (ii)   57.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.28         0.14          1.319 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00         2.66           9.00
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.06           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1310      1.6343
                         0.2090     0.7802   |   5.1870      1.8598
                         1.1960     0.9062   |   6.0380      2.0805
                         2.2280     1.1562   |   6.4380      2.0905
                         3.0910     1.3741   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750      1.319      6.00       9.00
     OUTFLOW: ID= 1 (5148)     61.750      0.099      8.75       8.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.50
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3697
```

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   0.333 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   2.283
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.054

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   0.333     8.00     2.28
       + ID2= 2 (5148):    61.75   0.099     8.75     8.99
         ================================================
         ID = 3 (9148):   417.89   0.431     8.00     3.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      32.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         1.50
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       2.03 (ii)   59.42 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.11         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.004 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         1.71          7.11
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.04          0.17

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  16.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0110     0.0042
                          0.0010     0.0020   |   0.0140     0.0049
                          0.0030     0.0023   |   0.0160     0.0054
                          0.0060     0.0030   |   0.4160     0.0154
                          0.0080     0.0036   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1501)     0.160     0.004      6.00       7.11
     OUTFLOW: ID= 1 (5150)     0.160     0.000      7.50       4.08

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.03
                TIME SHIFT OF PEAK FLOW         (min)= 90.00

                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0007

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.075 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   1.062
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.025

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.075     6.75     1.06
       + ID2= 2 (5150):     0.16   0.000     7.50     4.08
         ================================================
         ID = 3 (9150):   105.88   0.076     6.75     1.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   0.431     8.00     3.27
       + ID2= 2 (9150):   105.88   0.076     6.75     1.07
         ================================================
         ID = 3 (8116):   523.77   0.492     7.75     2.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1521.0) ------>
               Distance      Elevation       Manning
                   0.00         290.00        0.0500
                  15.34         286.87        0.0500
                  46.03         284.84        0.0500
                  88.22         283.07        0.0500
                 126.57         282.11        0.0500
                 153.42         280.34        0.0500
                 157.26         280.07        0.0500
                 161.09         279.72        0.0500
                 167.76         278.94    0.0500 /0.0300  Main Channel
                 168.01         278.60        0.0300      Main Channel
                 168.76         278.60        0.0300      Main Channel
                 169.51         278.60        0.0300      Main Channel
                 169.76         278.90    0.0300 /0.0500  Main Channel
                 173.76         279.40        0.0500
                 180.27         279.69        0.0500
                 184.11         279.93        0.0500
                 218.62         281.86        0.0500
                 260.82         283.20        0.0500
                 360.54         289.25        0.0500
                 379.72         289.80        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30    278.90    .114E+04       0.4          0.80       45.70
      0.87    279.47    .932E+04       4.2          0.98       37.22
      1.45    280.05    .353E+05      17.5          1.09       33.68
      2.02    280.62    .831E+05      47.8          1.26       29.01
      2.59    281.19    .155E+06     102.9          1.46       25.06
      3.17    281.77    .250E+06     189.3          1.66       22.03
      3.74    282.34    .375E+06     298.5          1.75       20.91
      4.32    282.92    .547E+06     456.5          1.83       19.98
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       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     0.49    7.75   2.83      0.31      0.80
     OUTFLOW: ID= 1 (6152)  523.77     0.46    8.75   2.83      0.31      0.80


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   0.386     7.25     6.33
       + ID2= 2 (6152):   523.77   0.463     8.75     2.83
         ================================================
         ID = 3 (8122):   648.14   0.817     8.00     3.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   0.571 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.789
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.208 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.858
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         1.94
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       7.27 (ii)   59.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.10         0.02

                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.10         0.01          1.102 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         2.85         28.85
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.07          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  31.3     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7460      0.3544
                          0.0380     0.1987   |   0.9370      0.3839
                          0.2160     0.2386   |   1.0900      0.4129
                          0.4020     0.2749   |   1.4900      0.4229
                          0.5580     0.3133   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      1.102      6.00      28.85
     OUTFLOW: ID= 1 (5154)     11.150      0.122      6.75      28.73

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.07
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2187

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   0.273 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   3.130
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.075

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   0.273     7.50     3.13
       + ID2= 2 (5154):    11.15   0.122     6.75    28.73
         ================================================
         ID = 3 (9154):   200.32   0.379     7.00     4.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.208     6.75     3.86
       + ID2= 2 (9154):   200.32   0.379     7.00     4.55
         ================================================
         ID = 3 (8118):   283.81   0.587     6.75     4.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (1581.0) ------>

Distance	Elevation	Manning	
0.00	290.00	0.0400	
19.20	288.88	0.0400	
48.00	288.26	0.0400	
119.99	283.68	0.0400	
167.99	282.07	0.0400	
196.79	281.32	0.0400	
210.79	280.90	0.0400	
219.79	280.38	0.0400 /0.0300	Main Channel
220.04	279.65	0.0300	Main Channel
220.79	279.65	0.0300	Main Channel
221.54	279.65	0.0300	Main Channel
221.79	280.39	0.0300 /0.0400	Main Channel
225.79	280.59	0.0400	
235.19	280.88	0.0400	
254.39	281.50	0.0400	
273.58	282.56	0.0400	
302.38	283.42	0.0400	
359.98	284.03	0.0400	
436.77	289.37	0.0400	
475.17	290.37	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (8118)	283.81	0.59	6.75	4.35	0.39	0.88
OUTFLOW:	ID= 1 (6158)	283.81	0.53	7.75	4.35	0.37	0.87

ADD HYD (8120)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0158):	178.59	0.571	7.25	6.79
	+ ID2= 2 (6158):	283.81	0.533	7.75	4.35
	ID = 3 (8120):	462.40	1.102	7.50	5.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8124)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8120):	462.40	1.102	7.50	5.29
	+ ID2= 2 (8122):	648.14	0.817	8.00	3.50
	ID = 3 (8124):	1110.54	1.904	7.75	4.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1601.0) ------>

Distance	Elevation	Manning	
0.00	261.02	0.0400	
29.89	254.30	0.0400	
40.75	252.58	0.0400	
62.49	251.30	0.0400	
114.11	250.94	0.0400	
130.41	248.58	0.0400	
141.28	247.50	0.0400	
154.86	246.87	0.0400	
155.20	246.70	0.0400	
160.20	246.30	0.0400 /0.0300	Main Channel
160.30	245.30	0.0300	Main Channel
165.20	245.30	0.0300	Main Channel
165.30	246.30	0.0300 /0.0400	Main Channel
168.45	246.96	0.0400	
195.62	249.20	0.0400	
203.77	250.82	0.0400	
225.50	256.78	0.0400	
244.52	261.14	0.0400	
255.39	261.95	0.0400	
268.97	261.92	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.120E+05	2.9	1.18	68.31
1.00	246.30	.242E+05	8.5	1.70	47.47
1.92	247.22	.825E+05	31.7	1.86	43.34
2.84	248.14	.248E+06	102.5	2.00	40.39
3.76	249.06	.506E+06	247.7	2.37	34.03
4.68	249.98	.832E+06	486.8	2.83	28.49
5.60	250.90	.121E+07	814.9	3.27	24.71
6.52	251.82	.180E+07	1157.1	3.11	25.97
7.44	252.74	.253E+07	1840.2	3.52	22.92
8.36	253.66	.331E+07	2727.1	3.98	20.25
9.29	254.59	.414E+07	3782.6	4.43	18.22
10.21	255.51	.499E+07	5010.7	4.86	16.61
11.13	256.43	.589E+07	6397.4	5.26	15.33
12.05	257.35	.681E+07	7932.8	5.64	14.31
12.97	258.27	.777E+07	9621.2	5.99	13.46
13.89	259.19	.877E+07	11469.4	6.33	12.74
14.81	260.11	.980E+07	13478.4	6.66	12.12
15.73	261.03	.109E+08	15651.7	6.97	11.58
16.65	261.95	.120E+08	17492.5	7.07	11.42

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (8124)	1110.54	1.90	7.75	4.25	0.33	1.18
OUTFLOW:	ID= 1 (6160)	1110.54	1.66	9.25	4.25	0.28	1.18

CALIB		
STANDHYD (1601)	Area (ha)=	19.03
ID= 1 DT=15.0 min	Total Imp(%)=	75.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.27	4.76
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	356.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	55.44	7.84
over	(min)	15.00	45.00
Storage Coeff.	(min)=	8.53 (ii)	38.16 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.09	0.03

				TOTALS
PEAK FLOW	(cms)=	1.78	0.06	1.806 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	7.15	29.82
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.17	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5160) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.2730      0.6034
                          0.0640     0.3377   |   1.5980      0.6540
                          0.3690     0.4055   |   1.8600      0.7037
                          0.6870     0.4676   |   2.2600      0.7137
                          0.9520     0.5332   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1601)     19.030      1.806      6.00      29.82
     OUTFLOW: ID= 1 (5160)     19.030      0.232      6.75      29.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.84
                    TIME SHIFT OF PEAK FLOW        (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3763

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1602) |   Area    (ha)= 299.79   Curve Number   (CN)= 60.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.42

     Unit Hyd Qpeak  (cms)=   3.592

     PEAK FLOW       (cms)=   0.693 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   6.663
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1602):   299.79   0.693     8.25     6.66
       + ID2= 2 (5160):    19.03   0.232     6.75    29.75
         ================================================
         ID = 3 (9160):   318.82   0.836     7.25     8.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8126) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6160):  1110.54   1.657     9.25     4.25
       + ID2= 2 (9160):   318.82   0.836     7.25     8.04
         ================================================
         ID = 3 (8126):  1429.36   2.413     9.00     5.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1621) |   Area    (ha)=  46.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  20.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       20.73         25.34
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      554.20         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44          9.32
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       11.13 (ii)    38.76 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.08          0.03

                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.16          0.36          1.300 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=       40.00          7.23          13.78
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.95          0.17           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
               YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5162) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.0820      1.1997
                          0.1560     0.5629   |   3.8700      1.3716
                          0.8930     0.6512   |   4.5050      1.5398
                          1.6620     0.8407   |   4.9050      1.5498
                          2.3060     1.0035   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1621)     46.070      1.300      6.00      13.78
     OUTFLOW: ID= 1 (5162)     46.070      0.117      8.75      13.76

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.99
                    TIME SHIFT OF PEAK FLOW        (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4218

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1622) |   Area    (ha)= 144.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       37.46        106.61
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      980.03         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44          4.87
               over (min)         15.00         60.00
     Storage Coeff.  (min)=       15.66 (ii)    51.49 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.07          0.02

                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.74          0.82          1.980 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.75           6.00
     RUNOFF VOLUME    (mm)=       40.00          5.97           9.71
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.95          0.14           0.23

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
               YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1622):   144.07   1.980     6.00     9.71
       + ID2= 2 (5162):    46.07   0.117     8.75    13.76
         ================================================
         ID = 3 (9162):   190.14   2.026     6.00    10.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8126):  1429.36   2.413     9.00     5.09
      + ID2= 2 (9162):   190.14   2.026     6.00    10.69
        ================================================
        ID = 3 (8128):  1619.50   2.924     8.00     5.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8128):  1619.50   2.924     8.00     5.75
      + ID2= 2 (8132):   234.24   3.062     6.00    21.90
        ================================================
        ID = 3 (8130):  1853.74   5.549     6.00     7.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1661.0) ------>
              Distance      Elevation       Manning
                 0.00         248.36        0.0500
                41.67         246.98        0.0500
                95.82         244.93        0.0500
               149.98         242.42        0.0500
               191.64         241.88        0.0500
               224.97         239.90        0.0500
               229.13         239.35        0.0500
               233.30         237.77        0.0500
               237.47         236.57        0.0500
               240.63         235.60    0.0500 /0.0300  Main Channel
               241.63         234.10        0.0300      Main Channel
               247.13         234.10        0.0300      Main Channel
               247.53         235.60    0.0300 /0.0500  Main Channel
               254.13         236.25        0.0500
               266.63         236.77        0.0500
               283.29         237.84        0.0500
               291.63         238.89        0.0500
               329.12         244.66        0.0500
               370.78         249.55        0.0500
               412.44         253.17        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.75   234.85    .130E+05       6.0          1.36      36.45
      1.50   235.60    .276E+05      18.1          1.95      25.41
      2.25   236.35    .544E+05      40.0          2.18      22.69
      3.00   237.10    .117E+06      80.1          2.04      24.32
      3.75   237.85    .213E+06     148.9          2.07      23.89
      4.50   238.60    .334E+06     255.1          2.27      21.85
      5.25   239.35    .473E+06     395.8          2.49      19.90
      6.00   240.10    .631E+06     563.8          2.65      18.66
      6.75   240.85    .824E+06     773.2          2.79      17.77
      7.50   241.60    .106E+07    1037.9          2.92      16.97
      8.26   242.36    .135E+07    1326.7          2.92      16.94
      9.01   243.11    .173E+07    1758.5          3.01      16.44
      9.76   243.86    .217E+07    2285.9          3.13      15.81
     10.51   244.61    .265E+07    2909.5          3.26      15.17
     11.26   245.36    .318E+07    3610.1          3.37      14.67
     12.01   246.11    .377E+07    4417.4          3.48      14.21
     12.76   246.86    .441E+07    5348.0          3.60      13.75
     13.51   247.61    .512E+07    6394.0          3.71      13.34
     14.26   248.36    .589E+07    7580.3          3.82      12.95

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8130) 1853.74     5.55    6.00   7.79      0.70      1.36
    OUTFLOW: ID= 1 (6166) 1853.74     4.83    7.50   7.79      0.61      1.36
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-------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6166):  1853.74   4.829     7.50     7.79
      + ID2= 2 (8134):   434.70   7.864     6.00    21.79
        ================================================
        ID = 3 (8136):  2288.44   9.668     6.00    10.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)= 107.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  27.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       48.29         59.03
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      845.85         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44         16.90
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       14.34 (ii)    36.12 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.07          0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=        3.31          1.56          3.946 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=       40.00         13.68          20.78
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.95          0.33           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.1480      2.8069
                         0.3630     1.2717   |   6.4200      3.2412
                         1.5670     1.4796   |   7.4640      3.6910
                         2.7880     1.9296   |   7.8640      3.7010
                         3.8580     2.3404   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2021)    107.320      3.946      6.00      20.78
    OUTFLOW: ID= 1 (5202)    107.320      0.819      7.50      20.78

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.74
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3523

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 361.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  36.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      216.73        144.48
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1551.79         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.80         23.84
               over (min)         30.00         45.00
     Storage Coeff.  (min)=       24.05 (ii)    43.03 (ii)
```

```
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.90         4.87        13.487 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50          6.25
     RUNOFF VOLUME    (mm)=      40.00        15.77         24.49
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.38          0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  13.487     6.25    24.49
       + ID2= 2 (5202):   107.32   0.819     7.50    20.78
         ============================================
         ID = 3 (8110):   468.53  13.711     6.25    23.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80         4.37
               over (min)        30.00        75.00
     Storage Coeff.  (min)=      25.96 (ii)   63.38 (ii)
     Unit Hyd. Tpeak (min)=      30.00        75.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.09         2.11          3.952 (iii)
     TIME TO PEAK    (hrs)=       6.25         7.00          6.25
     RUNOFF VOLUME    (mm)=      40.00         5.46          8.56
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.13          0.20

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   3.263
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.078

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   0.615     9.50     3.26
       + ID2= 2 (0102):   466.00   3.952     6.25     8.56
         ============================================
         ID = 3 (8000):  1159.84   4.251     6.25     5.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1041.0) ------>
               Distance      Elevation       Manning
                   0.00         330.16        0.0450
                  50.03         328.36        0.0450
                  89.34         326.33        0.0450
                 117.94         324.30        0.0450
                 160.82         322.75        0.0450
                 178.34         319.96        0.0450
                 183.34         319.81        0.0450
                 184.34         319.38    0.0450 /0.0300  Main Channel
                 185.09         318.78        0.0300      Main Channel
                 185.84         318.72        0.0300      Main Channel
                 186.84         319.32    0.0300 /0.0450  Main Channel
                 193.84         319.70        0.0450
                 198.84         320.38        0.0450
                 200.13         320.81        0.0450
                 218.00         322.49        0.0450
                 239.44         323.49        0.0450
                 250.17         323.96        0.0450
                 275.18         325.20        0.0450
                 310.92         326.47        0.0450
                 353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
      0.30    319.02    .624E+03         0.1         0.45       73.00
      0.60    319.32    .181E+04         0.6         0.67       49.46
      1.23    319.95    .128E+05         4.9         0.77       43.38
      1.86    320.58    .396E+05        19.1         0.96       34.50
      2.48    321.20    .757E+05        43.5         1.15       28.98
      3.11    321.83    .125E+06        81.2         1.30       25.58
      3.74    322.46    .187E+06       135.9         1.45       22.92
      4.37    323.09    .269E+06       195.6         1.45       22.90
      5.00    323.72    .387E+06       287.8         1.48       22.44
      5.63    324.35    .545E+06       428.4         1.56       21.22
      6.25    324.97    .735E+06       630.5         1.71       19.42
      6.88    325.60    .952E+06       876.1         1.83       18.12
      7.51    326.23    .120E+07      1177.0         1.95       17.03
      8.14    326.86    .149E+07      1554.4         2.08       15.93
      8.77    327.49    .179E+07      2009.7         2.23       14.88
      9.40    328.12    .213E+07      2533.9         2.37       13.99
     10.02    328.74    .249E+07      3112.6         2.49       13.31
     10.65    329.37    .288E+07      3760.9         2.60       12.75
     11.28    330.00    .330E+07      4494.8         2.71       12.23

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84     4.25    6.25   5.39      1.13      0.75
     OUTFLOW: ID= 1 (6104) 1159.84     3.09    7.25   5.39      0.96      0.72


-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1041) |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      66.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         2.85
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       3.13 (ii)   47.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
```

```
     Unit Hyd. peak  (cms)=       0.11         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.00          0.072 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         3.52         29.00
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.08          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450      0.0213
                         0.0020     0.0120   |   0.0560      0.0231
                         0.0130     0.0144   |   0.0660      0.0248
                         0.0240     0.0165   |   0.4660      0.0348
                         0.0340     0.0189   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)     0.670     0.072      6.00      29.00
     OUTFLOW: ID= 1 (5104)     0.670     0.007      6.75      26.74

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.88
                   TIME SHIFT OF PEAK FLOW          (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0132

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   0.682 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.586
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1042):   527.14   0.682     8.00     3.59
       + ID2= 2 (5104):    0.67   0.007     6.75    26.74
         ================================================
         ID = 3 (9104):   527.81   0.687     8.00     3.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6104):  1159.84   3.088     7.25     5.39
       + ID2= 2 (9104):   527.81   0.687     8.00     3.62
         ================================================
         ID = 3 (8002):  1687.65   3.732     7.25     4.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1061) |   Area    (ha)=  32.26
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```
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         11.63
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.00 (ii)    35.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.14          0.20          2.218 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00          8.73         24.68
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.21          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580      0.9744
                         0.1090     0.5252   |   2.7090      1.0694
                         0.6250     0.6260   |   3.1540      1.1625
                         1.1640     0.7386   |   3.5540      1.1725
                         1.6140     0.8505   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)    32.260     2.218      6.00      24.68
     OUTFLOW: ID= 1 (5106)    32.260     0.208      7.50      24.64

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.35
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5448

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-------------------
| CALIB             |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   0.579 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.037
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.144

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1062):   227.27   0.579     7.75     6.04
       + ID2= 2 (5106):    32.26   0.208     7.50    24.64
         ================================================
         ID = 3 (9106):   259.53   0.784     7.50     8.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8004) |
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|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65   3.732     7.25     4.84
       + ID2= 2 (9106):   259.53   0.784     7.50     8.35
         ================================================
         ID = 3 (8004):  1947.18   4.505     7.25     5.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1081.0) ------>
               Distance      Elevation       Manning
                   0.00         326.06        0.0400
                  12.06         325.74        0.0400
                  30.15         324.28        0.0400
                  59.27         320.35        0.0400
                  72.37         317.60        0.0400
                  87.45         314.52        0.0400
                  93.48         313.91        0.0400
                 105.54         313.55        0.0400
                 106.17         313.40    0.0400 /0.0300  Main Channel
                 110.62         313.04        0.0300      Main Channel
                 110.82         312.97        0.0300      Main Channel
                 111.57         313.08        0.0300      Main Channel
                 111.67         313.48    0.0300 /0.0400  Main Channel
                 129.66         316.62        0.0400
                 150.77         318.95        0.0400
                 180.92         319.61        0.0400
                 205.04         321.23        0.0400
                 232.18         322.09        0.0400
                 268.37         322.31        0.0400
                 298.52         326.00        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.43  313.40    .244E+04        0.7        0.59      58.83
        1.09  314.06    .214E+05       10.4        1.01      34.24
        1.76  314.73    .600E+05       40.2        1.39      24.89
        2.42  315.39    .109E+06       92.1        1.75      19.80
        3.08  316.05    .169E+06      166.5        2.05      16.88
        3.75  316.72    .237E+06      264.4        2.31      14.97
        4.41  317.38    .318E+06      386.3        2.52      13.72
        5.07  318.04    .411E+06      539.3        2.72      12.71
        5.74  318.71    .517E+06      725.5        2.91      11.88
        6.40  319.37    .642E+06      909.2        2.94      11.77
        7.06  320.03    .806E+06     1179.3        3.04      11.38
        7.72  320.69    .989E+06     1515.9        3.18      10.87
        8.39  321.36    .119E+07     1895.5        3.30      10.49
        9.05  322.02    .143E+07     2310.2        3.36      10.30
        9.71  322.68    .172E+07     2763.2        3.33      10.39
       10.38  323.35    .205E+07     3477.6        3.53       9.81
       11.04  324.01    .238E+07     4284.3        3.73       9.27
       11.70  324.67    .274E+07     5154.0        3.91       8.85
       12.37  325.34    .311E+07     6104.0        4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8004) 1947.18     4.50    7.25   5.31      0.69      0.70
     OUTFLOW: ID= 1 (6108) 1947.18     3.94    8.25   5.31      0.65      0.68


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-------------------
| CALIB             |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.61         10.20
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     521.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          1.85
               over (min)        15.00         75.00
     Storage Coeff.  (min)=      10.73 (ii)    63.48 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.63          0.03          3.641 (iii)
     TIME TO PEAK    (hrs)=       6.00          7.00           6.00
     RUNOFF VOLUME    (mm)=      40.00          2.72          28.81
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.06           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  30.2     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.7300      1.2970
                         0.1380     0.7271   |   3.4270      1.4050
                         0.7910     0.8733   |   3.9900      1.5110
                         1.4720     1.0061   |   4.3900      1.5210
                         2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1081)     40.810     3.641      6.00      28.81
     OUTFLOW: ID= 1 (5108)     40.810     0.440      6.75      28.78

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.08
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7956

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.189 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   2.365
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.056

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.189     7.25     2.37
       + ID2= 2 (5108):    40.81   0.440     6.75    28.78
         ================================================
         ID = 3 (9108):   207.05   0.620     6.75     7.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18   3.939     8.25     5.31
       + ID2= 2 (9108):   207.05   0.620     6.75     7.57
         ================================================
         ID = 3 (8006):  2154.23   4.359     8.25     5.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1101) |   Area    (ha)=  60.97
```

```
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07         18.90
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     637.55         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          9.81
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.10 (ii)    39.18 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.09          0.28          4.204 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00          7.60          25.42
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.18           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0780      1.8615
                         0.2060     1.0120   |   5.1210      2.0372
                         1.1810     1.2083   |   5.9610      2.2096
                         2.2000     1.4181   |   6.3610      2.2196
                         3.0510     1.6293   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970      4.204      6.00      25.42
     OUTFLOW: ID= 1 (5110)     60.970      0.431      7.25      25.40

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.25
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0573

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-------------------
| CALIB             |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   0.553 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.629
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.134

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1102):   262.95   0.553     8.00     5.63
       + ID2= 2 (5110):    60.97   0.431     7.25    25.40
         ================================================
         ID = 3 (9110):   323.92   0.959     7.50     9.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8006):  2154.23   4.359     8.25     5.52
       + ID2= 2 (9110):   323.92   0.959     7.50     9.35
         ================================================
         ID = 3 (8008):  2478.15   5.274     8.00     6.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                   0.00         320.59        0.0400
                  13.48         317.93        0.0400
                  40.45         311.52        0.0400
                  64.04         307.68        0.0400
                  74.15         307.01        0.0400
                  91.00         307.22        0.0400
                 107.86         305.21        0.0400
                 111.23         304.86        0.0400
                 113.32         304.60    0.0400 /0.0300  Main Channel
                 117.77         304.24        0.0300      Main Channel
                 117.97         304.17        0.0300      Main Channel
                 118.72         304.28        0.0300      Main Channel
                 118.82         304.68    0.0300 /0.0400  Main Channel
                 124.71         304.76        0.0400
                 171.90         306.30        0.0400
                 205.60         307.24        0.0400
                 239.31         308.24        0.0400
                 262.90         310.64        0.0400
                 289.86         314.34        0.0400
                 333.68         317.66        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
      0.43    304.60    .372E+04        0.6          0.54       97.65
      1.12    305.29    .463E+05       12.5          0.85       61.89
      1.80    305.97    .149E+06       53.0          1.13       46.85
      2.49    306.66    .311E+06      134.2          1.37       38.62
      3.18    307.35    .554E+06      261.6          1.50       35.27
      3.87    308.04    .894E+06      490.7          1.74       30.37
      4.55    308.72    .129E+07      833.0          2.05       25.75
      5.24    309.41    .171E+07     1269.8          2.36       22.39
      5.93    310.10    .215E+07     1789.0          2.64       20.01
      6.62    310.79    .261E+07     2392.7          2.90       18.21
      7.30    311.47    .310E+07     3087.8          3.16       16.74
      7.99    312.16    .361E+07     3873.6          3.40       15.52
      8.68    312.85    .413E+07     4741.0          3.64       14.52
      9.37    313.54    .467E+07     5689.3          3.86       13.69
     10.05    314.22    .523E+07     6718.4          4.07       12.97
     10.74    314.91    .581E+07     7770.7          4.24       12.46
     11.43    315.60    .641E+07     8897.5          4.40       12.01
     12.12    316.29    .704E+07    10113.2          4.55       11.61
     12.80    316.97    .770E+07    11420.1          4.70       11.24

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15     5.27    8.00   6.02      0.70      0.63
     OUTFLOW: ID= 1 (6112) 2478.15     4.31    9.75   6.02      0.64      0.61

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48          4.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     257.68         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          3.72
               over (min)        15.00         60.00
     Storage Coeff.  (min)=       7.03 (ii)    46.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
```

```
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.35         0.03          0.361 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00         3.34          12.50
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.08           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660     0.2787
                         0.0340     0.1406   |   0.8360     0.3122
                         0.1930     0.1653   |   0.9740     0.3450
                         0.3590     0.2034   |   1.3740     0.3550
                         0.4980     0.2383   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)    9.960     0.361      6.00      12.50
     OUTFLOW: ID= 1 (5112)    9.960     0.021      8.50      12.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.75
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0860

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1122) |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   0.254 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   2.274
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.054

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1122):   404.93   0.254     9.50     2.27
       + ID2= 2 (5112):     9.96   0.021     8.50    12.40
         ================================================
         ID = 3 (9112):   414.89   0.275     9.25     2.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6112):  2478.15   4.307     9.75     6.02
       + ID2= 2 (9112):   414.89   0.275     9.25     2.52
         ================================================
         ID = 3 (8010):  2893.04   4.581     9.75     5.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

```
--------------------
               <------ DATA FOR SECTION (1141.0) ------>
               Distance      Elevation       Manning
                   0.00         312.27        0.0500
                  14.07         309.70        0.0500
                  28.14         306.51        0.0500
                  35.17         305.81        0.0500
                  42.20         304.95        0.0500
                  52.75         304.24        0.0500
                  77.37         303.61        0.0500
                  98.47         301.33        0.0500
                 131.76         300.40    0.0500 /0.0300  Main Channel
                 136.21         300.04        0.0300      Main Channel
                 136.41         299.97        0.0300      Main Channel
                 137.16         300.08        0.0300      Main Channel
                 137.26         300.48    0.0300 /0.0500  Main Channel
                 140.68         300.53        0.0500
                 179.36         302.20        0.0500
                 214.53         303.82        0.0500
                 242.66         305.27        0.0500
                 288.38         307.66        0.0500
                 316.52         311.76        0.0500
                 348.17         313.48        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.43    300.40    .366E+04       0.7          0.59       88.31
       1.05    301.02    .505E+05      12.1          0.75       69.49
       1.68    301.65    .165E+06      52.7          0.99       52.28
       2.30    302.27    .324E+06     130.3          1.26       41.40
       2.93    302.90    .520E+06     247.1          1.48       35.08
       3.55    303.52    .754E+06     406.8          1.68       30.91
       4.18    304.15    .104E+07     586.1          1.76       29.55
       4.80    304.77    .138E+07     856.0          1.93       26.96
       5.43    305.40    .177E+07    1201.1          2.12       24.56
       6.05    306.02    .219E+07    1612.2          2.30       22.63
       6.68    306.65    .264E+07    2090.6          2.47       21.07
       7.30    307.27    .313E+07    2653.0          2.64       19.65
       7.93    307.90    .364E+07    3303.9          2.83       18.36
       8.55    308.52    .417E+07    4053.9          3.03       17.14
       9.18    309.15    .471E+07    4871.9          3.22       16.12
       9.80    309.77    .527E+07    5756.2          3.41       15.25
      10.43    310.40    .584E+07    6699.8          3.58       14.52
      11.05    311.02    .642E+07    7710.5          3.74       13.89
      11.68    311.65    .702E+07    8788.5          3.90       13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04     4.58    9.75   5.52      0.64      0.63
     OUTFLOW: ID= 1 (6114) 2893.04     4.14   11.25   5.52      0.62      0.63

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1141) |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.75          10.70
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      360.09          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       55.44           8.06
               over (min)         15.00          45.00
     Storage Coeff.  (min)=        8.59 (ii)     37.88 (ii)
     Unit Hyd. Tpeak (min)=       15.00          45.00
     Unit Hyd. peak  (cms)=        0.09           0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=        0.40           0.13          0.448 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=       40.00           5.94          11.05
     TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
     RUNOFF COEFFICIENT   =        0.95           0.14           0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
        CN*  =  43.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| RESERVOIR (5114) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.3010     0.5065
                         0.0660     0.2376   |   1.6340     0.5791
                         0.3770     0.2749   |   1.9020     0.6501
                         0.7020     0.3549   |   2.3020     0.6601
                         0.9730     0.4237   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1141)     19.450      0.448      6.00      11.05
     OUTFLOW: ID= 1 (5114)     19.450      0.039      8.75      11.00

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.80
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1420
```

```
-------------------
| CALIB             |
| NASHYD    (1142) |   Area    (ha)= 268.19   Curve Number   (CN)= 51.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.197

     PEAK FLOW       (cms)=   0.550 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   4.878
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (9114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1142):   268.19   0.550     7.75     4.88
       + ID2= 2 (5114):    19.45   0.039     8.75    11.00
         ================================================
         ID = 3 (9114):   287.64   0.588     8.00     5.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6114):  2893.04   4.137    11.25     5.52
       + ID2= 2 (9114):   287.64   0.588     8.00     5.29
         ================================================
         ID = 3 (8012):  3180.68   4.524    11.00     5.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB             |
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   0.833 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.503
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0116):   206.43   0.833     7.00     7.50
       + ID2= 2 (8012):  3180.68   4.524    11.00     5.50
         ================================================
         ID = 3 (8014):  3387.11   4.914    10.75     5.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1181.0) ------>
              Distance      Elevation       Manning
                 0.00         307.18        0.0450
                24.89         299.75        0.0450
                37.34         296.39        0.0450
                71.57         292.75        0.0450
                96.46         291.12        0.0450
               108.90         289.43        0.0450
               112.02         288.86        0.0450
               115.13         288.46        0.0450
               117.24         288.32    0.0450 /0.0350  Main Channel
               117.49         288.15        0.0350      Main Channel
               118.24         288.00        0.0350      Main Channel
               118.99         288.20        0.0350      Main Channel
               119.24         288.36    0.0350 /0.0450  Main Channel
               121.35         288.40        0.0450
               149.35         289.36        0.0450
               171.14         290.47        0.0450
               208.47         293.14        0.0450
               236.48         295.17        0.0450
               280.04         299.48        0.0450
               308.04         307.00        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.32    288.32    .116E+04        0.2        0.62      81.92
      1.30    289.30    .631E+05       22.2        1.07      47.43
      2.29    290.29    .218E+06      117.5        1.64      30.95
      3.27    291.27    .448E+06      314.6        2.15      23.72
      4.25    292.25    .756E+06      625.6        2.53      20.13
      5.24    293.24    .115E+07     1093.2        2.91      17.50
      6.22    294.22    .161E+07     1731.6        3.28      15.50
      7.20    295.20    .214E+07     2547.4        3.63      14.01
      8.19    296.19    .274E+07     3584.9        4.00      12.72
      9.17    297.17    .338E+07     4859.1        4.39      11.60
     10.15    298.15    .407E+07     6341.5        4.76      10.70
     11.13    299.13    .480E+07     8024.6        5.11       9.97
     12.12    300.12    .556E+07    10006.6        5.49       9.27
     13.10    301.10    .635E+07    12244.6        5.89       8.64
     14.08    302.08    .716E+07    14681.7        6.26       8.13
     15.07    303.07    .799E+07    17316.5        6.62       7.69
     16.05    304.05    .884E+07    20148.1        6.96       7.31
     17.03    305.03    .971E+07    23176.2        7.29       6.98
     18.02    306.02    .106E+08    26400.8        7.61       6.69

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11     4.91   10.75   5.62      0.53      0.68
     OUTFLOW: ID= 1 (6118) 3387.11     4.64   12.25   5.62      0.52      0.68
```

```
-------------------
| CALIB             |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200

     PEAK FLOW       (cms)=   0.548 (i)
     TIME TO PEAK    (hrs)=   8.000
```

```
     RUNOFF VOLUME    (mm)=   3.906
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8016) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   0.548     8.00     3.91
       + ID2= 2 (6118):  3387.11   4.638    12.25     5.62
         ================================================
         ID = 3 (8016):  3727.64   4.949    12.00     5.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   259.80    .626E+04       2.5          1.23      41.35
        1.41   260.71    .462E+05      21.8          1.44      35.27
        2.31   261.61    .149E+06      79.6          1.63      31.19
        3.22   262.52    .340E+06     200.1          1.80      28.34
        4.12   263.42    .636E+06     446.8          2.15      23.71
        5.03   264.33    .995E+06     819.9          2.52      20.23
        5.93   265.23    .141E+07    1337.0          2.90      17.56
        6.84   266.14    .187E+07    1984.8          3.25      15.67
        7.74   267.04    .237E+07    2766.0          3.57      14.26
        8.65   267.95    .292E+07    3596.9          3.76      13.53
        9.55   268.85    .355E+07    4575.4          3.93      12.95
       10.46   269.76    .427E+07    5814.9          4.16      12.23
       11.36   270.66    .503E+07    7319.0          4.44      11.46
       12.27   271.57    .584E+07    9009.7          4.71      10.81
       13.17   272.47    .670E+07   10886.3          4.96      10.26
       14.08   273.38    .761E+07   12893.2          5.17       9.84
       14.98   274.28    .858E+07   15098.1          5.37       9.48
       15.89   275.19    .961E+07   17527.6          5.57       9.14
       16.79   276.09    .107E+08   20190.3          5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64     4.95   12.00   5.46      0.61      1.25
     OUTFLOW: ID= 1 (6122) 3727.64     4.87   12.50   5.46      0.61      1.25


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1221) |   Area    (ha)= 117.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88        66.03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     886.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         4.50
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      14.75 (ii)   51.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.13         0.47      2.269 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75       6.00
     RUNOFF VOLUME    (mm)=      40.00         4.47      10.15
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.11       0.24

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.8880      3.0390
                         0.3990     1.4100   |   9.9040      3.4850
                         2.2850     1.6269   |  11.5290      3.9214
                         4.2550     2.1164   |  11.9290      3.9314
                         5.9010     2.5338   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      2.269      6.00      10.15
     OUTFLOW: ID= 1 (5122)    117.910      0.220      9.00      10.15

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.70
                TIME SHIFT OF PEAK FLOW         (min)=180.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7780

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   0.377 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.740
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   246.95   0.377     8.00     3.74
       + ID2= 2 (5122):   117.91   0.220     9.00    10.15
         ================================================
         ID = 3 (8018):   364.86   0.591     8.00     5.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64   4.866    12.50     5.46
       + ID2= 2 (8018):   364.86   0.591     8.00     5.81
         ================================================
         ID = 3 (8020):  4092.50   5.252    12.50     5.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.07         32.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     578.45         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          4.05
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      11.42 (ii)    50.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.63          0.21          1.685 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00          5.17          14.22
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.12           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  48.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3570      1.2179
                          0.1700     0.5264   |   4.2160      1.4221
                          0.9720     0.5968   |   4.9080      1.6217
                          1.8110     0.8165   |   5.3080      1.6317
                          2.5120     0.9954   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.190      1.685      6.00      14.22
     OUTFLOW: ID= 1 (5126)     50.190      0.147      8.25      14.21

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.72
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4555

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.509

     PEAK FLOW       (cms)=   0.349 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.988
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.143

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   0.349     6.75     5.99
       + ID2= 2 (5126):    50.19   0.147     8.25    14.21
         ================================================
         ID = 3 (8024):   133.52   0.476     6.75     9.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   0.324 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   3.563
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   0.324     6.50     3.56
       + ID2= 2 (8024):   133.52   0.476     6.75     9.08
         ================================================
         ID = 3 (8026):   254.95   0.797     6.75     6.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                   0.00         270.58        0.0400
                   7.71         270.36        0.0400
                  15.43         269.48        0.0400
                  23.14         265.88        0.0400
                  42.43         261.83        0.0400
                  61.71         258.31        0.0400
                  75.21         256.62        0.0400
                  90.64         255.35        0.0400
                  92.49         255.00    0.0400 /0.0300  Main Channel
                  93.49         254.00        0.0300      Main Channel
                  94.49         253.90        0.0300      Main Channel
                  94.99         253.80        0.0300      Main Channel
                  95.49         253.70        0.0300      Main Channel
                  95.99         253.80        0.0300      Main Channel
                  98.49         255.00    0.0300 /0.0400  Main Channel
                 100.28         255.44        0.0400
                 134.99         257.45        0.0400
                 148.49         259.67        0.0400
                 167.77         263.42        0.0400
                 190.92         270.00        0.0400

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.65   254.35    .439E+04       2.0         1.24       36.10
       1.30   255.00    .131E+05       9.4         1.92       23.39
       2.18   255.88    .433E+05      37.0         2.30       19.54
       3.06   256.76    .131E+06     113.3         2.34       19.20
       3.95   257.65    .273E+06     273.8         2.70       16.64
       4.83   258.53    .453E+06     538.5         3.21       14.01
       5.71   259.41    .658E+06     902.9         3.70       12.14
       6.59   260.29    .886E+06    1368.4         4.16       10.79
       7.48   261.18    .114E+07    1936.3         4.59        9.79
       8.36   262.06    .141E+07    2610.9         4.99        9.01
       9.24   262.94    .171E+07    3398.7         5.37        8.36
      10.12   263.82    .202E+07    4309.6         5.75        7.81
      11.01   264.71    .235E+07    5347.5         6.13        7.33
      11.89   265.59    .270E+07    6501.0         6.48        6.93
      12.77   266.47    .307E+07    7808.6         6.86        6.55
```

```
 13.65   267.35    .345E+07    9250.5          7.23       6.21
 14.54   268.24    .384E+07   10808.3          7.59       5.92
 15.42   269.12    .424E+07   12482.5          7.94       5.66
 16.30   270.00    .466E+07   14127.4          8.18       5.49

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (8026)  254.95     0.80    6.75   6.45      0.26      1.24
 OUTFLOW: ID= 1 (6128)  254.95     0.70    7.50   6.45      0.23      1.24


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.93        27.93
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     610.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.80
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.79 (ii)   38.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.00         0.42        2.160 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      40.00         7.76        17.11
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.18         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7380      1.5139
                          0.1890     0.7401   |   4.6930      1.7113
                          1.0830     0.8643   |   5.4630      1.9045
                          2.0160     1.0853   |   5.8630      1.9045
                          2.7960     1.2819   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1281)     55.870     2.160      6.00      17.11
     OUTFLOW: ID= 1 (5128)     55.870     0.167      8.50      17.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.71
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6524

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--------------------
| CALIB            |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   5.093

     PEAK FLOW       (cms)=   0.844 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.957
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9128) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1282):   184.36   0.844     6.75     6.96
      + ID2= 2 (5128):    55.87   0.167     8.50    17.09
        ================================================
        ID = 3 (9128):   240.23   0.984     6.75     9.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6128):   254.95   0.703     7.50     6.45
      + ID2= 2 (9128):   240.23   0.984     6.75     9.31
        ================================================
        ID = 3 (8028):   495.18   1.643     7.25     7.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8022) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8020):  4092.50   5.252    12.50     5.50
      + ID2= 2 (8028):   495.18   1.643     7.25     7.84
        ================================================
        ID = 3 (8022):  4587.68   5.879    12.00     5.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.36        96.99
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1084.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         7.76
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      16.64 (ii)   46.39 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.16         0.98        4.444 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75         6.00
     RUNOFF VOLUME    (mm)=      40.00        6.22         13.65
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.15         0.33


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  11.7960      4.5929
                          0.5970     2.1554   |  14.8120      5.2509
                          3.4170     2.4937   |  17.2430      5.8948
                          6.3630     3.2187   |  17.6430      5.9048
                          8.8260     3.8422   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
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     INFLOW : ID= 2 (1201)    176.350      4.444      6.00      13.65
     OUTFLOW: ID= 1 (5120)    176.350      0.440      9.00      13.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.89
                  TIME SHIFT OF PEAK FLOW         (min)=180.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5885

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-------------------
| CALIB           |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39        40.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     686.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         5.84
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      12.65 (ii)   45.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.70         0.40        1.815 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75         6.00
     RUNOFF VOLUME    (mm)=      40.00         6.15        12.92
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.15         0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):    70.67   1.815     6.00    12.92
       + ID2= 2 (5120):   176.35   0.440     9.00    13.65
         ================================================
         ID = 3 (8030):   247.02   1.981     6.00    13.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8032) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.68   5.879    12.00     5.75
       + ID2= 2 (8030):   247.02   1.981     6.00    13.44
         ================================================
         ID = 3 (8032):  4834.70   6.352    12.00     6.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1301.0) ------>
              Distance      Elevation       Manning
                  0.00         257.18        0.0350
                 62.45         254.70        0.0350
                109.29         252.74        0.0350
                150.92         251.55        0.0350
                192.56         248.96        0.0350
                239.39         247.16        0.0350
                291.84         246.00        0.0350
                296.84         245.00        0.0350
                298.84         245.00    0.0350 /0.0300  Main Channel
                299.24         244.60        0.0300      Main Channel
                301.84         244.60        0.0300      Main Channel
                303.44         244.60        0.0300      Main Channel
                303.84         245.00    0.0300 /0.0350  Main Channel
                306.84         245.00        0.0350
                309.84         246.00        0.0350
                317.46         247.22        0.0350
                348.68         254.83        0.0350
                359.09         256.70        0.0350
                452.76         258.23        0.0350
                515.22         258.33        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40    245.00    .870E+04       1.2         0.64      124.12
       1.04    245.64    .468E+05       9.5         0.96       81.81
       1.68    246.28    .109E+06      25.6         1.11       70.86
       2.32    246.92    .257E+06      63.5         1.17       67.51
       2.96    247.56    .498E+06     142.7         1.36       58.18
       3.61    248.21    .800E+06     266.7         1.58       50.01
       4.25    248.85    .116E+07     437.4         1.78       44.24
       4.89    249.49    .157E+07     669.1         2.01       39.20
       5.53    250.13    .203E+07     954.9         2.23       35.36
       6.17    250.77    .252E+07    1294.4         2.43       32.42
       6.81    251.41    .305E+07    1689.6         2.62       30.07
       7.45    252.05    .363E+07    2090.7         2.73       28.93
       8.09    252.69    .429E+07    2553.1         2.82       27.98
       8.73    253.33    .501E+07    3138.4         2.96       26.60
       9.37    253.97    .579E+07    3803.8         3.11       25.36
      10.02    254.62    .662E+07    4549.3         3.25       24.25
      10.66    255.26    .751E+07    5364.9         3.38       23.32
      11.30    255.90    .845E+07    6265.7         3.51       22.49
      11.94    256.54    .946E+07    7260.1         3.63       21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70     6.35   12.00   6.14      0.80      0.81
     OUTFLOW: ID= 1 (6130) 4834.70     5.99   13.00   6.14      0.77      0.79

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93       115.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1461.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        21.77
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      23.20 (ii)   42.88 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.64         3.56       14.247 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50        6.25
     RUNOFF VOLUME    (mm)=      40.00        15.65        27.10
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.37         0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  18.6040     9.7083
                        1.1320     5.3237   |  22.6740    10.8355
                        6.6360     6.1006   |  30.4650    12.2155
                       10.3780     7.2341   |  31.8650    12.2255
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                        14.1960     8.4233   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    320.200     14.247      6.25      27.10
     OUTFLOW: ID= 1 (5130)    320.200      3.029      7.75      27.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.26
                  TIME SHIFT OF PEAK FLOW          (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  5.6020

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   0.547 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.383
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):    65.86   0.547     6.75    13.38
       + ID2= 2 (5130):   320.20   3.029     7.75    27.09
         ================================================
         ID = 3 (8036):   386.06   3.513     7.75    24.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.70   5.990    13.00     6.14
       + ID2= 2 (8036):   386.06   3.513     7.75    24.75
         ================================================
         ID = 3 (8034):  5220.76   7.128    12.75     7.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.27
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       6.28 (ii)   32.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.06      0.290 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50       6.00
     RUNOFF VOLUME    (mm)=      40.00         7.74      16.45
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.18       0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4580      0.1865
                          0.0230     0.0917   |   0.5750      0.2106
                          0.1330     0.1071   |   0.6700      0.2341
                          0.2470     0.1341   |   1.0700      0.2441
                          0.3430     0.1582   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)     6.850     0.290      6.00      16.45
     OUTFLOW: ID= 1 (5186)     6.850     0.019      8.50      16.30

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.68
                  TIME SHIFT OF PEAK FLOW          (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0774

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--------------------
| CALIB            |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32       196.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1516.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80         8.41
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      23.72 (ii)   52.53 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.08         2.01      7.137 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75       6.25
     RUNOFF VOLUME    (mm)=      40.00         7.04      14.62
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.17       0.35

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1862):   344.94   7.137     6.25    14.62
       + ID2= 2 (5186):     6.85   0.019     8.50    16.30
         ================================================
         ID = 3 (9186):   351.79   7.150     6.25    14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      86.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        26.22
               over (min)        15.00        30.00
```

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     Storage Coeff.  (min)=       3.65 (ii)   21.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.02          0.089 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      40.00        13.12          25.47
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.31           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750     0.0357
                          0.0040     0.0200   |   0.0940     0.0386
                          0.0220     0.0240   |   0.1100     0.0416
                          0.0410     0.0277   |   0.5100     0.0516
                          0.0560     0.0315   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)     1.120     0.089      6.00      25.47
     OUTFLOW: ID= 1 (5188)     1.120     0.006      8.00      24.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.60
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0204

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.04        181.37
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1431.57         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.80          9.41
               over (min)        30.00         60.00
     Storage Coeff.  (min)=      22.92 (ii)   50.45 (ii)
     Unit Hyd. Tpeak (min)=      30.00         60.00
     Unit Hyd. peak  (cms)=       0.04          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.97          2.11          7.092 (iii)
     TIME TO PEAK    (hrs)=       6.25          6.75           6.25
     RUNOFF VOLUME    (mm)=      40.00          8.30          16.22
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.20           0.39


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1882):   307.41   7.092     6.25    16.22
        + ID2= 2 (5188):     1.12   0.006     8.00    24.35
          ================================================
          ID = 3 (9188):   308.53   7.095     6.25    16.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9186):   351.79   7.150     6.25    14.65
        + ID2= 2 (9188):   308.53   7.095     6.25    16.25
          ================================================
          ID = 3 (8068):   660.32  14.245     6.25    15.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72         67.08
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     863.33         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          8.68
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.52 (ii)   42.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.16          0.84          2.488 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00          7.09          12.68
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.17           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7800     2.5656
                          0.3790     1.0207   |   7.3720     3.0829
                          1.6240     1.1939   |   8.7710     3.5956
                          3.0930     1.6631   |   9.1710     3.6056
                          4.3530     2.1032   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     2.488      6.00      12.68
     OUTFLOW: ID= 1 (5182)    111.800     0.323      8.50      12.68

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.96
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8691

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.142 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.901
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.140
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8062)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1822):	44.40	0.142	7.00	5.90
	+ ID2= 2 (5182):	111.80	0.323	8.50	12.68
	ID = 3 (8062):	156.20	0.450	8.00	10.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (1841)	ID= 1 DT=15.0 min	Area (ha)= 145.07	Total Imp(%)= 48.00	Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.63	75.44
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	983.43	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	12.58
over (min)		15.00	45.00
Storage Coeff. (min)=		15.70 (ii)	40.21 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	3.03 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	8.99
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (5184) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.9270	2.3472
0.2980	1.0088	7.4630	2.7585
1.6660	1.1775	8.7490	3.1642
3.1100	1.4809	9.1490	3.1742
4.4100	1.8897	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1841)	145.070	3.595	6.00	14.88
OUTFLOW: ID= 1 (5184)	145.070	1.180	7.25	14.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.83
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.1233

CALIB	STANDHYD (1842)	ID= 1 DT=15.0 min	Area (ha)= 117.45	Total Imp(%)= 42.00	Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	49.33	68.12
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	884.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	10.62
over (min)		15.00	45.00
Storage Coeff. (min)=		14.73 (ii)	40.96 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	2.678 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	13.69
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8060)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1842):	117.45	2.678	6.00	13.69
	+ ID2= 2 (5184):	145.07	1.180	7.25	14.87
	ID = 3 (8060):	262.52	2.815	6.00	14.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8064)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8060):	262.52	2.815	6.00	14.35
	+ ID2= 2 (8062):	156.20	0.450	8.00	10.75
	ID = 3 (8064):	418.72	3.018	6.00	13.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (1781)	ID= 1 DT=15.0 min	Area (ha)= 55.50	Total Imp(%)= 39.00	Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.65	33.86
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	608.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	19.90
over (min)		15.00	45.00
Storage Coeff. (min)=		11.76 (ii)	32.17 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	1.350 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	18.12
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.1870      0.7248
                         0.1880     0.3394   |   9.3670      0.8313
                         1.7260     0.4003   |  10.7440      0.9285
                         3.2000     0.4933   |  11.1440      0.9385
                         4.6710     0.6039   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     55.500      1.350      6.00      18.12
     OUTFLOW: ID= 1 (5178)     55.500      1.203      6.75      18.11

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.11
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3896

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-------------------
| CALIB           |
| NASHYD    (1782) |   Area    (ha)= 219.91   Curve Number   (CN)= 77.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   4.921

     PEAK FLOW       (cms)=   1.541 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.220
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.291

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1782):   219.91   1.541     7.00    12.22
       + ID2= 2 (5178):    55.50   1.203     6.75    18.11
         ================================================
         ID = 3 (8046):   275.41   2.728     6.75    13.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   0.714 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   7.815
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   226.65   0.714     8.00     7.81
       + ID2= 2 (8046):   275.41   2.728     6.75    13.41
         ================================================
         ID = 3 (8050):   502.06   3.360     6.75    10.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00

-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.87
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.82 (ii)    37.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.25          0.61          1.489 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00          9.56          15.04
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.23           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1370      1.3070
                         0.0580     0.5427   |   1.4280      1.5354
                         0.3290     0.6196   |   1.6620      1.7593
                         0.6130     0.8627   |   2.0620      1.7693
                         0.8510     1.0621   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300      1.489      6.00      15.04
     OUTFLOW: ID= 1 (5174)     56.300      0.213      8.25      15.00

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.28
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5868

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-------------------
| CALIB           |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   0.484 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.554
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   0.484     6.75     9.55
       + ID2= 2 (5174):    56.30   0.213     8.25    15.00
         ================================================
         ID = 3 (8044):   139.10   0.614     8.00    11.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
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| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   1.274 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.449
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   0.686 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   4.965
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   0.698 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.767
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   0.686     7.00     4.96
       + ID2= 2 (0170):   166.91   0.698     7.00     7.77
         ================================================
         ID = 3 (8040):   414.04   1.384     7.00     6.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   1.274     7.25    12.45
       + ID2= 2 (8040):   414.04   1.384     7.00     6.09
         ================================================
         ID = 3 (8042):   616.27   2.656     7.00     8.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1741.0) ------>
              Distance      Elevation       Manning
                  0.00         296.00        0.0450
                 13.36         288.94        0.0450
                 26.71         288.64        0.0450
                 51.19         287.96        0.0450
                 73.45         287.32        0.0450
                 86.81         286.48        0.0450
                102.39         285.08        0.0450
                110.73         282.76        0.0450
                115.73         281.06    0.0450 /0.0350  Main Channel
                115.74         280.35        0.0350      Main Channel
                120.73         280.35        0.0350      Main Channel
                120.74         281.10    0.0350 /0.0450  Main Channel
                125.74         282.64        0.0450
                135.78         286.87        0.0450
                149.13         289.58        0.0450
                162.49         292.29        0.0450
                175.84         293.95        0.0450
                195.88         295.13        0.0450
                213.68         296.02        0.0450
                220.36         296.09        0.0450

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.71    281.06   .136E+05       6.0          1.69       37.89
       1.50    281.85   .358E+05      22.5          2.42       26.43
       2.28    282.63   .726E+05      53.8          2.85       22.47
       3.07    283.42   .124E+06     104.1          3.24       19.79
       3.86    284.21   .189E+06     176.7          3.60       17.81
       4.64    284.99   .268E+06     274.9          3.94       16.26
       5.43    285.78   .369E+06     390.8          4.07       15.73
       6.21    286.56   .501E+06     551.6          4.23       15.15
       7.00    287.35   .674E+06     750.5          4.28       14.97
       7.79    288.14   .920E+06     993.3          4.15       15.44
       8.57    288.92   .126E+07    1361.5          4.14       15.47
       9.36    289.71   .167E+07    1986.0          4.56       14.04
      10.15    290.50   .210E+07    2739.7          5.02       12.76
      10.93    291.28   .254E+07    3615.0          5.47       11.70
      11.72    292.07   .300E+07    4608.8          5.91       10.83
      12.50    292.85   .347E+07    5693.3          6.30       10.16
      13.29    293.64   .397E+07    6892.9          6.67        9.60
      14.08    294.43   .450E+07    8150.4          6.97        9.19
      14.86    295.21   .506E+07    9525.0          7.23        8.86

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27     2.66    7.00   8.18      0.31      1.69
     OUTFLOW: ID= 1 (6174)  616.27     2.45    8.00   8.18      0.29      1.69

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| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   2.452     8.00     8.18
       + ID2= 2 (8044):   139.10   0.614     8.00    11.76
         ================================================
         ID = 3 (8048):   755.37   3.066     8.00     8.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37   3.066     8.00     8.84
       + ID2= 2 (8050):   502.06   3.360     6.75    10.88
         ================================================
         ID = 3 (8052):  1257.43   5.628     7.25     9.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.43   5.628     7.25     9.65
       + ID2= 2 (8064):   418.72   3.018     6.00    13.00
         ================================================
         ID = 3 (8058):  1676.15   8.213     7.00    10.49
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (1762)	Area (ha)= 162.00
ID= 1 DT=15.0 min	Total Imp(%)= 26.00 Dir. Conn.(%)= 11.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	42.12	119.88	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	1039.23	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	8.28	
over (min)		15.00	60.00	
Storage Coeff. (min)=		16.22 (ii)	45.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	60.00	
Unit Hyd. peak (cms)=		0.07	0.02	
				TOTALS
PEAK FLOW	(cms)=	1.93	1.31	2.311 (iii)
TIME TO PEAK	(hrs)=	6.00	6.75	6.00
RUNOFF VOLUME	(mm)=	40.00	7.76	11.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (1761)	Area (ha)= 48.80
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	24.40	24.40	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	570.38	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	14.34	
over (min)		15.00	45.00	
Storage Coeff. (min)=		11.32 (ii)	34.58 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.28	0.56	1.508 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	10.02	16.31
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5176)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.2640	1.3175
	0.1650	0.6418	4.0090	1.4908
	0.9450	0.7489	4.7720	1.6604
	1.7610	0.9426	5.1720	1.6704
	2.4420	1.1144	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1761)	48.800	1.508	6.00	16.31
OUTFLOW: ID= 1 (5176)	48.800	0.139	8.75	16.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.20
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.5398

ADD HYD (8056)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1762):	162.00	2.311	6.00	11.30
+ ID2= 2 (5176):	48.80	0.139	8.75	16.29
ID = 3 (8056):	210.80	2.360	6.00	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8066)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8056):	210.80	2.360	6.00	12.46
+ ID2= 2 (8058):	1676.15	8.213	7.00	10.49
ID = 3 (8066):	1886.95	9.766	6.75	10.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8070)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8066):	1886.95	9.766	6.75	10.71
+ ID2= 2 (8068):	660.32	14.245	6.25	15.40
ID = 3 (8070):	2547.27	21.565	6.25	11.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6190)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1901.0) ------>

Distance	Elevation	Manning	
0.00	261.34	0.0600	
19.76	261.64	0.0600	
59.28	261.29	0.0600	
79.04	261.09	0.0600	
103.74	255.99	0.0600	
153.13	253.42	0.0600	
192.65	252.78	0.0600	
212.29	249.80	0.0600	
217.29	249.50	0.0600 /0.0350	Main Channel
217.30	249.05	0.0350	Main Channel
222.29	249.05	0.0350	Main Channel
222.30	249.50	0.0350 /0.0600	Main Channel
227.30	249.80	0.0600	
232.17	252.31	0.0600	
276.63	253.53	0.0600	
326.03	256.97	0.0600	
355.67	257.30	0.0600	
400.12	260.08	0.0600	
469.28	261.25	0.0600	
489.04	262.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	249.50	.436E+04	1.0	0.43	75.97
1.07	250.12	.205E+05	5.4	0.51	62.96
1.70	250.75	.451E+05	14.8	0.64	50.78
2.32	251.37	.762E+05	29.2	0.74	43.46
2.94	251.99	.114E+06	49.1	0.84	38.61
3.57	252.62	.161E+06	70.2	0.85	38.18
4.19	253.24	.248E+06	93.4	0.73	44.29

```
       4.81   253.86    .398E+06     154.9          0.76      42.79
       5.44   254.49    .576E+06     246.1          0.83      38.99
       6.06   255.11    .779E+06     362.7          0.90      35.79
       6.68   255.73    .101E+07     506.5          0.98      33.15
       7.30   256.35    .126E+07     687.6          1.06      30.52
       7.93   256.98    .153E+07     902.8          1.15      28.18
       8.55   257.60    .183E+07    1114.3          1.18      27.39
       9.17   258.22    .216E+07    1407.8          1.26      25.55
       9.80   258.85    .250E+07    1735.4          1.35      24.03
      10.42   259.47    .286E+07    2097.5          1.42      22.73
      11.04   260.09    .324E+07    2492.3          1.49      21.63
      11.67   260.72    .364E+07    2837.8          1.51      21.39

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.27    21.56    6.25  11.93      1.99      0.68
     OUTFLOW: ID= 1 (6190) 2547.27    15.05    7.00  11.93      1.71      0.64


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.82         5.67
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     299.89        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        22.54
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.70 (ii)   27.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.25          0.737 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      40.00        14.64          22.50
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.35           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9030     0.3849
                          0.0460     0.1975   |   1.1330     0.4289
                          0.2610     0.2331   |   1.3190     0.4720
                          0.4870     0.2836   |   1.7190     0.4820
                          0.6750     0.3308   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1901)    13.490     0.737      6.00      22.50
     OUTFLOW: ID= 1 (5190)    13.490     0.081      7.75      22.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.03
                TIME SHIFT OF PEAK FLOW          (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2035

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     142.74       131.76
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1352.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        19.06
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      19.00 (ii)   39.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.73         3.73          9.256 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        13.65          21.03
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.33           0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9190) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1902):   274.50   9.256     6.00    21.03
        + ID2= 2 (5190):    13.49   0.081     7.75    22.42
          ================================================
          ID = 3 (9190):   287.99   9.276     6.00    21.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6190):  2547.27  15.045     7.00    11.93
        + ID2= 2 (9190):   287.99   9.276     6.00    21.09
          ================================================
          ID = 3 (8072):  2835.26  19.568     6.50    12.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                   0.00         264.40        0.0500
                   3.64         263.94        0.0500
                  14.54         261.05        0.0500
                  29.08         256.78        0.0500
                  36.36         254.96        0.0500
                  50.90         252.20        0.0500
                  65.44         249.78        0.0500
                  76.35         246.86        0.0500
                  77.24         245.90        0.0500
                  82.24         245.45    0.0500 /0.0350  Main Channel
                  82.25         244.90        0.0350      Main Channel
                  87.25         244.90        0.0350      Main Channel
                  87.26         245.45    0.0350 /0.0500  Main Channel
                  94.53         246.89        0.0500
                 170.87         247.16        0.0500
                 218.13         248.69        0.0500
                 265.40         249.22        0.0500
                 301.75         250.78        0.0500
                 338.11         253.47        0.0500
                 359.92         264.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55   245.45    .345E+04       2.0          0.71      29.20
       1.53   246.43    .174E+05      14.6          1.05      19.92
       2.50   247.40    .767E+05      52.8          0.86      24.20
       3.48   248.38    .224E+06     199.8          1.11      18.71
       4.46   249.36    .429E+06     441.2          1.29      16.19
```

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       5.43   250.33    .691E+06     874.3          1.58      13.18
       6.41   251.31    .987E+06    1468.3          1.86      11.20
       7.38   252.28    .131E+07    2224.8          2.13       9.79
       8.36   253.26    .165E+07    3132.4          2.37       8.78
       9.34   254.24    .201E+07    4256.4          2.65       7.87
      10.31   255.21    .238E+07    5551.0          2.92       7.15
      11.29   256.19    .276E+07    6996.8          3.17       6.57
      12.27   257.17    .314E+07    8585.9          3.42       6.10
      13.24   258.14    .353E+07   10315.9          3.65       5.71
      14.22   259.12    .393E+07   12180.7          3.87       5.38
      15.19   260.09    .434E+07   14178.2          4.09       5.10
      16.17   261.07    .475E+07   16306.5          4.29       4.85
      17.15   262.05    .517E+07   18558.6          4.49       4.64
      18.12   263.02    .559E+07   20939.7          4.68       4.45

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8072) 2835.26    19.57    6.50  12.86      1.65      1.02
    OUTFLOW: ID= 1 (6192) 2835.26    18.26    7.00  12.86      1.62      1.02


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--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  72.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.35         41.92
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     694.12         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.53
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.73 (ii)    39.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.64          0.67      1.909 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      40.00          8.43      14.43
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.20       0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1390      1.4346
                          0.2060     0.7072   |   3.8730      1.6637
                          0.9550     0.8170   |   4.8310      1.9184
                          1.7940     1.0081   |   5.2310      1.9284
                          2.4250     1.1871   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     72.270     1.909      6.00      14.43
     OUTFLOW: ID= 1 (5192)     72.270     0.199      8.75      14.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.42
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6829

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 174.34
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      67.99        106.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1078.08         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          9.75
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.58 (ii)    43.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.37          1.47      3.944 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      40.00          8.13      13.87
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.19       0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1922):   174.34   3.944     6.00    13.87
      + ID2= 2 (5192):    72.27   0.199     8.75    14.42
        ================================================
        ID = 3 (8074):   246.61   4.014     6.00    14.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6192):  2835.26  18.263     7.00    12.86
      + ID2= 2 (8074):   246.61   4.014     6.00    14.03
        ================================================
        ID = 3 (8076):  3081.87  19.940     7.00    12.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   0.489 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=   8.615
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1941) |   Area    (ha)=   0.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.34          0.42
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=      71.18         40.00
     Mannings n          =      0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=      55.44        18.27
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      3.25 (ii)   24.36 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.02         0.027 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     40.00        12.78        16.85
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.95         0.30         0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0510     0.0197
                          0.0030     0.0093   |   0.0640     0.0226
                          0.0150     0.0107   |   0.0740     0.0253
                          0.0270     0.0138   |   0.4740     0.0353
                          0.0380     0.0165   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)     0.760      0.027      6.00      16.85
     OUTFLOW: ID= 1 (5194)     0.760      0.003      8.25      15.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.88
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0083

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1942) |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   1.430 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.053
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9194) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1942):   255.33   1.430     6.75     9.05
       + ID2= 2 (5194):     0.76   0.003     8.25    15.84
         ================================================
         ID = 3 (9194):   256.09   1.433     6.75     9.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0196):    41.47   0.489     6.00     8.62
       + ID2= 2 (9194):   256.09   1.433     6.75     9.07
         ================================================
         ID = 3 (8078):   297.56   1.823     6.50     9.01
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation       Manning
                   0.00         267.15        0.0500
                  22.99         265.94        0.0500
                  51.73         261.39        0.0500
                  74.72         258.75        0.0500
                  94.83         257.79        0.0500
                 114.95         254.36        0.0500
                 126.44         254.06        0.0500
                 132.19         253.68        0.0500
                 135.06         253.35        0.0500
                 137.94         252.93    0.0500 /0.0300  Main Channel
                 140.81         252.41        0.0300      Main Channel
                 143.69         251.89        0.0300      Main Channel
                 146.56         252.51        0.0300      Main Channel
                 149.43         253.36    0.0300 /0.0500  Main Channel
                 158.05         255.89        0.0500
                 172.42         256.25        0.0500
                 204.03         259.15        0.0500
                 229.90         260.36        0.0500
                 252.89         260.46        0.0500
                 284.50         260.45        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.35    252.24    .111E+04         0.6         0.97       31.07
       0.69    252.58    .442E+04         3.8         1.55       19.42
       1.04    252.93    .974E+04        11.1         2.06       14.65
       1.51    253.40    .203E+05        31.2         2.77       10.87
       1.98    253.87    .357E+05        65.0         3.30        9.14
       2.45    254.34    .596E+05       112.9         3.43        8.80
       2.92    254.81    .935E+05       186.8         3.62        8.34
       3.39    255.28    .131E+06       282.1         3.89        7.75
       3.86    255.75    .172E+06       398.2         4.18        7.22
       4.33    256.22    .221E+06       527.0         4.31        6.99
       4.80    256.69    .282E+06       697.3         4.47        6.75
       5.27    257.16    .350E+06       898.5         4.64        6.50
       5.74    257.63    .425E+06      1131.4         4.82        6.26
       6.21    258.10    .508E+06      1367.4         4.88        6.19
       6.68    258.57    .603E+06      1635.6         4.91        6.14
       7.15    259.04    .709E+06      1977.2         5.04        5.98
       7.62    259.51    .826E+06      2360.5         5.17        5.83
       8.09    259.98    .954E+06      2790.7         5.29        5.70
       8.56    260.45    .110E+07      3179.6         5.25        5.74

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     1.82    6.50   9.01      0.48      1.13
     OUTFLOW: ID= 1 (6198)  297.56     1.64    7.25   9.01      0.46      1.10

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1981) |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       65.98         83.97
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      999.83         40.00
     Mannings n          =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44         11.45
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       15.85 (ii)    41.30 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=        3.12          1.41         3.678 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=       40.00         8.82         14.75
     TOTAL RAINFALL   (mm)=       42.00         42.00        42.00
     RUNOFF COEFFICIENT   =        0.95          0.21         0.35
```

```
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.9910      3.4957
                         0.4390     1.7800   |  13.3530      3.9512
                         2.6180     2.0449   |  15.3540      4.3979
                         5.1680     2.5932   |  15.7540      4.4079
                         7.9230     3.0040   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950      3.678      6.00      14.75
     OUTFLOW: ID= 1 (5198)    149.950      0.371      9.25      14.74

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.07
                   TIME SHIFT OF PEAK FLOW         (min)=195.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5028

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12       192.49
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1266.52        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         5.41
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      18.27 (ii)   52.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.22         1.63         2.685 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         6.98          9.95
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.17          0.24

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   240.61   2.685     6.00     9.95
        + ID2= 2 (5198):   149.95   0.371     9.25    14.74
          ================================================
          ID = 3 (8080):   390.56   2.804     6.00    11.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   1.639     7.25     9.01
        + ID2= 2 (8080):   390.56   2.804     6.00    11.79
          ================================================
          ID = 3 (8082):   688.12   3.904     6.75    10.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.87  19.940     7.00    12.95
        + ID2= 2 (8082):   688.12   3.904     6.75    10.59
          ================================================
          ID = 3 (8084):  3769.99  23.654     7.00    12.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2001.0) ------>
               Distance      Elevation       Manning
                   0.00         252.47        0.0500
                  10.38         252.29        0.0500
                  20.76         252.28        0.0500
                  41.52         247.66        0.0500
                  62.28         247.47        0.0500
                  80.45         247.34        0.0500
                  90.83         246.85        0.0500
                 103.81         245.51        0.0500
                 106.00         244.50        0.0500
                 108.99         244.05    0.0500 /0.0300  Main Channel
                 109.00         243.50        0.0300      Main Channel
                 114.00         243.50        0.0300      Main Channel
                 114.01         244.05    0.0300 /0.0500  Main Channel
                 118.99         244.50        0.0500
                 132.36         245.09        0.0500
                 150.52         245.83        0.0500
                 199.83         249.24        0.0500
                 207.62         250.16        0.0500
                 236.16         253.11        0.0500
                 256.92         253.83        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.28   243.77    .365E+04         0.7         0.54      81.42
       0.55   244.05    .730E+04         2.2         0.81      54.59
       1.05   244.55    .197E+05         7.2         0.97      45.51
       1.54   245.04    .463E+05        17.2         0.99      44.76
       2.04   245.54    .895E+05        34.8         1.03      42.81
       2.53   246.03    .152E+06        62.8         1.09      40.43
       3.03   246.53    .232E+06       104.7         1.20      36.91
       3.52   247.02    .328E+06       159.7         1.29      34.19
       4.02   247.52    .450E+06       223.4         1.32      33.56
       4.51   248.01    .627E+06       326.9         1.38      31.99
       5.01   248.51    .820E+06       463.0         1.50      29.52
       5.50   249.00    .103E+07       626.0         1.62      27.30
       6.00   249.50    .124E+07       820.1         1.75      25.24
       6.49   249.99    .147E+07      1044.4         1.89      23.42
       6.99   250.49    .170E+07      1292.6         2.01      21.95
       7.48   250.98    .195E+07      1565.6         2.13      20.71
       7.98   251.48    .220E+07      1864.5         2.25      19.65
       8.47   251.97    .246E+07      2189.4         2.36      18.73
       8.97   252.47    .274E+07      2427.5         2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    23.65    7.00  12.52      1.72      1.00
     OUTFLOW: ID= 1 (6200) 3769.99    20.37    7.75  12.52      1.63      0.99

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54         22.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     532.17         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         19.19
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.86 (ii)    31.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.02          0.74          1.326 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         13.74          18.73
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.33           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.7210     1.0525
                         0.1450     0.4892   |   3.4130     1.1947
                         0.7930     0.5722   |   4.0030     1.3346
                         1.4410     0.7540   |   4.4030     1.3446
                         2.0370     0.8927   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480     1.326      6.00      18.73
     OUTFLOW: ID= 1 (5200)     42.480     0.245      8.00      18.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.46
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5023

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-------------------
| CALIB             |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56         50.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     696.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         13.78
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.76 (ii)    36.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.13          1.08          1.565 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00         11.90          15.56
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.28           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   1.565     6.00    15.56
        + ID2= 2 (5200):    42.48   0.245     8.00    18.71
          ================================================
          ID = 3 (8086):   115.27   1.613     6.00    16.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  20.368     7.75    12.52
        + ID2= 2 (8086):   115.27   1.613     6.00    16.72
          ================================================
          ID = 3 (8088):  3885.26  21.042     7.75    12.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76   7.128    12.75     7.52
        + ID2= 2 (8088):  3885.26  21.042     7.75    12.64
          ================================================
          ID = 3 (8038):  9106.02  27.086     7.75     9.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                  0.00         252.00        0.0400
                  2.35         244.60        0.0400
                 39.94         243.14        0.0400
                 58.74         242.65        0.0400
                 91.63         242.03        0.0400
                101.03         241.69        0.0400
                103.38         241.66        0.0400
                105.73         240.76        0.0400
                105.93         240.59        0.0400
                109.18         240.28    0.0400 /0.0300  Main Channel
                110.43         239.81        0.0300      Main Channel
                111.68         239.81        0.0300      Main Channel
                113.43         240.09    0.0300 /0.0400  Main Channel
                118.43         240.50        0.0400
                138.62         241.68        0.0400
                152.72         241.60        0.0400
                166.82         242.68        0.0400
                185.62         249.09        0.0400
                197.36         251.00        0.0400
                232.61         252.28        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28   240.09    .118E+04        0.1        0.20     142.09
      0.91   240.72    .114E+05        2.4        0.35      79.92
      1.53   241.34    .352E+05        9.4        0.45      62.17
      2.16   241.97    .831E+05       22.8        0.46      60.69
      2.79   242.60    .172E+06       54.2        0.53      52.74
      3.41   243.22    .297E+06      111.4        0.63      44.49
      4.04   243.85    .445E+06      194.1        0.74      38.22
      4.67   244.48    .612E+06      301.1        0.83      33.88
      5.29   245.10    .793E+06      443.0        0.94      29.82
      5.92   245.73    .976E+06      611.3        1.06      26.60
      6.55   246.36    .116E+07      802.0        1.17      24.12
      7.18   246.99    .135E+07     1014.0        1.27      22.16
      7.80   247.61    .154E+07     1246.2        1.37      20.56
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       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02    27.09    7.75   9.71      2.25      0.47
     OUTFLOW: ID= 1 (1365) 9106.02    22.21    8.75   9.71      2.14      0.46


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| CALIB            |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96        68.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1180.11        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        18.19
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.51 (ii)   38.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.06         1.89        10.829 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      40.00        12.08        24.93
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.29         0.59


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9970     7.9437
                          0.9210     5.2645   |  12.4650     8.5839
                          3.2690     5.3433   |  16.9060     9.2236
                          6.3980     5.6925   |  17.3060     9.2336
                          7.1860     6.8155   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)    208.900     10.829      6.00      24.93
     OUTFLOW: ID= 1 (5132)    208.900      0.676      9.50      24.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.24
                TIME SHIFT OF PEAK FLOW         (min)=210.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.8639

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--------------------
| CALIB            |
| STANDHYD  (1322) |   Area    (ha)=  81.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        51.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     739.10        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.73
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.22 (ii)   40.39 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.42         0.75         2.710 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      40.00         9.11        16.84
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.22         0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):    81.94   2.710     6.00    16.84
       + ID2= 2 (5132):   208.90   0.676     9.50    24.92
         ================================================
         ID = 3 (8090):   290.84   2.974     6.00    22.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84        57.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     804.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         5.67
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      13.92 (ii)   47.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.15         0.54         3.304 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75         6.00
     RUNOFF VOLUME    (mm)=      40.00         6.83        16.12
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.16         0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64        41.15
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     626.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         4.97
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      11.97 (ii)   47.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.44         0.34         1.537 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75         6.00
     RUNOFF VOLUME    (mm)=      40.00         6.39        13.11
```

```
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.15           0.31

 ***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
               YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1250      1.0755
                          0.1070     0.6119   |   1.7570      1.1641
                          0.4130     0.6225   |   2.3860      1.2526
                          0.8380     0.7018   |   2.7860      1.2626
                          0.9790     0.8884   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790      1.537      6.00      13.11
     OUTFLOW: ID= 1 (5134)     58.790      0.098     10.25      13.08

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.41
                   TIME SHIFT OF PEAK FLOW         (min)=255.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5634

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--------------------
| ADD HYD   (9134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1342):    97.16   3.304     6.00    16.12
        + ID2= 2 (5134):    58.79   0.098    10.25    13.08
          ================================================
          ID = 3 (9134):   155.95   3.340     6.00    14.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8090):   290.84   2.974     6.00    22.64
        + ID2= 2 (9134):   155.95   3.340     6.00    14.97
          ================================================
          ID = 3 (8092):   446.79   6.314     6.00    19.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                   0.00         262.81        0.0400
                  37.23         260.54        0.0400
                  79.12         256.98        0.0400
                 111.70         254.74        0.0400
                 172.20         252.76        0.0400
                 251.32         248.82        0.0400
                 255.97         248.75        0.0400
                 260.43         248.76        0.0400
                 265.43         248.49        0.0400
                 268.68         248.18    0.0400 /0.0300  Main Channel
                 269.93         247.71        0.0300      Main Channel
                 271.18         247.71        0.0300      Main Channel
                 272.93         247.99        0.0300      Main Channel
                 277.93         248.40    0.0300 /0.0400  Main Channel
                 283.90         248.88        0.0400
                 307.17         249.60        0.0400
                 321.13         251.59        0.0400
                 363.01         257.08        0.0400
                 400.25         257.58        0.0400
                 460.75         261.91        0.0400

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.47   248.18    .881E+04       1.3         0.76      114.66
        1.19   248.90    .742E+05      17.3         1.22       71.44
        1.92   249.63    .278E+06      78.3         1.48       59.26
        2.64   250.35    .589E+06     210.3         1.87       46.69
        3.36   251.07    .974E+06     414.3         2.23       39.19
        4.08   251.79    .143E+07     696.2         2.55       34.32
        4.81   252.52    .197E+07    1063.0         2.83       30.86
        5.53   253.24    .259E+07    1505.7         3.06       28.62
        6.25   253.96    .331E+07    2051.3         3.26       26.85
        6.97   254.68    .413E+07    2720.9         3.46       25.30
        7.70   255.41    .504E+07    3584.5         3.73       23.43
        8.42   256.13    .601E+07    4580.9         4.00       21.87
        9.14   256.85    .704E+07    5707.9         4.25       20.57
        9.86   257.57    .818E+07    6636.1         4.26       20.53
       10.59   258.30    .945E+07    8115.0         4.50       19.42
       11.31   259.02    .108E+08    9759.2         4.74       18.45
       12.03   259.74    .122E+08   11569.5         4.96       17.61
       12.75   260.46    .137E+08   13550.6         5.18       16.87
       13.48   261.19    .153E+08   15636.4         5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79     6.31    6.00  19.97      0.70      0.86
     OUTFLOW: ID= 1 (1366)  446.79     1.96    7.25  19.96      0.50      0.77

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--------------------
| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67         275.12
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=    1574.36          40.00
     Mannings n          =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      37.80           9.53
               over (min)        30.00          60.00
     Storage Coeff.  (min)=      24.26 (ii)     51.65 (ii)
     Unit Hyd. Tpeak (min)=      30.00          60.00
     Unit Hyd. peak  (cms)=       0.04           0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.95           3.20          5.638 (iii)
     TIME TO PEAK    (hrs)=       6.25           6.75           6.25
     RUNOFF VOLUME    (mm)=      40.00           9.15          13.47
     TOTAL RAINFALL   (mm)=      42.00          42.00          42.00
     RUNOFF COEFFICIENT   =       0.95           0.22           0.32

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.34          63.28
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     968.23          40.00
     Mannings n          =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      55.44          17.42
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      15.55 (ii)     37.07 (ii)
```

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     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.50         1.71         5.198 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        12.01         20.13
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.29          0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.3486
                         0.3100     2.4365   |   5.9200      5.0324
                         1.7670     2.5993   |   7.0820      5.7151
                         3.4020     2.8510   |   7.4820      5.7251
                         4.0310     3.5962   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620     5.198      6.00      20.13
     OUTFLOW: ID= 1 (5136)    140.620     0.283     10.50      20.12

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.44
                   TIME SHIFT OF PEAK FLOW         (min)=270.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.2247

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-------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1362):   371.79   5.638     6.25    13.47
        + ID2= 2 (5136):   140.62   0.283    10.50    20.12
          ================================================
          ID = 3 (8096):   512.41   5.776     6.25    15.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1366):   446.79   1.959     7.25    19.96
        + ID2= 2 (8096):   512.41   5.776     6.25    15.29
          ================================================
          ID = 3 (8094):   959.20   7.314     6.25    17.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1365):  9106.02  22.208     8.75     9.71
        + ID2= 2 (8094):   959.20   7.314     6.25    17.47
          ================================================
          ID = 3 (8098): 10065.22  25.661     8.50    10.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.78         39.46
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     801.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         3.68
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      13.88 (ii)   53.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.79         0.23         3.857 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         3.42         15.86
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.08          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.4380      2.7648
                         0.3260     1.4281   |   8.0830      3.0750
                         1.8650     1.6876   |   9.4100      3.3790
                         3.4730     2.0447   |   9.8100      3.3890
                         4.8170     2.3809   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)    96.240     3.857      6.00      15.86
     OUTFLOW: ID= 1 (5138)    96.240     0.245      8.50      15.84

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.36
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.0746

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| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   0.328 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   2.476
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.059

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1382):   318.55   0.328     8.00     2.48
        + ID2= 2 (5138):    96.24   0.245     8.50    15.84
          ================================================
          ID = 3 (9138):   414.79   0.572     8.00     5.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1402) |   Area    (ha)= 131.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  21.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.05         93.17
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     935.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         2.16
               over (min)        15.00        75.00
     Storage Coeff.  (min)=      15.23 (ii)   64.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.07         0.31     3.139 (iii)
     TIME TO PEAK    (hrs)=       6.00         7.00      6.00
     RUNOFF VOLUME    (mm)=      40.00         3.40     11.09
     TOTAL RAINFALL   (mm)=      42.00        42.00     42.00
     RUNOFF COEFFICIENT   =       0.95         0.08      0.26


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1401) |   Area    (ha)=  27.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.32        15.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     427.16        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         3.09
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       9.52 (ii)   52.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.19         0.07     1.212 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75      6.00
     RUNOFF VOLUME    (mm)=      40.00         3.77     15.72
     TOTAL RAINFALL   (mm)=      42.00        42.00     42.00
     RUNOFF COEFFICIENT   =       0.95         0.09      0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5140) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8310     0.7127
                         0.0930     0.3344   |   2.2990     0.8148
                         0.5300     0.3869   |   2.6760     0.9148
                         0.9880     0.4994   |   3.0760     0.9248
                         1.3700     0.5962   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1401)     27.370      1.212      6.00      15.72
     OUTFLOW: ID= 1 (5140)     27.370      0.081      8.25      15.69

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.65
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2900

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-------------------
| ADD HYD   (9140) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (1402):   131.22   3.139     6.00    11.09
        + ID2= 2 (5140):    27.37   0.081     8.25    15.69
          ================================================
          ID = 3 (9140):   158.59   3.182     6.00    11.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9138):   414.79   0.572     8.00     5.58
        + ID2= 2 (9140):   158.59   3.182     6.00    11.88
          ================================================
          ID = 3 (8102):   573.38   3.463     6.00     7.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                   0.00         295.50        0.0400
                   7.25         295.36        0.0400
                  14.50         295.22        0.0400
                  21.75         295.22        0.0400
                  29.00         294.23        0.0400
                  52.56         286.45        0.0400
                  67.06         281.44        0.0400
                  77.94         278.28        0.0400
                  82.81         277.20    0.0400 /0.0300  Main Channel
                  83.21         276.80        0.0300      Main Channel
                  88.81         276.80        0.0300      Main Channel
                  96.41         276.80        0.0300      Main Channel
                  96.81         277.20    0.0300 /0.0400  Main Channel
                 103.31         278.96        0.0400
                 108.75         280.16        0.0400
                 117.81         282.73        0.0400
                 135.94         290.30        0.0400
                 159.50         292.14        0.0400
                 174.00         293.07        0.0400
                 179.44         293.37        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)        (m/s)       (min)
      0.40   277.20    .238E+05        6.9          1.27       57.28
      1.25   278.05    .889E+05       50.9          2.50       29.13
      2.10   278.90    .179E+06      133.4          3.26       22.36
      2.95   279.75    .293E+06      256.7          3.83       19.03
      3.80   280.60    .432E+06      426.0          4.31       16.90
      4.66   281.46    .593E+06      644.3          4.75       15.35
      5.51   282.31    .776E+06      915.3          5.16       14.12
      6.36   283.16    .978E+06     1242.2          5.55       13.12
      7.21   284.01    .120E+07     1626.2          5.94       12.27
      8.06   284.86    .143E+07     2065.6          6.30       11.57
      8.91   285.71    .169E+07     2562.4          6.64       10.97
      9.76   286.56    .196E+07     3118.0          6.97       10.46
     10.61   287.41    .224E+07     3733.3          7.28       10.02
     11.46   288.26    .255E+07     4411.9          7.57        9.62
     12.31   289.11    .287E+07     5155.6          7.86        9.27
     13.17   289.97    .321E+07     5966.6          8.14        8.96
     14.02   290.82    .357E+07     6705.0          8.22        8.87
     14.87   291.67    .398E+07     7494.3          8.24        8.85
     15.72   292.52    .444E+07     8405.3          8.28        8.80

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.38     3.46    6.00   7.32      0.20      1.27
     OUTFLOW: ID= 1 (6142)  573.38     1.45    6.75   7.32      0.08      1.27

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-------------------
| CALIB           |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       31.40         38.37
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      682.01         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44         13.73
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       12.60 (ii)    36.27 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=        1.26          0.83          1.591 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=       40.00          9.82          14.35
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.95          0.23           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6670      1.8169
                         0.2360     0.8525   |   5.8600      2.0773
                         1.3520     0.9863   |   6.8220      2.3321
                         2.5180     1.2732   |   7.2220      2.3421
                         3.4920     1.5199   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770     1.591      6.00      14.35
     OUTFLOW: ID= 1 (5142)     69.770     0.184      9.00      14.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.54
                TIME SHIFT OF PEAK FLOW         (min)=180.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6633

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-------------------
| CALIB             |
| NASHYD    (1422) |   Area    (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   0.884 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.860
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1422):   326.77   0.884     8.00     6.86
       + ID2= 2 (5142):    69.77   0.184     9.00    14.34
         ================================================
         ID = 3 (9142):   396.54   1.062     8.00     8.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6142):   573.38   1.451     6.75     7.32
       + ID2= 2 (9142):   396.54   1.062     8.00     8.18
         ================================================
         ID = 3 (8104):   969.92   2.391     7.00     7.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          3.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     204.78         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         19.54
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.12 (ii)    26.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.14          0.13          0.220 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      40.00         13.59          17.55
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.32           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4210      0.1639
                         0.0210     0.0769   |   0.5290      0.1874
                         0.1220     0.0890   |   0.6150      0.2104
                         0.2270     0.1148   |   1.0150      0.2204
                         0.3150     0.1371   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)     6.290      0.220      6.00      17.55
     OUTFLOW: ID= 1 (5144)     6.290      0.020      8.50      17.41

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.25
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0744

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-------------------
| CALIB             |
| NASHYD    (1442) |   Area    (ha)= 129.40   Curve Number   (CN)= 74.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.147

     PEAK FLOW       (cms)=   0.865 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.017
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9144) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1442):   129.40   0.865     7.00    11.02
       + ID2= 2 (5144):     6.29   0.020     8.50    17.41
         ================================================
         ID = 3 (9144):   135.69   0.883     7.00    11.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8104):   969.92   2.391     7.00     7.67
       + ID2= 2 (9144):   135.69   0.883     7.00    11.31
         ================================================
         ID = 3 (8106):  1105.61   3.274     7.00     8.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                   0.00         262.00        0.0350
                  39.58         257.13        0.0350
                 123.69         257.51        0.0350
                 183.07         256.83        0.0350
                 202.86         255.73        0.0350
                 212.75         254.73        0.0350
                 222.65         252.86        0.0350
                 232.44         250.70    0.0350 /0.0300  Main Channel
                 236.44         250.20        0.0300      Main Channel
                 236.84         249.80        0.0300      Main Channel
                 242.44         249.80        0.0300      Main Channel
                 250.04         249.80        0.0300      Main Channel
                 250.44         250.20        0.0300      Main Channel
                 252.33         250.57    0.0300 /0.0350  Main Channel
                 286.97         253.52        0.0350
                 331.50         255.80        0.0350
                 380.98         255.55        0.0350
                 445.30         258.40        0.0350
                 455.19         259.82        0.0350
                 489.83         262.22        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.39   250.19    .169E+05       5.4         1.04       52.00
      0.77   250.57    .373E+05      16.6         1.44       37.46
      1.44   251.24    .911E+05      60.3         2.14       25.19
      2.11   251.91    .169E+06     136.3         2.61       20.64
      2.79   252.59    .270E+06     249.7         2.99       18.05
      3.46   253.26    .396E+06     405.4         3.31       16.28
      4.13   253.93    .549E+06     603.3         3.56       15.15
      4.80   254.60    .737E+06     857.8         3.77       14.31
      5.48   255.28    .963E+06    1174.6         3.95       13.67
      6.15   255.95    .128E+07    1449.5         3.66       14.74
      6.82   256.62    .173E+07    2046.4         3.83       14.07
      7.49   257.29    .227E+07    2665.2         3.81       14.17
      8.17   257.97    .310E+07    3705.2         3.87       13.93
      8.84   258.64    .400E+07    5127.4         4.15       12.99
      9.51   259.31    .492E+07    6858.6         4.51       11.95
     10.18   259.98    .587E+07    8815.5         4.86       11.09
     10.86   260.66    .684E+07   10954.6         5.18       10.41
     11.53   261.33    .785E+07   13324.3         5.49        9.82
     12.20   262.00    .890E+07   15923.2         5.79        9.31

                               <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61     3.27    7.00   8.12      0.23      1.04
     OUTFLOW: ID= 1 (6146) 1105.61     2.90    8.25   8.12      0.21      1.04


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| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
--------------------
                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          35.91          76.31
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         864.95          40.00
     Mannings n          =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44          15.36
               over (min)            15.00          45.00
     Storage Coeff.  (min)=          14.53 (ii)     37.16 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.07           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=           1.66           1.81       2.387 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50        6.00
     RUNOFF VOLUME    (mm)=          40.00          12.97       16.48
     TOTAL RAINFALL   (mm)=          42.00          42.00       42.00
     RUNOFF COEFFICIENT   =           0.95           0.31        0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
--------------------
                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          31.65          51.64
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=         745.16          40.00
     Mannings n          =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          55.44          17.13
               over (min)            15.00          45.00
     Storage Coeff.  (min)=          13.29 (ii)     34.95 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.08           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=           1.57           1.41       2.143 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50        6.00
     RUNOFF VOLUME    (mm)=          40.00          13.59       17.81
     TOTAL RAINFALL   (mm)=          42.00          42.00       42.00
     RUNOFF COEFFICIENT   =           0.95           0.32        0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   8.9200      2.5813
                         0.2820     0.8782    |  11.0570      3.0328
                         2.5360     1.0372    |  12.9860      3.4993
                         4.7880     1.7148    |  13.3860      3.5093
                         6.7570     2.1134    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     83.290      2.143      6.00      17.81
     OUTFLOW: ID= 1 (5146)     83.290      0.547      7.75      17.81
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                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.53
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8971

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-------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   112.22   2.387     6.00    16.48
       + ID2= 2 (5146):    83.29   0.547     7.75    17.81
         ================================================
         ID = 3 (8099):   195.51   2.470     6.00    17.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.61   2.900     8.25     8.12
       + ID2= 2 (8099):   195.51   2.470     6.00    17.05
         ================================================
         ID = 3 (8108):  1301.12   4.078     7.75     9.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.22  25.661     8.50    10.44
       + ID2= 2 (8108):  1301.12   4.078     7.75     9.46
         ================================================
         ID = 3 (8100): 11366.34  29.557     8.25    10.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (2021.0) ------>
             Distance      Elevation       Manning
                 0.00         245.48        0.0400
                29.68         242.80        0.0400
                74.20         240.39        0.0400
               155.81         237.12        0.0400
               200.33         234.48        0.0400
               244.85         234.67        0.0400
               259.69         233.96        0.0400
               274.53         233.84        0.0400
               281.68         233.40        0.0400
               285.78         232.40    0.0400 /0.0300  Main Channel
               286.78         231.40        0.0300      Main Channel
               296.78         231.40        0.0300      Main Channel
               299.78         232.40    0.0300 /0.0400  Main Channel
               311.62         233.74        0.0400
               333.88         234.34        0.0400
               497.11         235.32        0.0400
               571.31         237.32        0.0400
               675.18         239.10        0.0400
               704.86         242.71        0.0400
               734.54         242.62        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   231.90    .221E+05       4.7          0.85      78.67
      1.00   232.40    .482E+05      15.3          1.28      52.40
      1.60   233.00    .913E+05      38.3          1.68      39.77
      2.20   233.60    .154E+06      72.9          1.90      35.24
      2.80   234.20    .278E+06     124.2          1.79      37.30
      3.40   234.80    .599E+06     214.3          1.44      46.59
      4.01   235.41    .125E+07     445.0          1.43      46.90
      4.61   236.01    .205E+07     838.4          1.64      40.81
      5.21   236.61    .293E+07    1361.6          1.86      35.89
      5.81   237.21    .389E+07    2011.2          2.08      32.23
      6.41   237.81    .494E+07    2753.5          2.24      29.91
      7.01   238.41    .612E+07    3635.0          2.39      28.04
      7.61   239.01    .741E+07    4672.5          2.53      26.43
      8.21   239.61    .880E+07    5999.3          2.74      24.44
      8.82   240.22    .102E+08    7510.0          2.94      22.72
      9.42   240.82    .117E+08    9201.9          3.15      21.23
     10.02   241.42    .132E+08   11059.7          3.35      19.95
     10.62   242.02    .148E+08   13073.4          3.54      18.87
     11.22   242.62    .164E+08   15242.1          3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    29.56    8.25  10.33      1.37      1.50
     OUTFLOW: ID= 1 (6202) *******    28.31    9.00  10.33      1.33      1.47

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-------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.34  28.311     9.00    10.33
       + ID2= 2 (8110):   468.53  13.711     6.25    23.64
         ================================================
         ID = 3 (8112): 11834.87  30.320     8.75    10.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  *******     19.2100
                           2.8500     0.5200   |  *******     24.7300
                           8.1800     1.2600   |  *******     30.8600
                          15.0900     2.2100   |  *******     37.6100
                          23.2700     3.3900   |  *******     41.2200
                          32.5300     4.7800   |  *******     48.9000
                          36.5100     5.3900   |  *******     66.4700
                          42.7600     6.3700   |  *******    100.1200
                          53.8500     8.1300   |  *******    140.4100
                          91.7300    14.3200   |  *******    140.4200

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)   *********     30.320      8.75      10.86
     OUTFLOW: ID= 1 (5555)   *********     29.978      9.25      10.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.87
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.4019

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| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.87  29.978     9.25    10.86
       + ID2= 2 (8136):  2288.44   9.668     6.00    10.45
         ================================================
         ID = 3 (8114): 14123.31  35.775     9.00    10.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2061) |   Area    (ha)=  49.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88         11.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     576.43         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         63.60
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            over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.39 (ii)   24.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.11         0.98          3.735 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        19.70         29.85
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.47          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.5640      2.4459
                         0.1690     0.8986   |   4.2460      2.7624
                         1.3810     1.2959   |   4.8070      3.0770
                         2.2440     1.6904   |   5.2070      3.0870
                         2.8510     2.0623   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840     3.735      6.00       29.85
     OUTFLOW: ID= 1 (5206)     49.840     0.469      7.25       29.82

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.57
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.9980

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-------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
-------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1226.65         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         25.58
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.92 (ii)   36.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.81          3.22         11.164 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         16.70         26.48
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.40          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  11.164     6.00    26.48
        + ID2= 2 (5206):    49.84   0.469     7.25    29.82
          ================================================
          ID = 3 (8144):   275.54  11.254     6.00    27.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
-------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66        132.24
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1182.93         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          9.67
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.53 (ii)   44.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.61          1.79          5.308 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00          8.63         15.21
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.21          0.36


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.0280      5.1901
                         0.5340     2.0405   |  16.1840      5.6427
                         3.0020     2.3552   |  19.0840      6.7700
                         5.5440     3.8411   |  19.4840      6.7800
                         8.4130     4.5335   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900     5.308      6.00       15.21
     OUTFLOW: ID= 1 (5204)    209.900     0.812      8.25       15.21

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.30
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0766

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-------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
-------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86         44.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     873.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         17.48
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.62 (ii)   36.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.42          1.23          4.914 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         11.29         21.05
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.27          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8140)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2042):		114.52	4.914	6.00	21.05
+ ID2= 2 (5204):		209.90	0.812	8.25	15.21
ID = 3 (8140):		324.42	5.098	6.00	17.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6206) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2061.0) ------>

Distance	Elevation	Manning	
0.00	253.07	0.0350	
13.98	252.89	0.0350	
27.95	251.99	0.0350	
34.94	252.18	0.0350	
41.93	252.02	0.0350	
73.38	250.35	0.0350	
94.34	247.09	0.0350	
111.81	244.79	0.0350	
115.31	244.24	0.0350	
117.55	244.20	0.0350 /0.0300	Main Channel
118.80	243.60	0.0300	Main Channel
122.30	243.60	0.0300	Main Channel
122.55	244.60	0.0300 /0.0350	Main Channel
146.76	244.74	0.0350	
164.23	247.26	0.0350	
213.15	248.92	0.0350	
241.10	249.51	0.0350	
272.55	250.87	0.0350	
300.50	252.26	0.0350	
345.93	253.67	0.0350	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	243.90	.310E+04	1.4	1.23	36.25
0.60	244.20	.676E+04	4.6	1.81	24.64
1.12	244.72	.221E+05	17.1	2.07	21.60
1.64	245.24	.754E+05	64.1	2.28	19.60
2.17	245.77	.139E+06	149.8	2.88	15.50
2.69	246.29	.214E+06	273.3	3.43	13.04
3.21	246.81	.299E+06	436.1	3.91	11.43
3.73	247.33	.395E+06	632.6	4.30	10.40
4.25	247.85	.511E+06	836.4	4.39	10.18
4.77	248.37	.653E+06	1114.9	4.58	9.76
5.30	248.90	.822E+06	1472.1	4.81	9.30
5.82	249.42	.102E+07	1872.2	4.91	9.10
6.34	249.94	.126E+07	2444.6	5.22	8.56
6.86	250.46	.151E+07	3113.1	5.52	8.09
7.38	250.98	.180E+07	3843.5	5.74	7.79
7.90	251.50	.211E+07	4717.8	6.00	7.45
8.43	252.03	.245E+07	5701.4	6.24	7.16
8.95	252.55	.284E+07	6727.5	6.36	7.03
9.47	253.07	.326E+07	7885.3	6.48	6.90

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8140)	324.42	5.10	6.00	17.27	0.62	1.82
OUTFLOW:	ID= 1 (6206)	324.42	2.92	6.50	17.27	0.44	1.45

ADD HYD (8142)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6206):		324.42	2.922	6.50	17.27
+ ID2= 2 (8144):		275.54	11.254	6.00	27.09
ID = 3 (8142):		599.96	13.079	6.00	21.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8138)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8114):		14123.31	35.775	9.00	10.79
+ ID2= 2 (8142):		599.96	13.079	6.00	21.78
ID = 3 (8138):		14723.27	38.256	8.75	11.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6208) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2081.0) ------>

Distance	Elevation	Manning	
0.00	249.19	0.1000	
73.11	244.13	0.1000	
121.86	243.39	0.1000	
243.71	240.01	0.1000	
353.38	238.75	0.1000	
450.87	235.40	0.1000	
499.61	231.40	0.1000	
511.80	230.96	0.1000	
523.98	230.12	0.1000	
534.50	227.80	0.1000 /0.0500	Main Channel
536.50	226.70	0.0500	Main Channel
546.50	226.70	0.0500	Main Channel
548.50	227.80	0.0500 /0.1000	Main Channel
572.72	230.25	0.1000	
682.40	230.50	0.1000	
804.25	233.95	0.1000	
926.11	235.83	0.1000	
1047.96	240.70	0.1000	
1145.45	243.26	0.1000	
1206.38	247.03	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	227.25	.111E+05	2.0	0.33	92.44
1.10	227.80	.242E+05	6.5	0.50	61.56
2.23	228.93	.700E+05	26.0	0.68	44.91
3.36	230.06	.150E+06	60.8	0.74	41.04
4.49	231.19	.446E+06	130.8	0.54	56.83
5.62	232.32	.925E+06	287.4	0.57	53.66
6.76	233.46	.152E+07	522.9	0.63	48.32
7.89	234.59	.223E+07	827.2	0.68	44.91
9.02	235.72	.312E+07	1219.5	0.72	42.61
10.15	236.85	.418E+07	1780.6	0.78	39.11
11.28	237.98	.537E+07	2479.2	0.85	36.07
12.41	239.11	.669E+07	3282.9	0.90	33.95
13.54	240.24	.824E+07	4228.6	0.94	32.47
14.67	241.37	.997E+07	5384.6	0.99	30.87
15.81	242.51	.119E+08	6698.4	1.03	29.56
16.94	243.64	.140E+08	8235.2	1.08	28.25
18.07	244.77	.162E+08	10104.2	1.14	26.73
19.20	245.90	.185E+08	12251.5	1.21	25.21
20.33	247.03	.209E+08	14597.0	1.28	23.89

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8138)	*******	38.26	8.75	11.24	2.63	0.70
OUTFLOW:	ID= 1 (6208)	*******	36.80	9.50	11.24	2.58	0.70

CALIB | STANDHYD (2082) | ID= 1 DT=15.0 min | Area (ha)= 426.60 | Total Imp(%)= 64.00 | Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	273.02	153.58
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50

```
     Length           (m)=    1686.42        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        24.86
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      25.28 (ii)   43.95 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      11.76         5.34        15.690 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50         6.25
     RUNOFF VOLUME    (mm)=      40.00        15.12        24.32
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.36         0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.39       136.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.37        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        12.81
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.53 (ii)   41.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.39         2.53         5.388 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      40.00        11.39        17.11
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.27         0.41

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.00        14.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        19.49
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.80 (ii)   32.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.83         0.45         5.014 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      40.00        16.98        33.09
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.40         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8000      1.5745
                          0.1900     0.9984   |   3.7500      1.7809
                          1.0900     1.1991   |   4.7100      1.9291
                          2.0200     1.3813   |   5.4800      2.0745

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000      5.014      6.00      33.09
     OUTFLOW: ID= 1 (9289)     56.000      0.896      6.75      33.07

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.86
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1575

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| ADD HYD   (9262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2081):   209.70   5.388     6.00    17.11
        + ID2= 2 (9289):    56.00   0.896     6.75    33.07
          ================================================
          ID = 3 (9262):   265.70   5.515     6.00    20.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      8.3371
                          0.8360     4.7353   |  21.1630      9.3975
                          4.7810     5.1070   |  25.1140     10.4406
                          8.9050     6.2484   |  25.5140     10.4506
                         12.6070     7.1796   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700      5.515      6.00      20.47
     OUTFLOW: ID= 1 (5208)    265.700      0.580     10.75      20.47

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.51
                TIME SHIFT OF PEAK FLOW        (min)=285.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.2830

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--------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2082):   426.60  15.690     6.25    24.32
        + ID2= 2 (5208):   265.70   0.580    10.75    20.47
          ================================================
          ID = 3 (8148):   692.30  15.899     6.25    22.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8146) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6208): 14723.27  36.799     9.50    11.24
        + ID2= 2 (8148):   692.30  15.899     6.25    22.84
          ================================================
          ID = 3 (8146): 15415.57  38.892     9.25    11.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                  0.00         241.81        0.0800
                 28.43         241.78        0.0800
                 85.30         237.04        0.0800
                149.27         231.32        0.0800
                170.60         230.10        0.0800
                255.89         229.37        0.0800
                277.22         228.68        0.0800
                284.33         228.42        0.0800
                291.43         228.16        0.0800
                297.76         227.00    0.0800 /0.0350  Main Channel
                298.76         225.00        0.0350      Main Channel
                312.76         225.00        0.0350      Main Channel
                313.76         227.00    0.0350 /0.0800  Main Channel
                326.97         229.50        0.0800
                348.30         230.29        0.0800
                376.73         229.76        0.0800
                490.46         235.75        0.0800
                568.65         236.24        0.0800
                661.06         241.85        0.0800
                703.71         246.04        0.0800

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.67   225.67    .141E+05       6.6         0.69       35.86
       1.33   226.33    .289E+05      20.4         1.04       23.65
       2.00   227.00    .443E+05      39.3         1.31       18.81
       2.93   227.93    .730E+05      77.8         1.57       15.64
       3.85   228.85    .123E+06     131.1         1.57       15.65
       4.78   229.78    .228E+06     205.6         1.33       18.51
       5.70   230.70    .503E+06     356.7         1.05       23.49
       6.63   231.63    .846E+06     608.7         1.06       23.17
       7.55   232.55    .123E+07     946.4         1.14       21.65
       8.48   233.48    .165E+07    1367.0         1.22       20.13
       9.41   234.41    .211E+07    1871.8         1.31       18.80
      10.33   235.33    .261E+07    2463.2         1.40       17.65
      11.26   236.26    .317E+07    2999.4         1.40       17.63
      12.18   237.18    .384E+07    3848.3         1.48       16.63
      13.11   238.11    .454E+07    4806.0         1.56       15.75
      14.03   239.03    .528E+07    5876.9         1.64       14.97
      14.96   239.96    .605E+07    7062.7         1.72       14.29
      15.88   240.88    .687E+07    8365.0         1.80       13.68
      16.81   241.81    .771E+07    9506.9         1.82       13.52

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8146) *******    38.89    9.25  11.76      1.99      1.30
    OUTFLOW: ID= 1 (6210) *******    38.87    9.50  11.76      1.97      1.30


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| CALIB            |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    140.67        52.03
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=   1133.43        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44        29.98
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.88 (ii)   25.31 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     15.18         1.94        16.372 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     41.00        16.21         33.07
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.98         0.39          0.79


***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2104)    192.700     16.372      6.00      33.07
    OUTFLOW: ID= 1 (9283)    192.700      0.858      8.50      33.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.24
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.7926

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--------------------
| CALIB            |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.33         7.77
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    272.03        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44        38.84
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.90 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.16         0.46          0.495 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     41.00        19.18         21.36
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.98         0.46          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9284) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5600      0.2067
                          0.0400     0.1045   |   0.7400      0.2572
                          0.2200     0.1166   |   0.9300      0.3046
                          0.4000     0.1670   |   1.0900      0.3510

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2103)     11.100      0.495      6.25      21.36
    OUTFLOW: ID= 1 (9284)     11.100      0.221      6.75      21.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.59
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1184

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| ADD HYD   (9258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9283):   192.70   0.858     8.50     33.06
       + ID2= 2 (9284):    11.10   0.221     6.75     21.30
         ================================================
         ID = 3 (9258):   203.80   0.987     6.75     32.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.0060      0.0024
                           0.0020     0.0013   |   0.0080      0.0027
                           0.0030     0.0017   |   0.0090      0.0031
                           0.0050     0.0020   |   0.4090      0.0131

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      0.987      6.75      32.42
     OUTFLOW: ID= 1 (5210)    203.800      0.983      7.00      32.42

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.57
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0281

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| CALIB            |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.085 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.497
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2102):    14.38   0.085     7.50     13.50
       + ID2= 2 (5210):   203.80   0.983     7.00     32.42
         ================================================
         ID = 3 (9210):   218.18   1.066     7.00     31.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6210): 15415.57  38.867     9.50     11.76
       + ID2= 2 (9210):   218.18   1.066     7.00     31.17
         ================================================
         ID = 3 (8150): 15633.75  39.826     9.50     12.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.77         5.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope    (%)=       0.50         0.50
     Length           (m)=     615.85        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        90.59
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.85 (ii)   22.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.18         0.62          5.575 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        20.38         34.90
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.49          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.30         1.10
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope    (%)=        0.50         0.50
     Length           (m)=      171.27        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.75
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       5.50 (ii)   30.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.45         0.02          0.463 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        10.77         31.23
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.26          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.2200      0.1226
                           0.0100     0.0778   |   0.2900      0.1387
                           0.0800     0.0934   |   0.3700      0.1503
                           0.1600     0.1076   |   0.4300      0.1616

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)      4.400      0.463      6.00      31.23
     OUTFLOW: ID= 1 (9290)      4.400      0.060      6.75      30.78

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.00
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0895

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| ADD HYD   (9264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89   5.575     6.00     34.90
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        + ID2= 2 (9290):     4.40   0.060     6.75    30.78
          ================================================
          ID = 3 (9264):    61.29   5.583     6.00    34.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1000      2.1402
                         0.2080     1.2793   |   5.1480      2.2661
                         1.1880     1.5546   |   5.9930      2.3900
                         2.2120     1.7255   |   6.3930      2.4000
                         3.0680     1.9336   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9264)     61.290     5.583      6.00      34.60
     OUTFLOW: ID= 1 (5212)     61.290     0.631      7.00      34.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.30
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4019

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| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.46        189.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1334.42         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.49
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      18.85 (ii)    45.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.06          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.48          2.61      7.231 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75       6.00
     RUNOFF VOLUME    (mm)=      40.00         10.79      17.80
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.26       0.42


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3600      4.9180
                         0.9100     2.4658   |  17.8700      6.1368
                         5.1800     2.7404   |  22.4400      7.2882
                         9.6400     3.9605   |  26.1200      8.4139

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2122)    267.100     7.231      6.00      17.80
     OUTFLOW: ID= 1 (9312)    267.100     2.291      7.50      17.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.68
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.5615

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| ADD HYD   (8152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5212):    61.29   0.631     7.00    34.58
        + ID2= 2 (9312):   267.10   2.291     7.50    17.80
          ================================================
          ID = 3 (8152):   328.39   2.884     7.50    20.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2141.0) ------>
               Distance      Elevation       Manning
                   0.00         259.29        0.0500
                  15.33         258.91        0.0500
                  38.33         258.57        0.0500
                  65.16         257.93        0.0500
                  95.82         253.44        0.0500
                 111.15         251.21        0.0500
                 130.32         249.67        0.0500
                 149.48         248.51        0.0500
                 150.66         248.50    0.0500 /0.0370  Main Channel
                 150.81         247.50        0.0370      Main Channel
                 154.66         247.50        0.0370      Main Channel
                 155.66         248.50    0.0370 /0.0500  Main Channel
                 160.98         248.50        0.0500
                 187.81         249.78        0.0500
                 199.31         252.13        0.0500
                 245.30         254.04        0.0500
                 264.46         253.99        0.0500
                 298.96         255.23        0.0500
                 329.62         257.02        0.0500
                 379.45         258.82        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   248.00    .648E+04       2.1          1.00      52.30
       1.00   248.50    .139E+05       6.4          1.44      36.35
       1.61   249.11    .570E+05      22.6          1.24      42.01
       2.21   249.71    .143E+06      63.6          1.39      37.61
       2.82   250.32    .263E+06     142.9          1.70      30.69
       3.43   250.93    .403E+06     257.2          2.00      26.11
       4.04   251.54    .562E+06     410.4          2.29      22.82
       4.64   252.14    .735E+06     601.3          2.56      20.37
       5.25   252.75    .933E+06     791.0          2.66      19.67
       5.86   253.36    .117E+07    1038.0          2.79      18.74
       6.46   253.96    .144E+07    1344.4          2.93      17.82
       7.07   254.57    .178E+07    1664.1          2.93      17.83
       7.68   255.18    .217E+07    2140.2          3.10      16.87
       8.28   255.78    .259E+07    2722.9          3.30      15.83
       8.89   256.39    .304E+07    3387.1          3.50      14.94
       9.50   257.00    .351E+07    4132.7          3.69      14.16
      10.11   257.61    .402E+07    4913.0          3.83      13.64
      10.71   258.21    .458E+07    5648.3          3.87      13.50
      11.32   258.82    .521E+07    6343.1          3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.39     2.88    7.50  20.93      0.60      1.06
     OUTFLOW: ID= 1 (6214)  328.39     2.00    8.25  20.93      0.48      1.00


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-------------------
| CALIB            |
| STANDHYD  (2144) |   Area    (ha)=  93.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.82         23.27
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     787.82         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         12.19
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.74 (ii)    38.57 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
```

```
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.58         0.43          7.750 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        11.13         31.34
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.27          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9285) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.6500      2.6150
                         0.3200     1.6583   |   6.2300      2.9579
                         1.8100     1.9916   |   7.8200      3.2041
                         3.3600     2.2943   |   9.1000      3.4456

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2144)     93.100      7.750      6.00      31.34
     OUTFLOW: ID= 1 (9285)     93.100      1.243      7.00      31.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.04
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.8726

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-------------------
| CALIB            |
| STANDHYD  (2143) |   Area    (ha)= 158.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=   9.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.16       117.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1027.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        13.77
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.11 (ii)   39.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.55         2.40          2.894 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00        12.17         14.67
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.29          0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.9200      2.8224
                         0.5400     1.3792   |  10.5900      3.5534
                         3.0700     1.5175   |  13.3000      4.2519
                         5.7200     2.2534   |  15.4900      4.9349

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2143)    158.300      2.894      6.50      14.67
     OUTFLOW: ID= 1 (9286)    158.300      0.682      8.50      14.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.56
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3887

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| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9285):    93.10   1.243     7.00    31.33
       + ID2= 2 (9286):   158.30   0.682     8.50    14.67
         ================================================
         ID = 3 (9260):   251.40   1.666     7.00    20.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.5370      0.9877
                         0.1280     0.4635   |   3.1860      1.1293
                         0.5900     0.5362   |   3.7090      1.2678
                         1.3690     0.6921   |   3.9980      1.2778
                         1.8980     0.8262   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9260)    251.400      1.666      7.00      20.84
     OUTFLOW: ID= 1 (5214)    251.400      1.267      8.50      20.83

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 76.08
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6728

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-------------------
| CALIB            |
| STANDHYD  (2142) |   Area    (ha)=  65.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  10.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.70        47.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     661.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         5.11
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      12.37 (ii)   47.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.79         0.41          0.910 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         6.10          9.49
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.15          0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2142):    65.54   0.910     6.00     9.49
       + ID2= 2 (5214):   251.40   1.267     8.50    20.83
         ================================================
         ID = 3 (9214):   316.94   1.473     8.00    18.49
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6214):   328.39   2.005     8.25    20.93
       + ID2= 2 (9214):   316.94   1.473     8.00    18.49
         ============================================
         ID = 3 (8154):   645.33   3.462     8.25    19.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2163) |   Area    (ha)=  69.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.82         50.88
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     681.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         17.75
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.60 (ii)    33.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.75          1.46          1.645 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00         15.12         17.36
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.36          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9271) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4900      1.2605
                          0.2400     0.6230   |   4.6600      1.5808
                          1.3500     0.6885   |   5.8600      1.8854
                          2.5200     1.0102   |   6.8200      2.1832

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2163)     69.700     1.645      6.50      17.36
     OUTFLOW: ID= 1 (9271)     69.700     0.655      7.50      17.35

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.79
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6497

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--------------------
| CALIB            |
| STANDHYD  (2169) |   Area    (ha)=   3.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          2.45
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     152.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         13.47
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.13 (ii)    28.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.06          0.090 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00         11.45         14.30
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.27          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1800      0.0659
                          0.0100     0.0333   |   0.2400      0.0820
                          0.0700     0.0372   |   0.3000      0.0971
                          0.1300     0.0532   |   0.3500      0.1119

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2169)     3.500      0.090      6.00      14.30
     OUTFLOW: ID= 1 (9272)     3.500      0.010      8.75      14.06

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.92
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0327

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--------------------
| ADD HYD   (9251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9271):    69.70   0.655     7.50    17.35
       + ID2= 2 (9272):     3.50   0.010     8.75    14.06
         ============================================
         ID = 3 (9251):    73.20   0.664     7.50    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5216) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7400      2.4559
                          0.1890     1.6831   |   4.6960      2.6646
                          1.0830     1.7903   |   5.4670      2.8688
                          2.0170     2.0202   |   5.8670      2.8788
                          2.7980     2.2179   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9251)     73.200     0.664      7.50      17.19
     OUTFLOW: ID= 1 (5216)     73.200     0.084     19.50      17.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.69
                   TIME SHIFT OF PEAK FLOW         (min)=720.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7503

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--------------------
| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51         58.06
```

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     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.07
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.75 (ii)   38.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.61         0.98          1.131 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      40.00        10.50          12.56
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.25           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570     1.131      6.50      12.56
     OUTFLOW: ID= 1 (9316)     72.570     1.043      6.50      12.56

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.19
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0561

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5216):    73.20   0.084    19.50    17.16
        + ID2= 2 (9316):    72.57   1.043     6.50    12.56
          ================================================
          ID = 3 (9216):   145.77   1.046     6.50    14.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8156) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8154):   645.33   3.462     8.25    19.73
        + ID2= 2 (9216):   145.77   1.046     6.50    14.87
          ================================================
          ID = 3 (8156):   791.10   3.861     8.00    18.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2181.0) ------>
               Distance      Elevation       Manning
                   0.00         256.38        0.0450
                   7.70         254.85        0.0450
                  15.40         253.20        0.0450
                  19.25         252.29        0.0450
                  23.10         251.17        0.0450
                  78.94         236.16        0.0450
                  80.87         235.80        0.0450
                  82.79         235.45        0.0450
                  84.57         234.60    0.0450 /0.0300  Main Channel
                  85.07         233.60        0.0300      Main Channel
                  88.57         233.60        0.0300      Main Channel
                  93.57         233.60        0.0300      Main Channel
                  94.07         234.60    0.0300 /0.0450  Main Channel
                  96.27         235.13        0.0450
                  98.19         235.20        0.0450
                 100.12         235.32        0.0450
                 138.63         239.95        0.0450
                 180.98         244.80        0.0450
                 188.69         245.00        0.0450
                 190.61         256.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.00    234.60    .181E+05       6.0         0.66       50.64
       2.13    235.73    .518E+05      23.8         0.93       36.27
       3.25    236.85    .119E+06      60.0         1.02       33.03
       4.38    237.98    .217E+06     120.6         1.12       29.99
       5.51    239.11    .346E+06     210.5         1.23       27.39
       6.63    240.23    .506E+06     334.1         1.33       25.22
       7.76    241.36    .697E+06     495.6         1.43       23.44
       8.88    242.48    .920E+06     699.8         1.53       21.91
      10.01    243.61    .117E+07     950.8         1.63       20.59
      11.14    244.74    .146E+07    1252.5         1.73       19.45
      12.26    245.86    .178E+07    1619.6         1.83       18.37
      13.39    246.99    .212E+07    2078.5         1.97       17.01
      14.52    248.12    .247E+07    2589.0         2.11       15.88
      15.64    249.24    .282E+07    3149.7         2.25       14.94
      16.77    250.37    .319E+07    3759.8         2.37       14.14
      17.89    251.49    .356E+07    4419.5         2.50       13.44
      19.02    252.62    .395E+07    5126.4         2.61       12.84
      20.15    253.75    .435E+07    5871.6         2.72       12.34
      21.27    254.87    .476E+07    6663.2         2.82       11.89

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10     3.86    8.00  18.83      0.65      0.66
     OUTFLOW: ID= 1 (6218)  791.10     3.31    8.75  18.83      0.56      0.66

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25         54.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     679.71         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         17.72
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.58 (ii)    33.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.58          1.54          1.688 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      40.00         15.70          17.40
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.37           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9282) |
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| IN= 2---> OUT= 1 |
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5000	3.5000
	0.8000	0.1000	6.0000	4.0000
	1.1000	2.0000	6.5000	4.5000
	2.5000	3.0000	7.0000	5.5000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2183)	69.300	1.688	6.50	17.40
OUTFLOW: ID= 1 (9282)	69.300	0.829	7.25	17.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.12
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.2873

| RESERVOIR (5218) |
| IN= 2---> OUT= 1 |
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5090	1.7553
	0.2280	0.8236	5.6620	2.0069
	1.3060	0.9528	6.5910	2.2530
	2.4320	1.2300	6.9910	2.2630
	3.3740	1.4683	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	69.300	0.829	7.25	17.40
OUTFLOW: ID= 1 (5218)	69.300	0.227	10.00	17.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.42
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.8217

| CALIB |
NASHYD (2182)	Area (ha)= 82.95	Curve Number (CN)= 67.7
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.79	

Unit Hyd Qpeak (cms)= 1.786

PEAK FLOW (cms)= 0.386 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 8.530
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.203

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (9218) |
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2182):	82.95	0.386	7.00	8.53
+ ID2= 2 (5218):	69.30	0.227	10.00	17.38
ID = 3 (9218):	152.25	0.514	8.00	12.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (8158) |
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6218):	791.10	3.314	8.75	18.83
+ ID2= 2 (9218):	152.25	0.514	8.00	12.56
ID = 3 (8158):	943.35	3.821	8.75	17.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (8151) |
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8150):	15633.75	39.826	9.50	12.03
+ ID2= 2 (8158):	943.35	3.821	8.75	17.82
ID = 3 (8151):	16577.10	43.454	9.50	12.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	33.0100	0.6700
	2.6400	0.0500	37.4800	0.7800
	4.8300	0.0900	47.5400	1.0100
	7.4100	0.1300	60.2300	1.2800
	10.3300	0.1900	71.9530	1.5258
	13.5300	0.2500	*******	3.0529
	16.9900	0.3200	*******	5.3299
	20.6800	0.3900	*******	8.4148
	24.6000	0.4800	*******	11.7637
	28.7100	0.5700	*******	11.7737

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8151)	********	43.454	9.50	12.36
OUTFLOW: ID= 1 (5504)	********	43.463	9.50	12.36

PEAK FLOW REDUCTION [Qout/Qin](%)=100.02
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.9172

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2201.0) ------>

Distance	Elevation	Manning	
0.00	245.59	0.0600	
5.76	245.45	0.0600	
23.03	242.27	0.0600	
57.58	232.35	0.0600	
86.37	226.18	0.0600	
109.41	224.31	0.0600	
115.17	223.86	0.0600	
120.92	222.78	0.0600	
126.68	221.93	0.0600	
128.06	221.50	0.0600 /0.0300	Main Channel
129.56	220.00	0.0300	Main Channel
141.56	220.00	0.0300	Main Channel
143.06	221.50	0.0300 /0.0600	Main Channel
149.72	223.77	0.0600	
155.47	225.09	0.0600	
253.36	229.21	0.0600	
333.98	227.50	0.0600	
454.90	229.25	0.0600	
500.97	233.11	0.0600	
570.07	237.42	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	220.75	.262E+05	5.5	0.57	79.44
1.50	221.50	.555E+05	17.5	0.86	52.89
2.44	222.44	.103E+06	42.7	1.14	40.03
3.37	223.37	.171E+06	79.4	1.27	35.98
4.31	224.31	.263E+06	128.1	1.33	34.22
5.25	225.25	.393E+06	191.7	1.34	34.19
6.18	226.18	.594E+06	276.7	1.28	35.77
7.12	227.12	.872E+06	399.9	1.26	36.33
8.06	228.06	.127E+07	542.7	1.17	38.92
8.99	228.99	.199E+07	770.0	1.06	43.01
9.93	229.93	.297E+07	1151.8	1.06	42.95
10.86	230.86	.400E+07	1652.9	1.13	40.33
11.80	231.80	.507E+07	2251.8	1.22	37.53
12.74	232.74	.618E+07	2946.5	1.31	34.97
13.67	233.67	.733E+07	3726.8	1.39	32.79

```
      14.61   234.61    .853E+07    4591.0          1.48      30.96
      15.55   235.55    .977E+07    5544.1          1.55      29.37
      16.48   236.48    .111E+08    6586.7          1.63      27.99
      17.42   237.42    .124E+08    7719.2          1.71      26.77

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******    43.46    9.50  12.36      2.46      1.14
     OUTFLOW: ID= 1 (6220) *******    42.69   10.00  12.36      2.42      1.14


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--------------------
| CALIB            |
| STANDHYD  (2207) |   Area    (ha)=  57.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   8.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.14        45.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     620.75        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        18.46
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.91 (ii)   32.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.57         1.38          1.511 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00        16.61         18.48
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.40          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9278) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000      2.5000
                          0.2000     0.3000   |   0.6000      3.5000
                          0.3000     0.9000   |   0.7000      4.5000
                          0.4000     2.0000   |   0.8000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2207)     57.800      1.511      6.50      18.48
     OUTFLOW: ID= 1 (9278)     57.800      0.255      8.75      18.48

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.85
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6284

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--------------------
| CALIB            |
| STANDHYD  (2204) |   Area    (ha)=  13.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.98         3.33
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     297.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        17.21
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.66 (ii)   29.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.30         0.11          1.363 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        15.21         32.56
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.36          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9279) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6700      0.3747
                          0.0500     0.2376   |   0.8900      0.4238
                          0.2600     0.2854   |   1.1200      0.4591
                          0.4800     0.3287   |   1.3000      0.4937

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2204)     13.300      1.363      6.00      32.56
     OUTFLOW: ID= 1 (9279)     13.300      0.206      6.75      32.47

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.10
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2747

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--------------------
| ADD HYD   (9255) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9278):    57.80   0.255     8.75    18.48
        + ID2= 2 (9279):    13.30   0.206     6.75    32.47
          ================================================
          ID = 3 (9255):    71.10   0.426     6.75    21.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5220) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6050      1.0142
                          0.1320     0.4759   |   3.2710      1.1595
                          0.7550     0.5505   |   3.8080      1.3018
                          1.4050     0.7107   |   4.2080      1.3118
                          1.9490     0.8484   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9255)     71.100      0.426      6.75      21.10
     OUTFLOW: ID= 1 (5220)     71.100      0.282     12.00      21.08

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.04
                    TIME SHIFT OF PEAK FLOW         (min)=315.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4939

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--------------------
| CALIB            |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   0.361 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  10.903
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.260
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9220)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2202):	98.00	0.361	8.25	10.90
	+ ID2= 2 (5220):	71.10	0.282	12.00	21.08
	ID = 3 (9220):	169.10	0.547	11.75	15.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8160)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6220):	16577.10	42.685	10.00	12.36
	+ ID2= 2 (9220):	169.10	0.547	11.75	15.18
	ID = 3 (8160):	16746.20	43.134	10.00	12.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (2221)	ID= 1 DT=15.0 min	Area (ha)= 110.64	Total Imp(%)= 37.00	Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	40.94	69.70	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	858.84	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	16.56	
over (min)		15.00	45.00	
Storage Coeff. (min)=		14.47 (ii)	36.43 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.07	0.03	
				TOTALS
PEAK FLOW	(cms)=	2.52	1.80	3.248 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	13.97	19.18
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.33	0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.3 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (2224)	ID= 1 DT=15.0 min	Area (ha)= 43.20	Total Imp(%)= 72.00	Dir. Conn.(%)= 66.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	31.10	12.10	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	536.66	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	17.60	
over (min)		15.00	45.00	
Storage Coeff. (min)=		10.91 (ii)	32.35 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	3.61	0.35	3.750 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	15.35	31.62
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.37	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9288)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	2.1600	1.1836
			0.1500	0.7428	2.8900	1.3455
			0.8400	0.8895	3.6300	1.4651
			1.5600	1.0342	4.2300	1.5823

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2224)	43.200	3.750	6.00	31.62
OUTFLOW: ID= 1 (9288)	43.200	0.647	6.75	31.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.24
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.8496

ADD HYD (9261)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2221):	110.64	3.248	6.00	19.18
	+ ID2= 2 (9288):	43.20	0.647	6.75	31.59
	ID = 3 (9261):	153.84	3.347	6.00	22.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5222)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	7.2210	4.0213
			0.4910	2.1348	9.0080	4.5380
			2.1830	2.4433	15.0420	4.9977
			3.9370	2.9883	15.4420	5.0077
			5.4550	3.4692	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9261)	153.840	3.347	6.00	22.66
OUTFLOW: ID= 1 (5222)	153.840	0.439	10.25	22.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.12
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 1.9103

CALIB	STANDHYD (2222)	ID= 1 DT=15.0 min	Area (ha)= 65.69	Total Imp(%)= 84.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.18	10.51
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	661.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	134.59
over (min)		15.00	30.00
Storage Coeff. (min)=		12.37 (ii)	21.87 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00

```
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.58         1.94          4.871 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        25.38         31.96
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.60          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69   4.871     6.00    31.96
       + ID2= 2 (5222):   153.84   0.439    10.25    22.66
         ================================================
         ID = 3 (8164):   219.53   4.972     6.00    25.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99        33.76
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     593.01        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        15.65
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.59 (ii)   34.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.77         0.85          2.109 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        14.62         21.47
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.35          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39        26.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     764.63        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        17.21
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.50 (ii)   35.12 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.58         0.72          6.867 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        15.21         31.08
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.36          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3900      2.3776
                          0.3000     1.4858   |   5.8700      2.7087
                          1.7000     1.7770   |   7.3700      2.9557
                          3.1700     2.0741   |   8.5800      3.1980

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700      6.867      6.00      31.08
     OUTFLOW: ID= 1 (9287)     87.700      1.253      7.00      31.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.25
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6899

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--------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4470      0.1810
                          0.0230     0.0884   |   0.5620      0.2047
                          0.1300     0.1032   |   0.6540      0.2278
                          0.2410     0.1297   |   1.0540      0.2378
                          0.3350     0.1532   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      1.253      7.00      31.06
     OUTFLOW: ID= 1 (5224)     87.700      1.322      7.25      31.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=105.49
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2520

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   2.109     6.00    21.47
       + ID2= 2 (5224):    87.70   1.322     7.25    31.05
         ================================================
         ID = 3 (9224):   140.45   2.122     6.00    27.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8164):   219.53   4.972     6.00    25.44
       + ID2= 2 (9224):   140.45   2.122     6.00    27.45
         ================================================
         ID = 3 (8166):   359.98   7.094     6.00    26.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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--------------------
              <------ DATA FOR SECTION (2261.0) ------>
              Distance      Elevation       Manning
                  0.00         245.35        0.0600
                  8.27         242.72        0.0600
                 16.54         240.01        0.0600
                 31.02         235.31        0.0600
                 41.36         233.14        0.0600
                 90.99         227.73        0.0600
                 93.06         227.50        0.0600
                 95.13         227.27        0.0600
                 95.83         227.00        0.0600
                100.83         226.50    0.0600 /0.0350  Main Channel
                101.33         225.50        0.0350      Main Channel
                101.83         226.50    0.0350 /0.0600  Main Channel
                105.83         227.00        0.0600
                107.54         227.39        0.0600
                109.60         227.62        0.0600
                111.67         227.86        0.0600
                146.83         231.76        0.0600
                173.71         234.77        0.0600
                186.12         238.23        0.0600
                202.67         238.35        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   226.00    .403E+03       0.0          0.16     330.59
       1.00   226.50    .161E+04       0.1          0.26     208.26
       1.70   227.20    .173E+05       1.5          0.27     195.72
       2.39   227.89    .541E+05       5.9          0.35     152.27
       3.09   228.59    .119E+06      16.0          0.43     124.08
       3.79   229.29    .212E+06      33.8          0.51     104.65
       4.49   229.99    .334E+06      61.2          0.59      90.97
       5.18   230.68    .484E+06      99.7          0.66      80.88
       5.88   231.38    .663E+06     151.0          0.73      73.13
       6.58   232.08    .870E+06     216.5          0.80      66.95
       7.27   232.77    .111E+07     297.5          0.87      61.91
       7.97   233.47    .137E+07     398.1          0.94      57.29
       8.67   234.17    .165E+07     518.9          1.01      53.12
       9.36   234.86    .196E+07     658.9          1.08      49.59
      10.06   235.56    .228E+07     827.0          1.17      46.02
      10.76   236.26    .262E+07    1015.4          1.25      42.96
      11.46   236.96    .296E+07    1221.2          1.33      40.41
      12.15   237.65    .332E+07    1444.6          1.40      38.26
      12.85   238.35    .368E+07    1598.2          1.40      38.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.98     7.09    6.00  26.22      2.48      0.36
     OUTFLOW: ID= 1 (6226)  359.98     1.77    8.00  26.22      1.74      0.28


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2267) |   Area    (ha)=  10.50   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.47

     Unit Hyd Qpeak  (cms)=   0.383

     PEAK FLOW       (cms)=   0.130 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.297
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.340

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9276) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5300      0.1297
                          0.0400     0.0402   |   0.7100      0.1837
                          0.2000     0.0341   |   0.8900      0.2402
                          0.3800     0.0910   |   1.0300      0.2954

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
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```
     INFLOW : ID= 2 (2267)     10.500      0.130      6.50      14.30
     OUTFLOW: ID= 1 (9276)     10.500      0.209      7.75      14.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=160.75
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0437

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2264) |   Area    (ha)= 117.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       88.35         29.45
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      886.19         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       55.44         17.21
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       14.74 (ii)    36.37 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        9.32          0.79       9.637 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50        6.00
     RUNOFF VOLUME    (mm)=       40.00         15.21       32.56
     TOTAL RAINFALL   (mm)=       42.00         42.00       42.00
     RUNOFF COEFFICIENT   =        0.95          0.36        0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9277) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2264)    117.800     9.637      6.00      32.56
     OUTFLOW: ID= 1 (9277)    117.800     0.483      8.75      32.55

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.01
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.9130

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--------------------
| ADD HYD   (9253) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9276):    10.50   0.209     7.75    14.28
        + ID2= 2 (9277):   117.80   0.483     8.75    32.55
          ================================================
          ID = 3 (9253):   128.30   0.678     7.75    31.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.7530      0.6823
                          0.0890     0.3202   |   2.2010      0.7801
```

```
                      0.5080     0.3704   |   2.5620      0.8758
                      0.9450     0.4782   |   2.9620      0.8858
                      1.3110     0.5708   |   0.0000      0.0000

                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300     0.678      7.75      31.05
     OUTFLOW: ID= 1 (5226)    128.300     0.537      9.00      31.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 79.19
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3786

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-------------------
| CALIB             |
| NASHYD    (2262) |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.934

     PEAK FLOW       (cms)=   0.638 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.060
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2262):   119.28   0.638     7.50     12.06
       + ID2= 2 (5226):   128.30   0.537     9.00     31.05
         ================================================
         ID = 3 (9226):   247.58   1.097     8.75     21.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6226):   359.98   1.773     8.00     26.22
       + ID2= 2 (9226):   247.58   1.097     8.75     21.90
         ================================================
         ID = 3 (8168):   607.56   2.807     8.50     24.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.20  43.134    10.00     12.39
       + ID2= 2 (8168):   607.56   2.807     8.50     24.46
         ================================================
         ID = 3 (8162): 17353.76  45.679    10.00     12.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation       Manning
                   0.00         245.00        0.0600
                  18.60         244.74        0.0600
                  37.20         242.47        0.0600
                  93.01         233.71        0.0600
                 125.57         226.95        0.0600
                 213.93         221.63        0.0600
                 218.58         221.15        0.0600
                 223.23         220.45        0.0600
                 225.03         220.55    0.0600 /0.0300  Main Channel
                 225.53         218.05        0.0300      Main Channel
                 232.53         218.05        0.0300      Main Channel
                 240.03         218.05        0.0300      Main Channel
                 241.03         220.55    0.0300 /0.0600  Main Channel
                 246.48         221.00        0.0600
                 251.13         221.27        0.0600
                 255.78         221.22        0.0600
                 325.54         225.25        0.0600
                 367.40         228.91        0.0600
                 404.60         231.75        0.0600
                 460.41         245.00        0.0600

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         1.25   219.30    .338E+05      16.0          0.86      35.15
         2.50   220.55    .696E+05      48.3          1.26      24.02
         3.94   221.99    .168E+06     116.0          1.26      24.14
         5.38   223.43    .392E+06     247.5          1.15      26.37
         6.81   224.86    .743E+06     472.6          1.16      26.20
         8.25   226.30    .122E+07     821.6          1.23      24.67
         9.69   227.74    .179E+07    1320.1          1.34      22.59
        11.13   229.18    .243E+07    1965.7          1.47      20.58
        12.57   230.62    .313E+07    2744.2          1.59      19.02
        14.01   232.06    .390E+07    3683.4          1.72      17.66
        15.44   233.49    .472E+07    4824.1          1.86      16.30
        16.88   234.93    .557E+07    6092.4          1.99      15.23
        18.32   236.37    .646E+07    7503.3          2.11      14.35
        19.76   237.81    .739E+07    9061.2          2.23      13.59
        21.20   239.25    .836E+07   10767.6          2.34      12.94
        22.64   240.69    .937E+07   12624.8          2.45      12.37
        24.07   242.12    .104E+08   14634.9          2.56      11.87
        25.51   243.56    .115E+08   16762.8          2.65      11.45
        26.95   245.00    .127E+08   18699.9          2.69      11.28

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******    45.68   10.00  12.81      2.40      1.22
     OUTFLOW: ID= 1 (6228) *******    45.38   10.00  12.81      2.39      1.21

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| CALIB             |
| STANDHYD  (2287) |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.01        100.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     932.74         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          8.37
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.20 (ii)    44.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.46          1.19          1.914 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00          8.05         11.25
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.19          0.27

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9275) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   4.5000      3.5000
```

```
                        0.8000     0.1000   |   6.0000      4.0000
                        1.5000     2.0000   |   6.5000      4.5000
                        2.5000     3.0000   |   7.0000      5.5000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2287)    130.500      1.914      6.00      11.25
     OUTFLOW: ID= 1 (9275)    130.500      0.887      7.25      11.25

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.33
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3381

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-------------------
| RESERVOIR (5228) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.7260      2.6184
                         0.3410     1.2286   |   8.4460      2.9937
                         1.9480     1.4214   |   9.8320      3.3609
                         3.6280     1.8348   |  10.2320      3.3709
                         5.0330     2.1904   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9275)    130.500      0.887      7.25      11.25
     OUTFLOW: ID= 1 (5228)    130.500      0.274     10.25      11.24

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.94
                   TIME SHIFT OF PEAK FLOW         (min)=180.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.9890

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| CALIB             |
| NASHYD    (2282) |   Area    (ha)= 180.03   Curve Number   (CN)= 61.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.754

     PEAK FLOW       (cms)=   0.526 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.019
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.167

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2282):   180.03   0.526     7.75     7.02
       + ID2= 2 (5228):   130.50   0.274    10.25    11.24
         ================================================
         ID = 3 (9228):   310.53   0.727     8.75     8.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8170) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6228): 17353.76  45.384    10.00    12.81
       + ID2= 2 (9228):   310.53   0.727     8.75     8.79
         ================================================
         ID = 3 (8170): 17664.29  46.077    10.00    12.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2302) |   Area    (ha)=  30.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  11.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.84        21.63
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     450.70        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.76
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       9.83 (ii)   35.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.44         0.41          0.599 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        10.35         13.61
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.25          0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.6     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2307) |   Area    (ha)= 175.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      43.75       131.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1080.12        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        15.02
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.60 (ii)   39.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.69         2.94          3.496 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00        13.33         15.73
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.32          0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9280) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.7500      3.0604
                         0.5900     1.4722   |  11.7100      3.8736
                         3.3900     1.6096   |  14.7000      4.6556
                         6.3200     2.4308   |  17.1100      5.4201

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2307)    175.000      3.496      6.50      15.73
     OUTFLOW: ID= 1 (9280)    175.000      1.300      7.75      15.72

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.18
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5115

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| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.6830      2.7782
                         0.4700     1.3193   |  10.7480      3.1570
                         2.5870     1.5374   |  12.3570      3.5304
                         5.1590     1.9534   |  12.7570      3.5404
                         6.7830     2.3333   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9280)    175.000      1.300      7.75      15.72
     OUTFLOW: ID= 1 (5230)    175.000      0.369     14.75      15.72

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.43
                  TIME SHIFT OF PEAK FLOW         (min)=420.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0372

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   0.599     6.00    13.61
       + ID2= 2 (5230):   175.00   0.369    14.75    15.72
         ================================================
         ID = 3 (8172):   205.47   0.610     6.00    15.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.22

     Unit Hyd Qpeak  (cms)=   0.143

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=   8.189
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.195

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0900      0.0300
                         0.0100     0.0136   |   0.1200      0.0386
                         0.0400     0.0146   |   0.1500      0.0471
                         0.0700     0.0234   |   0.1800      0.0554

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2329)      1.800      0.022      6.00       8.19
     OUTFLOW: ID= 1 (9269)      1.800      0.005      8.00       8.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.20
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0074

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-------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.16       139.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1107.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        10.73
               over (min)        15.00        45.00

     Storage Coeff.  (min)=      16.86 (ii)   42.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.57         2.15         2.668 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00         9.83         12.24
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.23          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.3000      3.5000
                         1.1000     0.2000   |   3.5000      4.5000
                         1.8000     1.5000   |   4.5000      6.0000
                         2.0000     2.0000   |   5.5000      8.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2327)    184.000      2.668      6.50      12.24
     OUTFLOW: ID= 1 (9270)    184.000      1.309      7.25      12.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.08
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5935

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| ADD HYD   (9249) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.005     8.00     8.01
       + ID2= 2 (9270):   184.00   1.309     7.25    12.24
         ================================================
         ID = 3 (9249):   185.80   1.314     7.25    12.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.1130      4.3262
                         0.5630     2.0299   |  13.9540      4.9462
                         3.2190     2.3484   |  16.2450      5.5530
                         5.9950     3.0315   |  16.6450      5.5630
                         8.3150     3.6189   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800      1.314      7.25      12.20
     OUTFLOW: ID= 1 (5232)    185.800      0.422     10.75      12.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.07
                  TIME SHIFT OF PEAK FLOW         (min)=210.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5202

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-------------------
| CALIB            |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   0.358 (i)
     TIME TO PEAK    (hrs)=   7.500
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     RUNOFF VOLUME    (mm)=   6.154
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.147

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   129.00   0.358     7.50     6.15
       + ID2= 2 (5232):   185.80   0.422    10.75    12.19
         ================================================
         ID = 3 (9232):   314.80   0.679     9.75     9.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8172):   205.47   0.610     6.00    15.41
       + ID2= 2 (9232):   314.80   0.679     9.75     9.72
         ================================================
         ID = 3 (8173):   520.27   1.022    10.00    11.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17664.29  46.077    10.00    12.74
       + ID2= 2 (8173):   520.27   1.022    10.00    11.97
         ================================================
         ID = 3 (8174): 18184.56  47.099    10.00    12.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                   0.00         228.00        0.0550
                  42.86         223.21        0.0550
                  85.72         219.56        0.0550
                 107.15         219.42        0.0550
                 128.58         219.39        0.0550
                 214.30         219.30        0.0550
                 225.02         219.26        0.0550
                 235.73         219.24        0.0550
                 255.16         219.20    0.0550 /0.0350  Main Channel
                 257.16         217.20        0.0350      Main Channel
                 303.16         217.20        0.0350      Main Channel
                 305.16         219.20    0.0350 /0.0550  Main Channel
                 310.74         219.28        0.0550
                 321.45         219.27        0.0550
                 332.17         219.26        0.0550
                 396.46         219.29        0.0550
                 782.20         222.91        0.0550
                 878.64         227.43        0.0550
                 964.36         227.80        0.0550
                1060.79         228.00        0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    217.70    .887E+05       7.2          0.31     206.54
       1.00    218.20    .179E+06      22.7          0.48     131.74
       1.50    218.70    .272E+06      44.5          0.62     101.75
       2.00    219.20    .366E+06      71.8          0.75      84.97
       2.59    219.79    .993E+06     136.1          0.52     121.59
       3.17    220.37    .189E+07     258.6          0.52     121.80
       3.76    220.96    .294E+07     434.7          0.56     112.82
       4.35    221.55    .415E+07     665.9          0.61     103.88
       4.93    222.13    .551E+07     955.0          0.66      96.22
       5.52    222.72    .703E+07    1305.1          0.71      89.80
       6.11    223.31    .868E+07    1744.9          0.77      82.91
       6.69    223.89    .104E+08    2261.4          0.83      76.46
       7.28    224.48    .121E+08    2838.0          0.89      71.12
       7.87    225.07    .139E+08    3472.9          0.95      66.63
       8.45    225.65    .157E+08    4165.0          1.01      62.82
       9.04    226.24    .176E+08    4913.5          1.07      59.54
       9.63    226.83    .194E+08    5717.7          1.12      56.68
      10.21    227.41    .214E+08    6577.1          1.17      54.18
      10.80    228.00    .235E+08    6919.5          1.12      56.61

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8174) *******    47.10   10.00  12.72      1.55      0.63
     OUTFLOW: ID= 1 (6234) *******    41.69   11.50  12.72      1.44      0.60

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-------------------
| CALIB             |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   0.411 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   5.766
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3100      4.0635
                         0.9000     1.7152   |  17.8000      5.3537
                         5.1600     1.7685   |  22.3500      6.6446
                         9.6100     3.0976   |  26.0300      7.9060

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100      0.411      9.50       5.77
     OUTFLOW: ID= 1 (9281)    266.100      0.276     14.00       5.76

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 67.20
               TIME SHIFT OF PEAK FLOW         (min)=270.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.5265

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-------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5630      0.1745
                         0.1300     0.0819   |   0.6550      0.1995
                         0.2420     0.0947   |   0.7760      0.2240
                         0.3350     0.1223   |   1.0550      0.2340
                         0.4480     0.1460   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      0.276     14.00       5.76
     OUTFLOW: ID= 1 (5234)    266.100      0.273     14.75       5.76

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.99
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1041

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-------------------
| CALIB             |
| STANDHYD  (2342) |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
```

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     Surface Area     (ha)=       0.23         0.83
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         3.94
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.91 (ii)   28.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.017 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      41.00         3.86           6.82
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.09           0.16

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2342):     1.06   0.017     6.00     6.82
       + ID2= 2 (5234):   266.10   0.273    14.75     5.76
         ================================================
         ID = 3 (9234):   267.16   0.273    14.75     5.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6234): 18184.56  41.686    11.50    12.72
       + ID2= 2 (9234):   267.16   0.273    14.75     5.77
         ================================================
         ID = 3 (8176): 18451.72  41.922    11.50    12.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2369) |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.64       340.26
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1716.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        11.65
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      25.55 (ii)   50.83 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.62         4.87          6.116 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75           6.75
     RUNOFF VOLUME    (mm)=      40.00        10.73          13.07
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.26           0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9266) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.3000      8.0000
                         0.2000     2.0000   |   3.5000     10.0000
                         1.9000     7.0000   |   4.5000     13.0000
                         2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900      6.116      6.75      13.07
     OUTFLOW: ID= 1 (9266)    441.900      0.912     10.50      13.06

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.91
               TIME SHIFT OF PEAK FLOW         (min)=225.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  4.0951

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-------------------
| RESERVOIR (5236) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.1380      1.5897
                         1.0220     0.7542   |   3.7950      2.0204
                         1.7530     0.8200   |   4.4970      2.4373
                         2.3290     1.2567   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      0.912     10.50      13.06
     OUTFLOW: ID= 1 (5236)    441.900      0.822     13.25      13.06

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.14
               TIME SHIFT OF PEAK FLOW         (min)=165.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.6070

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-------------------
| CALIB            |
| NASHYD    (2362) |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.128 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.299
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.128     8.00     6.30
       + ID2= 2 (5236):   441.90   0.822    13.25    13.06
         ================================================
         ID = 3 (9236):   494.49   0.886    12.75    12.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                  0.00         241.54        0.0380
                602.55         227.00        0.0380
               1702.00         224.50        0.0380
```

```
            1721.25        223.00        0.0380
            1725.10        222.60        0.0380
            1780.94        222.50        0.0380
            1782.87        222.45        0.0380
            1784.79        222.40    0.0380 /0.0300  Main Channel
            1786.57        221.75        0.0300      Main Channel
            1787.07        220.75        0.0300      Main Channel
            1787.57        220.75        0.0300      Main Channel
            1791.57        220.75        0.0300      Main Channel
            1794.07        221.75        0.0300      Main Channel
            1798.27        222.00        0.0300      Main Channel
            1800.19        222.35    0.0300 /0.0380  Main Channel
            1802.12        222.47        0.0380
            1840.63        223.00        0.0380
            1900.00        225.00        0.0380
            1950.00        226.00        0.0380
            2242.61        240.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.80   221.55    .101E+05       5.2          1.14       32.36
      1.60   222.35    .296E+05      18.7          1.40       26.36
      2.64   223.39    .249E+06     151.8          1.35       27.33
      3.68   224.43    .613E+06     512.2          1.85       19.94
      4.71   225.46    .152E+07    1066.8          1.55       23.80
      5.75   226.50    .359E+07    2824.9          1.75       21.16
      6.79   227.54    .663E+07    6528.0          2.18       16.93
      7.83   228.58    .994E+07   12158.6          2.71       13.62
      8.87   229.62    .134E+08   19268.8          3.19       11.58
      9.91   230.66    .170E+08   27785.3          3.63       10.19
     10.94   231.69    .207E+08   37667.1          4.03        9.18
     11.98   232.73    .246E+08   48891.7          4.40        8.40
     13.02   233.77    .287E+08   61448.0          4.75        7.78
     14.06   234.81    .329E+08   75332.7          5.08        7.28
     15.10   235.85    .372E+08   90547.8          5.39        6.85
     16.14   236.89    .417E+08   *******          5.69        6.49
     17.17   237.92    .464E+08   *******          5.98        6.18
     18.21   238.96    .512E+08   *******          6.25        5.91
     19.25   240.00    .561E+08   *******          6.52        5.67

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9236)  494.49     0.89   12.75  12.34      0.14      1.14
     OUTFLOW: ID= 1 (6238)  494.49     0.88   13.25  12.34      0.13      1.14


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--------------------
| CALIB            |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.99         3.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     177.01        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.31
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       5.61 (ii)   31.19 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.07         0.078 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      40.00        10.58         12.64
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.25          0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300      0.0785
                          0.0200     0.0364   |   0.3100      0.1005
                          0.0900     0.0393   |   0.3900      0.1220
                          0.1700     0.0616   |   0.4600      0.1429

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)     4.700      0.078      6.50      12.64
     OUTFLOW: ID= 1 (9267)     4.700      0.018      8.25      12.55

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.92
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0328

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--------------------
| CALIB            |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   0.242 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.334
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100      1.3564
                          0.3100     0.5624   |   6.0400      1.7959
                          1.7500     0.5748   |   7.5800      2.2374
                          3.2600     1.0285   |   8.8300      2.6688

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)    90.200      0.242      7.25       5.33
     OUTFLOW: ID= 1 (9268)    90.200      0.119     11.25       5.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.17
                TIME SHIFT OF PEAK FLOW         (min)=240.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2160

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--------------------
| ADD HYD   (9247) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9267):    4.70    0.018     8.25    12.55
        + ID2= 2 (9268):   90.20    0.119    11.25     5.33
          ================================================
          ID = 3 (9247):   94.90    0.134    11.00     5.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.8780      1.5095
                          0.1960     0.7083   |   4.8600      1.7258
                          1.1230     0.8194   |   5.6680      1.9375
                          2.0920     1.0578   |   6.0680      1.9475
                          2.9010     1.2627   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9247)    94.900      0.134     11.00       5.69
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     OUTFLOW: ID= 1 (5238)     94.900      0.069     17.25       5.68

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.41
                   TIME SHIFT OF PEAK FLOW         (min)=375.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2484

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--------------------
| CALIB            |
| NASHYD    (2382) |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   0.413 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   5.916
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9238) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2382):   216.80   0.413     8.50     5.92
        + ID2= 2 (5238):    94.90   0.069    17.25     5.68
          ================================================
          ID = 3 (9238):   311.70   0.429     8.75     5.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6238):   494.49   0.880    13.25    12.34
        + ID2= 2 (9238):   311.70   0.429     8.75     5.84
          ================================================
          ID = 3 (8180):   806.19   1.217    12.25     9.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8176): 18451.72  41.922    11.50    12.62
        + ID2= 2 (8180):   806.19   1.217    12.25     9.83
          ================================================
          ID = 3 (8178): 19257.91  43.123    11.50    12.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                   0.00         222.00        0.0450
                  11.46         221.00        0.0450
                 208.98         221.00        0.0450
                 404.04         220.97        0.0450
                 808.08         220.83        0.0450
                 905.60         220.17        0.0450
                 919.53         219.43        0.0450
                 933.47         219.22        0.0450
                 945.26         219.21    0.0450 /0.0300  Main Channel
                 946.26         217.81        0.0300      Main Channel
                 975.26         217.81        0.0300      Main Channel
                1003.26         217.81        0.0300      Main Channel
                1005.26         219.21    0.0300 /0.0450  Main Channel
                1017.06         219.28        0.0450
                1030.99         219.26        0.0450
                1044.92         219.23        0.0450
                1058.86         219.23        0.0450
                1253.91         219.22        0.0450
                1323.57         221.05        0.0450
                1379.30         222.00        0.0450

       <-------------------- TRAVEL TIME TABLE --------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.20  218.01    .307E+05       2.2          0.20     227.52
         0.40  218.21    .617E+05       7.1          0.31     143.95
         0.60  218.41    .928E+05      14.0          0.41     110.33
         0.80  218.61    .124E+06      22.6          0.49      91.46
         1.00  218.81    .156E+06      32.8          0.57      79.15
         1.20  219.01    .188E+06      44.5          0.64      70.38
         1.40  219.21    .220E+06      57.5          0.70      63.77
         1.63  219.44    .413E+06      82.5          0.54      83.52
         1.87  219.68    .632E+06     120.9          0.51      87.03
         2.10  219.91    .858E+06     170.0          0.53      84.11
         2.33  220.14    .109E+07     228.7          0.56      79.62
         2.56  220.37    .134E+07     294.4          0.59      76.03
         2.80  220.61    .162E+07     371.1          0.61      72.75
         3.03  220.84    .192E+07     456.8          0.64      70.18
         3.26  221.07    .251E+07     552.1          0.59      75.74
         3.49  221.30    .333E+07     711.8          0.57      78.07
         3.73  221.54    .417E+07     907.0          0.58      76.62
         3.96  221.77    .502E+07    1134.1          0.61      73.70
         4.19  222.00    .587E+07    1390.9          0.64      70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******    43.12   11.50  12.50      1.18      0.63
     OUTFLOW: ID= 1 (6240) *******    40.62   12.50  12.50      1.13      0.61

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0240) |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   0.242 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=   4.078
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2407) |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.78          71.12
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     769.85          40.00
     Mannings n             =     0.013          0.250

     Max.Eff.Inten.(mm/hr)=      55.44           9.54
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      13.55 (ii)     40.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.73           1.00       1.195 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.50        6.50
     RUNOFF VOLUME    (mm)=      40.00           9.15       11.31
     TOTAL RAINFALL   (mm)=      42.00          42.00       42.00
     RUNOFF COEFFICIENT   =       0.95           0.22        0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9273)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	4.4500	5.4723
			0.3000	4.6746	5.9500	5.8930
			1.7300	4.7225	7.4700	6.3047
			3.2100	5.1511	8.7000	6.7071

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2407)	88.900	1.195	6.50	11.31
OUTFLOW: ID= 1 (9273)	88.900	0.056	12.50	11.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.73
TIME SHIFT OF PEAK FLOW (min)=360.00
MAXIMUM STORAGE USED (ha.m.)= 0.8806

ADD HYD (9252)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0240):	345.47	0.242	12.00	4.08
	+ ID2= 2 (9273):	88.90	0.056	12.50	11.26
	ID = 3 (9252):	434.37	0.298	12.00	5.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8182)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6240):	19257.91	40.621	12.50	12.50
	+ ID2= 2 (9252):	434.37	0.298	12.00	5.55
	ID = 3 (8182):	19692.28	40.918	12.50	12.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (2427)	ID= 1 DT=15.0 min	Area (ha)= 5.40	Ia (mm)= 5.00	U.H. Tp(hrs)= 0.37	Curve Number (CN)= 74.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.249

PEAK FLOW (cms)= 0.056 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 10.366
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.247

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9274)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.2700	0.0857
			0.0200	0.0379	0.3600	0.1115
			0.1000	0.0399	0.4500	0.1369
			0.1900	0.0663	0.5300	0.1618

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2427)	5.400	0.056	6.50	10.37
OUTFLOW: ID= 1 (9274)	5.400	0.016	9.00	10.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.21
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 0.0298

RESERVOIR (5242)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0480	1.0185
			0.0020	1.0087	0.0600	1.0212
			0.0140	1.0101	0.0700	1.0238
			0.0260	1.0130	0.4700	1.0338
			0.0360	1.0155	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9274)	5.400	0.016	9.00	10.28
OUTFLOW: ID= 1 (5242)	5.400	0.000	33.75	0.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 0.69
TIME SHIFT OF PEAK FLOW (min)=******
MAXIMUM STORAGE USED (ha.m.)= 0.0547

CALIB	NASHYD (2422)	ID= 1 DT=15.0 min	Area (ha)= 652.48	Ia (mm)= 5.00	U.H. Tp(hrs)= 5.37	Curve Number (CN)= 51.6	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 2.073

PEAK FLOW (cms)= 0.393 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 4.970
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.118

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9242)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2422):	652.48	0.393	13.00	4.97
	+ ID2= 2 (5242):	5.40	0.000	33.75	0.15
	ID = 3 (9242):	657.88	0.393	13.00	4.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8184)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8182):	19692.28	40.918	12.50	12.35
	+ ID2= 2 (9242):	657.88	0.393	13.00	4.93
	ID = 3 (8184):	20350.16	41.310	12.50	12.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6244) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2441.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0450	
2.50	220.10	0.0450	
3.00	220.06	0.0450	
3.64	220.07	0.0450	
7.28	220.08	0.0450	
10.91	220.09	0.0450	
14.55	219.81	0.0450	
18.19	219.29	0.0450	
24.13	219.21	0.0450 /0.0300	Main Channel
24.63	217.81	0.0300	Main Channel

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                69.13        217.81        0.0300      Main Channel
               114.13        217.81        0.0300      Main Channel
               115.13        219.21    0.0300 /0.0450  Main Channel
               120.06        219.25        0.0450
               123.70        219.32        0.0450
               127.34        219.77        0.0450
               130.98        219.88        0.0450
               134.61        219.99        0.0450
               350.00        220.18        0.0450
               360.18        225.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)     (min)
        0.35   218.16    .108E+06        9.0         0.29     200.52
        0.70   218.51    .216E+06       28.4         0.45     126.89
        1.05   218.86    .325E+06       55.7         0.59      97.27
        1.40   219.21    .434E+06       89.7         0.71      80.65
        1.79   219.60    .574E+06      135.9         0.81      70.36
        2.17   219.98    .726E+06      190.8         0.90      63.38
        2.56   220.37    .111E+07      264.3         0.82      69.82
        2.94   220.75    .157E+07      371.7         0.81      70.36
        3.33   221.14    .203E+07      503.4         0.85      67.30
        3.72   221.53    .250E+07      656.6         0.90      63.40
        4.10   221.91    .296E+07      829.6         0.96      59.54
        4.49   222.30    .343E+07     1021.1         1.02      56.00
        4.87   222.68    .390E+07     1230.2         1.08      52.83
        5.26   223.07    .437E+07     1456.2         1.14      50.01
        5.65   223.46    .484E+07     1698.4         1.20      47.51
        6.03   223.84    .531E+07     1956.3         1.26      45.28
        6.42   224.23    .579E+07     2229.3         1.32      43.28
        6.80   224.61    .626E+07     2517.0         1.38      41.48
        7.19   225.00    .674E+07     2819.2         1.44      39.85

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******    41.31   12.50  12.11      0.87      0.51
     OUTFLOW: ID= 1 (6244) *******    37.13   14.50  12.11      0.81      0.49


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--------------------
| CALIB            |
| STANDHYD  (2441) |   Area    (ha)=  91.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.18         50.34
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     781.11         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         14.62
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.67 (ii)    36.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.60          1.15          2.062 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         10.41         14.85
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.25          0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (2449) |   Area    (ha)= 143.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.69         94.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     977.07         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         12.89
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.63 (ii)    39.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.68          1.81          3.402 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         11.23         16.12
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.27          0.38

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9265) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.1600      2.7857
                          0.4900     1.4537   |   9.5800      3.4259
                          2.7800     1.6401   |  12.0300      4.0179
                          5.1700     2.2743   |  14.0100      4.5968

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2449)    143.200      3.402      6.00      16.12
     OUTFLOW: ID= 1 (9265)    143.200      0.495      8.75      16.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.56
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.4548

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--------------------
| ADD HYD   (9245) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2441):    91.52   2.062     6.00    14.85
       + ID2= 2 (9265):   143.20   0.495     8.75    16.11
         ================================================
         ID = 3 (9245):   234.72   2.204     6.00    15.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5244) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  15.7000     11.1120
                          0.7950     7.8678   |  19.7140     11.9879
                          4.5470     8.3178   |  22.9500     12.8451
                          8.4690     9.2829   |  23.3500     12.8551
                         11.7470    10.1128   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9245)    234.720      2.204      6.00      15.62
     OUTFLOW: ID= 1 (5244)    234.720      0.226     17.75      15.61

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.25
                TIME SHIFT OF PEAK FLOW         (min)=705.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.2365

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| CALIB            |
| NASHYD    (2442) |   Area    (ha)=1674.00   Curve Number   (CN)= 62.1
```

|ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50

U.H. Tp(hrs)= 2.20

Unit Hyd Qpeak (cms)= 12.991

PEAK FLOW (cms)= 2.982 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 7.107
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.169

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9244)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2442):	1674.00	2.982	10.00	7.11
	+ ID2= 2 (5244):	234.72	0.226	17.75	15.61
	ID = 3 (9244):	1908.72	3.154	10.00	8.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8186)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6244):	20350.16	37.132	14.50	12.11
	+ ID2= 2 (9244):	1908.72	3.154	10.00	8.15
	ID = 3 (8186):	22258.88	39.375	14.25	11.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ HYD (8190)	AREA (ha)=*******
DT=15.0 min	TPEAK (hrs)= 12.50
	VOLUME (mm)= 9.24

Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
Comments:

HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
ACTUAL PEAK FLOW: PEAK (56.85) + BASE (0.00) = 56.85 (cms).

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	0.000	57.25	1.008	114.50	0.172	171.75	0.032	229.00	0.006
0.25	0.000	57.50	0.999	114.75	0.171	172.00	0.031	229.25	0.006
0.50	0.000	57.75	0.990	115.00	0.170	172.25	0.031	229.50	0.006
0.75	0.000	58.00	0.981	115.25	0.169	172.50	0.031	229.75	0.006
1.00	0.000	58.25	0.972	115.50	0.168	172.75	0.031	230.00	0.005
1.25	0.000	58.50	0.963	115.75	0.166	173.00	0.030	230.25	0.005
1.50	0.000	58.75	0.954	116.00	0.165	173.25	0.030	230.50	0.005
1.75	0.000	59.00	0.945	116.25	0.164	173.50	0.030	230.75	0.005
2.00	0.059	59.25	0.937	116.50	0.163	173.75	0.030	231.00	0.005
2.25	0.220	59.50	0.928	116.75	0.162	174.00	0.030	231.25	0.005
2.50	0.321	59.75	0.920	117.00	0.160	174.25	0.029	231.50	0.005
2.75	0.402	60.00	0.912	117.25	0.159	174.50	0.029	231.75	0.005
3.00	0.473	60.25	0.904	117.50	0.158	174.75	0.029	232.00	0.005
3.25	0.596	60.50	0.896	117.75	0.157	175.00	0.029	232.25	0.005
3.50	0.686	60.75	0.888	118.00	0.156	175.25	0.028	232.50	0.005
3.75	0.763	61.00	0.880	118.25	0.155	175.50	0.028	232.75	0.005
4.00	0.832	61.25	0.873	118.50	0.153	175.75	0.028	233.00	0.005
4.25	1.021	61.50	0.865	118.75	0.152	176.00	0.028	233.25	0.005
4.50	1.159	61.75	0.858	119.00	0.151	176.25	0.028	233.50	0.005
4.75	1.416	62.00	0.850	119.25	0.150	176.50	0.027	233.75	0.005
5.00	1.630	62.25	0.843	119.50	0.149	176.75	0.027	234.00	0.005
5.25	2.108	62.50	0.836	119.75	0.147	177.00	0.027	234.25	0.005
5.50	2.519	62.75	0.829	120.00	0.146	177.25	0.027	234.50	0.005
5.75	5.433	63.00	0.822	120.25	0.145	177.50	0.026	234.75	0.005
6.00	14.267	63.25	0.815	120.50	0.144	177.75	0.026	235.00	0.005
6.25	14.106	63.50	0.808	120.75	0.143	178.00	0.026	235.25	0.005
6.50	17.013	63.75	0.801	121.00	0.142	178.25	0.026	235.50	0.005
6.75	19.952	64.00	0.795	121.25	0.141	178.50	0.026	235.75	0.005
7.00	22.885	64.25	0.788	121.50	0.140	178.75	0.025	236.00	0.005
7.25	25.661	64.50	0.781	121.75	0.139	179.00	0.025	236.25	0.005
7.50	28.337	64.75	0.775	122.00	0.138	179.25	0.025	236.50	0.004
7.75	30.936	65.00	0.769	122.25	0.137	179.50	0.025	236.75	0.004
8.00	33.481	65.25	0.762	122.50	0.136	179.75	0.025	237.00	0.004
8.25	35.793	65.50	0.756	122.75	0.135	180.00	0.024	237.25	0.004
8.50	38.095	65.75	0.750	123.00	0.134	180.25	0.024	237.50	0.004
8.75	40.327	66.00	0.744	123.25	0.133	180.50	0.024	237.75	0.004
9.00	42.448	66.25	0.738	123.50	0.132	180.75	0.024	238.00	0.004
9.25	44.436	66.50	0.732	123.75	0.131	181.00	0.024	238.25	0.004
9.50	46.290	66.75	0.726	124.00	0.130	181.25	0.024	238.50	0.004
9.75	48.024	67.00	0.720	124.25	0.129	181.50	0.023	238.75	0.004
10.00	49.641	67.25	0.714	124.50	0.128	181.75	0.023	239.00	0.004
10.25	51.012	67.50	0.708	124.75	0.128	182.00	0.023	239.25	0.004
10.50	52.263	67.75	0.702	125.00	0.127	182.25	0.023	239.50	0.004
10.75	53.362	68.00	0.697	125.25	0.126	182.50	0.023	239.75	0.004
11.00	54.302	68.25	0.691	125.50	0.125	182.75	0.023	240.00	0.004
11.25	55.096	68.50	0.686	125.75	0.124	183.00	0.022	240.25	0.004
11.50	55.752	68.75	0.680	126.00	0.123	183.25	0.022	240.50	0.004
11.75	56.282	69.00	0.675	126.25	0.122	183.50	0.022	240.75	0.004
12.00	56.695	69.25	0.670	126.50	0.121	183.75	0.022	241.00	0.004
12.25	56.826	69.50	0.664	126.75	0.120	184.00	0.022	241.25	0.004
12.50	56.853	69.75	0.659	127.00	0.119	184.25	0.022	241.50	0.004
12.75	56.739	70.00	0.654	127.25	0.119	184.50	0.021	241.75	0.004
13.00	56.482	70.25	0.649	127.50	0.118	184.75	0.021	242.00	0.004
13.25	56.107	70.50	0.644	127.75	0.117	185.00	0.021	242.25	0.004
13.50	55.627	70.75	0.639	128.00	0.116	185.25	0.021	242.50	0.004
13.75	55.048	71.00	0.634	128.25	0.115	185.50	0.021	242.75	0.004
14.00	54.362	71.25	0.629	128.50	0.114	185.75	0.021	243.00	0.004
14.25	53.558	71.50	0.624	128.75	0.113	186.00	0.020	243.25	0.004
14.50	52.654	71.75	0.619	129.00	0.113	186.25	0.020	243.50	0.004
14.75	51.674	72.00	0.614	129.25	0.112	186.50	0.020	243.75	0.004
15.00	50.632	72.25	0.609	129.50	0.111	186.75	0.020	244.00	0.004
15.25	49.533	72.50	0.605	129.75	0.110	187.00	0.020	244.25	0.004
15.50	48.389	72.75	0.600	130.00	0.109	187.25	0.020	244.50	0.004
15.75	47.214	73.00	0.595	130.25	0.109	187.50	0.020	244.75	0.003
16.00	46.022	73.25	0.591	130.50	0.108	187.75	0.019	245.00	0.003
16.25	44.824	73.50	0.586	130.75	0.107	188.00	0.019	245.25	0.003
16.50	43.627	73.75	0.582	131.00	0.106	188.25	0.019	245.50	0.003
16.75	42.436	74.00	0.577	131.25	0.105	188.50	0.019	245.75	0.003
17.00	41.251	74.25	0.573	131.50	0.105	188.75	0.019	246.00	0.003
17.25	40.076	74.50	0.568	131.75	0.104	189.00	0.019	246.25	0.003
17.50	38.912	74.75	0.564	132.00	0.103	189.25	0.019	246.50	0.003
17.75	37.762	75.00	0.560	132.25	0.102	189.50	0.018	246.75	0.003
18.00	36.629	75.25	0.555	132.50	0.102	189.75	0.018	247.00	0.003
18.25	35.514	75.50	0.551	132.75	0.101	190.00	0.018	247.25	0.003
18.50	34.419	75.75	0.547	133.00	0.100	190.25	0.018	247.50	0.003
18.75	33.345	76.00	0.543	133.25	0.099	190.50	0.018	247.75	0.003
19.00	32.292	76.25	0.539	133.50	0.099	190.75	0.018	248.00	0.003
19.25	31.260	76.50	0.534	133.75	0.098	191.00	0.018	248.25	0.003
19.50	30.250	76.75	0.530	134.00	0.097	191.25	0.018	248.50	0.003
19.75	29.262	77.00	0.526	134.25	0.097	191.50	0.017	248.75	0.003
20.00	28.297	77.25	0.522	134.50	0.096	191.75	0.017	249.00	0.003
20.25	27.357	77.50	0.518	134.75	0.095	192.00	0.017	249.25	0.003
20.50	26.441	77.75	0.514	135.00	0.095	192.25	0.017	249.50	0.003
20.75	25.549	78.00	0.510	135.25	0.094	192.50	0.017	249.75	0.003
21.00	24.683	78.25	0.506	135.50	0.093	192.75	0.017	250.00	0.003
21.25	23.842	78.50	0.503	135.75	0.092	193.00	0.017	250.25	0.003
21.50	23.026	78.75	0.499	136.00	0.092	193.25	0.016	250.50	0.003
21.75	22.235	79.00	0.495	136.25	0.091	193.50	0.016	250.75	0.003
22.00	21.470	79.25	0.491	136.50	0.090	193.75	0.016	251.00	0.003
22.25	20.731	79.50	0.487	136.75	0.090	194.00	0.016	251.25	0.003
22.50	20.021	79.75	0.484	137.00	0.089	194.25	0.016	251.50	0.003
22.75	19.337	80.00	0.480	137.25	0.088	194.50	0.016	251.75	0.003
23.00	18.677	80.25	0.476	137.50	0.088	194.75	0.016	252.00	0.003
23.25	18.041	80.50	0.473	137.75	0.087	195.00	0.016	252.25	0.003
23.50	17.427	80.75	0.469	138.00	0.087	195.25	0.016	252.50	0.003
23.75	16.834	81.00	0.466	138.25	0.086	195.50	0.015	252.75	0.003
24.00	16.261	81.25	0.462	138.50	0.085	195.75	0.015	253.00	0.003
24.25	15.709	81.50	0.459	138.75	0.085	196.00	0.015	253.25	0.003
24.50	15.175	81.75	0.455	139.00	0.084	196.25	0.015	253.50	0.003
24.75	14.660	82.00	0.452	139.25	0.083	196.50	0.015	253.75	0.003
25.00	14.164	82.25	0.448	139.50	0.083	196.75	0.015	254.00	0.003
25.25	13.685	82.50	0.445	139.75	0.082	197.00	0.015	254.25	0.003
25.50	13.222	82.75	0.442	140.00	0.082	197.25	0.015	254.50	0.003
25.75	12.777	83.00	0.438	140.25	0.081	197.50	0.015	254.75	0.003
26.00	12.347	83.25	0.435	140.50	0.080	197.75	0.014	255.00	0.003
26.25	11.932	83.50	0.432	140.75	0.080	198.00	0.014	255.25	0.003
26.50	11.533	83.75	0.429	141.00	0.079	198.25	0.014	255.50	0.003
26.75	11.147	84.00	0.425	141.25	0.079	198.50	0.014	255.75	0.002
27.00	10.776	84.25	0.422	141.50	0.078	198.75	0.014	256.00	0.002
27.25	10.418	84.50	0.419	141.75	0.078	199.00	0.014	256.25	0.002
27.50	10.073	84.75	0.416	142.00	0.077	199.25	0.014	256.50	0.002
27.75	9.740	85.00	0.413	142.25	0.076	199.50	0.014	256.75	0.002
28.00	9.420	85.25	0.410	142.50	0.076	199.75	0.014	257.00	0.002
28.25	9.112	85.50	0.407	142.75	0.075	200.00	0.013	257.25	0.002
28.50	8.815	85.75	0.404	143.00	0.075	200.25	0.013	257.50	0.002
28.75	8.530	86.00	0.401	143.25	0.074	200.50	0.013	257.75	0.002
29.00	8.255	86.25	0.398	143.50	0.074	200.75	0.013	258.00	0.002

29.25	7.990	86.50	0.395	143.75	0.073	201.00	0.013	258.25	0.002
29.50	7.736	86.75	0.392	144.00	0.073	201.25	0.013	258.50	0.002
29.75	7.491	87.00	0.389	144.25	0.072	201.50	0.013	258.75	0.002
30.00	7.256	87.25	0.386	144.50	0.072	201.75	0.013	259.00	0.002
30.25	7.029	87.50	0.383	144.75	0.071	202.00	0.013	259.25	0.002
30.50	6.812	87.75	0.380	145.00	0.070	202.25	0.013	259.50	0.002
30.75	6.603	88.00	0.377	145.25	0.070	202.50	0.013	259.75	0.002
31.00	6.402	88.25	0.375	145.50	0.069	202.75	0.012	260.00	0.002
31.25	6.209	88.50	0.372	145.75	0.069	203.00	0.012	260.25	0.002
31.50	6.023	88.75	0.369	146.00	0.068	203.25	0.012	260.50	0.002
31.75	5.845	89.00	0.366	146.25	0.068	203.50	0.012	260.75	0.002
32.00	5.673	89.25	0.364	146.50	0.067	203.75	0.012	261.00	0.002
32.25	5.508	89.50	0.361	146.75	0.067	204.00	0.012	261.25	0.002
32.50	5.350	89.75	0.358	147.00	0.066	204.25	0.012	261.50	0.002
32.75	5.197	90.00	0.356	147.25	0.066	204.50	0.012	261.75	0.002
33.00	5.050	90.25	0.353	147.50	0.065	204.75	0.012	262.00	0.002
33.25	4.909	90.50	0.351	147.75	0.065	205.00	0.012	262.25	0.002
33.50	4.773	90.75	0.348	148.00	0.065	205.25	0.012	262.50	0.002
33.75	4.643	91.00	0.345	148.25	0.064	205.50	0.011	262.75	0.002
34.00	4.517	91.25	0.343	148.50	0.064	205.75	0.011	263.00	0.002
34.25	4.396	91.50	0.340	148.75	0.063	206.00	0.011	263.25	0.002
34.50	4.279	91.75	0.338	149.00	0.063	206.25	0.011	263.50	0.002
34.75	4.167	92.00	0.335	149.25	0.062	206.50	0.011	263.75	0.002
35.00	4.058	92.25	0.333	149.50	0.062	206.75	0.011	264.00	0.002
35.25	3.954	92.50	0.330	149.75	0.061	207.00	0.011	264.25	0.002
35.50	3.854	92.75	0.328	150.00	0.061	207.25	0.011	264.50	0.002
35.75	3.757	93.00	0.326	150.25	0.060	207.50	0.011	264.75	0.002
36.00	3.664	93.25	0.323	150.50	0.060	207.75	0.011	265.00	0.002
36.25	3.574	93.50	0.321	150.75	0.059	208.00	0.011	265.25	0.002
36.50	3.487	93.75	0.318	151.00	0.059	208.25	0.011	265.50	0.002
36.75	3.404	94.00	0.316	151.25	0.059	208.50	0.010	265.75	0.002
37.00	3.323	94.25	0.314	151.50	0.058	208.75	0.010	266.00	0.002
37.25	3.246	94.50	0.311	151.75	0.058	209.00	0.010	266.25	0.002
37.50	3.171	94.75	0.309	152.00	0.057	209.25	0.010	266.50	0.002
37.75	3.099	95.00	0.307	152.25	0.057	209.50	0.010	266.75	0.002
38.00	3.029	95.25	0.305	152.50	0.056	209.75	0.010	267.00	0.002
38.25	2.962	95.50	0.302	152.75	0.056	210.00	0.010	267.25	0.002
38.50	2.897	95.75	0.300	153.00	0.056	210.25	0.010	267.50	0.002
38.75	2.834	96.00	0.298	153.25	0.055	210.50	0.010	267.75	0.002
39.00	2.774	96.25	0.296	153.50	0.055	210.75	0.010	268.00	0.002
39.25	2.715	96.50	0.294	153.75	0.054	211.00	0.010	268.25	0.002
39.50	2.659	96.75	0.291	154.00	0.054	211.25	0.010	268.50	0.002
39.75	2.604	97.00	0.289	154.25	0.054	211.50	0.010	268.75	0.002
40.00	2.552	97.25	0.287	154.50	0.053	211.75	0.009	269.00	0.002
40.25	2.501	97.50	0.285	154.75	0.053	212.00	0.009	269.25	0.002
40.50	2.451	97.75	0.283	155.00	0.052	212.25	0.009	269.50	0.002
40.75	2.404	98.00	0.281	155.25	0.052	212.50	0.009	269.75	0.002
41.00	2.358	98.25	0.279	155.50	0.052	212.75	0.009	270.00	0.002
41.25	2.313	98.50	0.277	155.75	0.051	213.00	0.009	270.25	0.002
41.50	2.270	98.75	0.275	156.00	0.051	213.25	0.009	270.50	0.002
41.75	2.229	99.00	0.273	156.25	0.050	213.50	0.009	270.75	0.002
42.00	2.188	99.25	0.271	156.50	0.050	213.75	0.009	271.00	0.002
42.25	2.149	99.50	0.269	156.75	0.050	214.00	0.009	271.25	0.002
42.50	2.111	99.75	0.267	157.00	0.049	214.25	0.009	271.50	0.002
42.75	2.075	100.00	0.265	157.25	0.049	214.50	0.009	271.75	0.002
43.00	2.039	100.25	0.263	157.50	0.048	214.75	0.009	272.00	0.002
43.25	2.005	100.50	0.261	157.75	0.048	215.00	0.009	272.25	0.002
43.50	1.971	100.75	0.259	158.00	0.048	215.25	0.009	272.50	0.001
43.75	1.939	101.00	0.257	158.25	0.047	215.50	0.008	272.75	0.001
44.00	1.908	101.25	0.255	158.50	0.047	215.75	0.008	273.00	0.001
44.25	1.877	101.50	0.253	158.75	0.046	216.00	0.008	273.25	0.001
44.50	1.848	101.75	0.251	159.00	0.046	216.25	0.008	273.50	0.001
44.75	1.819	102.00	0.250	159.25	0.046	216.50	0.008	273.75	0.001
45.00	1.791	102.25	0.248	159.50	0.045	216.75	0.008	274.00	0.001
45.25	1.764	102.50	0.246	159.75	0.045	217.00	0.008	274.25	0.001
45.50	1.738	102.75	0.244	160.00	0.045	217.25	0.008	274.50	0.001
45.75	1.712	103.00	0.242	160.25	0.044	217.50	0.008	274.75	0.001
46.00	1.688	103.25	0.240	160.50	0.044	217.75	0.008	275.00	0.001
46.25	1.663	103.50	0.239	160.75	0.044	218.00	0.008	275.25	0.001
46.50	1.640	103.75	0.237	161.00	0.043	218.25	0.008	275.50	0.001
46.75	1.617	104.00	0.235	161.25	0.043	218.50	0.008	275.75	0.001
47.00	1.595	104.25	0.233	161.50	0.043	218.75	0.008	276.00	0.001
47.25	1.573	104.50	0.232	161.75	0.042	219.00	0.008	276.25	0.001
47.50	1.552	104.75	0.230	162.00	0.042	219.25	0.008	276.50	0.001
47.75	1.531	105.00	0.228	162.25	0.042	219.50	0.008	276.75	0.001
48.00	1.511	105.25	0.226	162.50	0.042	219.75	0.007	277.00	0.001
48.25	1.492	105.50	0.225	162.75	0.041	220.00	0.007	277.25	0.001
48.50	1.473	105.75	0.223	163.00	0.041	220.25	0.007	277.50	0.001
48.75	1.454	106.00	0.221	163.25	0.041	220.50	0.007	277.75	0.001
49.00	1.436	106.25	0.220	163.50	0.040	220.75	0.007	278.00	0.001
49.25	1.418	106.50	0.218	163.75	0.040	221.00	0.007	278.25	0.001
49.50	1.401	106.75	0.217	164.00	0.040	221.25	0.007	278.50	0.001
49.75	1.384	107.00	0.215	164.25	0.039	221.50	0.007	278.75	0.001
50.00	1.367	107.25	0.213	164.50	0.039	221.75	0.007	279.00	0.001
50.25	1.351	107.50	0.212	164.75	0.039	222.00	0.007	279.25	0.001
50.50	1.335	107.75	0.210	165.00	0.039	222.25	0.007	279.50	0.001
50.75	1.320	108.00	0.209	165.25	0.038	222.50	0.007	279.75	0.001
51.00	1.305	108.25	0.207	165.50	0.038	222.75	0.007	280.00	0.001
51.25	1.290	108.50	0.206	165.75	0.038	223.00	0.007	280.25	0.001
51.50	1.276	108.75	0.204	166.00	0.037	223.25	0.007	280.50	0.001
51.75	1.261	109.00	0.203	166.25	0.037	223.50	0.007	280.75	0.001
52.00	1.247	109.25	0.201	166.50	0.037	223.75	0.007	281.00	0.001
52.25	1.234	109.50	0.200	166.75	0.037	224.00	0.007	281.25	0.001
52.50	1.220	109.75	0.198	167.00	0.036	224.25	0.006	281.50	0.001
52.75	1.207	110.00	0.197	167.25	0.036	224.50	0.006	281.75	0.001
53.00	1.195	110.25	0.195	167.50	0.036	224.75	0.006	282.00	0.001
53.25	1.182	110.50	0.194	167.75	0.036	225.00	0.006	282.25	0.001
53.50	1.170	110.75	0.192	168.00	0.035	225.25	0.006	282.50	0.001
53.75	1.158	111.00	0.191	168.25	0.035	225.50	0.006	282.75	0.001
54.00	1.146	111.25	0.190	168.50	0.035	225.75	0.006	283.00	0.001
54.25	1.134	111.50	0.188	168.75	0.035	226.00	0.006	283.25	0.001
54.50	1.122	111.75	0.187	169.00	0.034	226.25	0.006	283.50	0.001
54.75	1.111	112.00	0.186	169.25	0.034	226.50	0.006	283.75	0.001
55.00	1.100	112.25	0.184	169.50	0.034	226.75	0.006	284.00	0.001
55.25	1.089	112.50	0.183	169.75	0.034	227.00	0.006	284.25	0.001
55.50	1.079	112.75	0.182	170.00	0.033	227.25	0.006	284.50	0.001
55.75	1.068	113.00	0.180	170.25	0.033	227.50	0.006	284.75	0.001
56.00	1.058	113.25	0.179	170.50	0.033	227.75	0.006	285.00	0.001
56.25	1.048	113.50	0.178	170.75	0.033	228.00	0.006	285.25	0.001
56.50	1.038	113.75	0.176	171.00	0.032	228.25	0.006	285.50	0.001
56.75	1.028	114.00	0.175	171.25	0.032	228.50	0.006	285.75	0.001
57.00	1.018	114.25	0.174	171.50	0.032	228.75	0.006		

```
--------------------
| ADD HYD   (8188) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22258.88  39.375    14.25    11.77
       + ID2= 2 (8190): 20350.16  37.132    14.50    12.11
         ================================================
         ID = 3 (8188): 42609.04  76.482    14.50    11.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB             |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   1.329 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=   6.834
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB             |
| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.98       125.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1254.64        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        15.00
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.16 (ii)   41.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.13         2.75          5.236 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        10.54         15.54
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.25          0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
```

```
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.1800      6.2621
                         0.8000     2.9957   |  12.5050      7.1218
                         3.0350     3.4813   |  14.4090      7.9633
                         5.6510     4.4353   |  14.8090      7.9733
                         7.7470     5.2683   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    236.120     5.236      6.00      15.54
     OUTFLOW: ID= 1 (5446)    236.120     0.654      9.25      15.54

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.48
                   TIME SHIFT OF PEAK FLOW         (min)=195.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.4486

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1238.89   1.329    12.00     6.83
       + ID2= 2 (5446):   236.12   0.654     9.25    15.54
         ================================================
         ID = 3 (8192):  1475.01   1.935    11.75     8.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 42609.04  76.482    14.50    11.93
       + ID2= 2 (8192):  1475.01   1.935    11.75     8.23
         ================================================
         ID = 3 (8194): 44084.05  78.205    14.25    11.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.170 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.634
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.087

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   0.621 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.577
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.157

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   0.416 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   4.765
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.113

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   0.592 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.501
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.167 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   3.974
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.167     6.50     3.97
       + ID2= 2 (0436):   187.51   0.592     7.00     5.50
         ================================================
         ID = 3 (8206):   244.15   0.751     7.00     5.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                   0.00         256.00        0.0600
                   9.23         255.50        0.0600
                  27.69         255.00        0.0600
                  50.77         254.90        0.0600
                  64.62         254.85        0.0600
                  78.47         252.26        0.0600
                  96.93         249.44        0.0600
                 129.24         245.94        0.0600
```

145.40	245.76	0.0600	
146.20	245.80	0.0600 /0.0350	Main Channel
146.70	245.30	0.0350	Main Channel
147.70	245.30	0.0350	Main Channel
148.20	245.80	0.0350 /0.0600	Main Channel
150.01	245.78	0.0600	
152.32	245.79	0.0600	
163.86	246.72	0.0600	
175.40	249.07	0.0600	
186.94	253.15	0.0600	
196.17	255.38	0.0600	
228.48	255.55	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.221E+04	0.9	1.02	40.44
1.01	246.31	.352E+05	14.0	0.99	41.77
1.53	246.83	.841E+05	47.3	1.39	29.61
2.04	247.34	.144E+06	102.0	1.76	23.49
2.55	247.85	.213E+06	177.3	2.07	19.99
3.07	248.37	.291E+06	274.4	2.34	17.66
3.58	248.88	.378E+06	394.6	2.58	15.97
4.09	249.39	.474E+06	541.4	2.83	14.60
4.61	249.91	.578E+06	719.9	3.08	13.38
5.12	250.42	.688E+06	923.8	3.33	12.40
5.63	250.93	.803E+06	1153.3	3.56	11.61
6.14	251.44	.925E+06	1408.6	3.77	10.95
6.66	251.96	.105E+07	1690.6	3.98	10.38
7.17	252.47	.119E+07	2002.3	4.18	9.88
7.68	252.98	.133E+07	2345.4	4.38	9.43
8.20	253.50	.147E+07	2710.1	4.56	9.05
8.71	254.01	.162E+07	3101.0	4.73	8.72
9.22	254.52	.178E+07	3521.8	4.90	8.43
9.74	255.04	.195E+07	3467.6	4.39	9.39

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8206)	244.15	0.75	7.00	5.15	0.41	1.02
OUTFLOW: ID= 1 (6438)	244.15	0.67	7.75	5.15	0.37	1.02

ADD HYD (8208)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6438):	130.70	0.416	6.75	4.76
	+ ID2= 2 (6438):	244.15	0.666	7.75	5.15
	ID = 3 (8208):	374.85	1.025	7.50	5.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8210)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8440):	226.35	0.621	7.75	6.58
	+ ID2= 2 (8208):	374.85	1.025	7.50	5.01
	ID = 3 (8210):	601.20	1.644	7.50	5.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0432)	Area (ha)= 114.21	Curve Number (CN)= 53.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.21		

Unit Hyd Qpeak (cms)= 1.617

PEAK FLOW (cms)= 0.232 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 5.180
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.123

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0430)	Area (ha)= 111.64	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.52		

Unit Hyd Qpeak (cms)= 3.687

PEAK FLOW (cms)= 0.457 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 5.441
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.130

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0428)	Area (ha)= 50.53	Curve Number (CN)= 51.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.50		

Unit Hyd Qpeak (cms)= 1.725

PEAK FLOW (cms)= 0.184 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 4.733
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.113

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0426)	Area (ha)= 247.17	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.98		

Unit Hyd Qpeak (cms)= 4.315

PEAK FLOW (cms)= 0.770 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 6.793
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.162

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0424)	Area (ha)= 49.57	Curve Number (CN)= 59.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.37		

Unit Hyd Qpeak (cms)= 2.293

PEAK FLOW (cms)= 0.296 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 6.128
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.146

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8198)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0424):	49.57	0.296	6.50	6.13
	+ ID2= 2 (0426):	247.17	0.770	7.50	6.79
	ID = 3 (8198):	296.74	0.999	7.00	6.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4281.0) ------>
              Distance      Elevation       Manning
                  0.00         246.54        0.0900
                  8.80         246.29        0.0900
                 30.78         246.03        0.0900
                 41.78         243.97        0.0900
                 63.77         237.16        0.0900
                 85.76         232.53        0.0900
                 96.75         230.16        0.0900
                109.94         228.40        0.0900
                112.14         228.28    0.0900 /0.0450  Main Channel
                112.84         228.00        0.0450      Main Channel
                113.34         227.50        0.0450      Main Channel
                114.34         227.50        0.0450      Main Channel
                114.84         228.00        0.0450      Main Channel
                116.54         228.29    0.0450 /0.0900  Main Channel
                118.74         228.40        0.0900
                120.94         228.52        0.0900
                149.52         229.51        0.0900
                169.31         230.69        0.0900
                186.00         234.27        0.0900
                217.69         243.56        0.0900

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.78    228.28    .205E+04        1.6           0.97       21.60
      1.58    229.08    .202E+05       16.6           1.02       20.37
      2.39    229.89    .665E+05       64.8           1.22       17.11
      3.19    230.69    .133E+06      158.1           1.49       14.05
      4.00    231.50    .213E+06      308.6           1.82       11.48
      4.80    232.30    .299E+06      504.9           2.11        9.89
      5.61    233.11    .394E+06      746.6           2.37        8.79
      6.41    233.91    .496E+06     1034.5           2.61        7.99
      7.21    234.71    .605E+06     1373.3           2.84        7.35
      8.02    235.52    .722E+06     1763.3           3.06        6.82
      8.82    236.32    .844E+06     2202.0           3.27        6.39
      9.63    237.13    .974E+06     2690.5           3.46        6.03
     10.43    237.93    .111E+07     3239.5           3.66        5.71
     11.23    238.73    .125E+07     3839.0           3.84        5.43
     12.04    239.54    .140E+07     4489.1           4.03        5.18
     12.84    240.34    .155E+07     5190.5           4.20        4.97
     13.65    241.15    .170E+07     5943.8           4.36        4.78
     14.45    241.95    .187E+07     6749.8           4.53        4.61
     15.26    242.76    .204E+07     7609.4           4.68        4.46

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8198)  296.74     1.00    7.00   6.68      0.49      0.97
    OUTFLOW: ID= 1 (6428)  296.74     0.96    7.50   6.68      0.47      0.97


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| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.184     6.50     4.73
       + ID2= 2 (6428):   296.74   0.963     7.50     6.68
         ================================================
         ID = 3 (8200):   347.27   1.118     7.25     6.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   0.457     6.50     5.44
       + ID2= 2 (8200):   347.27   1.118     7.25     6.40
         ================================================
         ID = 3 (8202):   458.91   1.531     7.00     6.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation       Manning
                  0.00         221.00        0.0600
                 15.29         219.85        0.0600
                 45.86         219.86        0.0600
                 76.44         219.96        0.0600
                110.84         220.23        0.0600
                112.00         220.15        0.0600
                114.66         220.09        0.0600
                118.48         219.73        0.0600
                120.80         219.70    0.0600 /0.0350  Main Channel
                121.30         219.20        0.0350      Main Channel
                122.30         219.20        0.0350      Main Channel
                122.80         219.70    0.0350 /0.0600  Main Channel
                129.95         220.11        0.0600
                175.81         220.24        0.0600
                214.03         220.55        0.0600
                252.25         220.61        0.0600
                290.47         220.70        0.0600
                328.69         221.04        0.0600
                347.80         221.08        0.0600
                378.37         221.04        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.08    219.28    .185E+03        0.0           0.23      149.38
      0.17    219.37    .399E+03        0.1           0.34      100.62
      0.25    219.45    .641E+03        0.1           0.42       80.98
      0.33    219.53    .911E+03        0.2           0.49       69.79
      0.42    219.62    .121E+04        0.3           0.55       62.35
      0.50    219.70    .154E+04        0.5           0.60       56.91
      0.61    219.81    .267E+04        0.7           0.56       61.28
      0.71    219.91    .901E+04        1.3           0.30      112.96
      0.82    220.02    .249E+05        3.4           0.28      122.71
      0.92    220.12    .452E+05        6.8           0.31      109.98
      1.03    220.23    .747E+05       12.2           0.33      102.05
      1.14    220.34    .112E+06       21.3           0.39       87.59
      1.24    220.44    .153E+06       33.0           0.44       77.01
      1.35    220.55    .196E+06       47.2           0.49       69.22
      1.46    220.66    .248E+06       62.3           0.51       66.48
      1.56    220.76    .310E+06       83.4           0.55       62.06
      1.67    220.87    .376E+06      108.8           0.59       57.56
      1.77    220.97    .444E+06      137.7           0.64       53.77
      1.88    221.08    .517E+06      163.6           0.65       52.70

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8202)  458.91     1.53    7.00   6.17      0.72      0.30
    OUTFLOW: ID= 1 (6432)  458.91     1.14    9.50   6.17      0.68      0.35


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.232     8.00     5.18
       + ID2= 2 (6432):   458.91   1.138     9.50     6.17
         ================================================
         ID = 3 (8204):   573.12   1.344     9.25     5.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   1.344     9.25     5.97
       + ID2= 2 (8210):   601.20   1.644     7.50     5.60
         ================================================
         ID = 3 (8212):  1174.32   2.836     8.00     5.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4421.0) ------>
               Distance      Elevation       Manning
                   0.00         221.00        0.0350
                  26.73         220.80        0.0350
                  53.47         220.60        0.0350
                  66.83         220.40        0.0350
                  80.20         220.20        0.0350
                 347.52         220.00        0.0350
                 354.21         219.59        0.0350
                 360.89         219.50        0.0350
                 367.57         219.08        0.0350
                 368.76         219.00    0.0350 /0.0300  Main Channel
                 369.26         218.50        0.0300      Main Channel
                 374.26         218.50        0.0300      Main Channel
                 374.76         219.00    0.0300 /0.0350  Main Channel
                 380.94         220.33        0.0350
                 387.62         219.62        0.0350
                 394.31         219.23        0.0350
                 454.45         219.07        0.0350
                 514.60         219.09        0.0350
                 660.00         219.19        0.0350
                 661.63         221.00        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.12   218.62    .100E+04       0.2         0.28      92.89
        0.25   218.75    .205E+04       0.6         0.43      60.09
        0.37   218.87    .315E+04       1.1         0.55      46.99
        0.50   219.00    .430E+04       1.8         0.66      39.67
        0.63   219.13    .141E+05       3.4         0.37      69.99
        0.77   219.27    .652E+05      13.7         0.33      79.14
        0.90   219.40    .124E+06      35.5         0.45      58.02
        1.03   219.53    .183E+06      65.7         0.56      46.45
        1.17   219.67    .245E+06     103.8         0.66      39.30
        1.30   219.80    .307E+06     149.3         0.76      34.30
        1.43   219.93    .371E+06     201.6         0.85      30.65
        1.57   220.07    .440E+06     256.5         0.91      28.56
        1.70   220.20    .541E+06     325.7         0.94      27.70
        1.83   220.33    .663E+06     415.2         0.98      26.62
        1.97   220.47    .787E+06     520.3         1.03      25.21
        2.10   220.60    .913E+06     638.5         1.09      23.82
        2.23   220.73    .104E+07     767.2         1.15      22.62
        2.37   220.87    .117E+07     908.0         1.21      21.54
        2.50   221.00    .131E+07    1060.7         1.27      20.57

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32     2.84    8.00   5.78      0.59      0.44
     OUTFLOW: ID= 1 (6442) 1174.32     2.60    9.75   5.78      0.57      0.47


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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0442):   117.26   0.170     8.00     3.63
        + ID2= 2 (6442):  1174.32   2.599     9.75     5.78
          ================================================
          ID = 3 (8214):  1291.58   2.744     9.75     5.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8194): 44084.05  78.205    14.25    11.81
        + ID2= 2 (8214):  1291.58   2.744     9.75     5.59
          ================================================
          ID = 3 (8196): 45375.62  79.234    14.25    11.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   0.556 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.731
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.136

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0444):   221.65   0.556     7.50     5.73
        + ID2= 2 (8196): 45375.62  79.234    14.25    11.63
          ================================================
          ID = 3 (8216): 45597.28  79.368    14.25    11.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\14a82fd7-d8b8-4b9f-aaa2-7731d664f7ae\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\14a82fd7-d8b8-4b9f-aaa2-7731d664f7ae\Scenario.sum


DATE: 08/29/2012                          TIME: 01:56:05

USER:


COMMENTS: _____________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              14a82fd7-d8b8-4b9f-aaa2-7731d664f7ae\31710974
| Ptotal= 54.40 mm |    Comments: 5-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.36 |  3.25    2.18 |  6.25    9.79 |  9.25    1.90
                0.50    1.36 |  3.50    2.18 |  6.50    9.79 |  9.50    1.90
                0.75    1.36 |  3.75    2.18 |  6.75    4.35 |  9.75    1.90
                1.00    1.36 |  4.00    2.18 |  7.00    4.35 | 10.00    1.90
                1.25    1.36 |  4.25    3.26 |  7.25    3.26 | 10.25    1.09
                1.50    1.36 |  4.50    3.26 |  7.50    3.26 | 10.50    1.09
                1.75    1.36 |  4.75    4.35 |  7.75    3.26 | 10.75    1.09
                2.00    1.36 |  5.00    4.35 |  8.00    3.26 | 11.00    1.09
                2.25    1.63 |  5.25    6.53 |  8.25    1.90 | 11.25    1.09
                2.50    1.63 |  5.50    6.53 |  8.50    1.90 | 11.50    1.09
                2.75    1.63 |  5.75   26.11 |  8.75    1.90 | 11.75    1.09
                3.00    1.63 |  6.00   71.81 |  9.00    1.90 | 12.00    1.09

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--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        88.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.03 (ii)   25.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.01         4.74        11.073 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40        27.66          37.06
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.51           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        43.05
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.49 (ii)   32.47 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.16         7.41        12.281 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40        21.06          28.27
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.39           0.52


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300     6.6504
                          0.4310     3.5677   |   9.1580     7.5825
                          1.6680     3.8178   |  10.9790     8.5125
                          3.5970     4.8509   |  11.3790     8.5225
                          5.3070     5.7381   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640     12.281      6.00      28.27
     OUTFLOW: ID= 1 (5166)    293.640      3.520      7.50      28.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.66
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.8148

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   141.06  11.073     6.00    37.06
        + ID2= 2 (5166):   293.64   3.520     7.50    28.26
          ================================================
          ID = 3 (8134):   434.70  11.277     6.00    31.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.48         93.87
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     895.73         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         17.32
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.38 (ii)    34.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.11          2.59     4.168 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50      6.00
     RUNOFF VOLUME    (mm)=      52.40         17.50     23.43
     TOTAL RAINFALL   (mm)=      54.40         54.40     54.40
     RUNOFF COEFFICIENT   =       0.96          0.32      0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1641) |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86         33.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     871.36         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         59.11
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.16 (ii)    26.36 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.25          2.41    10.772 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25     6.00
     RUNOFF VOLUME    (mm)=      52.40         23.65    38.89
     TOTAL RAINFALL   (mm)=      54.40         54.40    54.40
     RUNOFF COEFFICIENT   =       0.96          0.43     0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.4260      4.5513
                         0.3860     1.9228   |   9.2330      4.9251
                         3.3700     2.2339   |   9.9990      5.2982
                         4.5710     3.3613   |  10.3990      5.3082
                         5.7170     4.0568   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890     10.772      6.00      38.89
     OUTFLOW: ID= 1 (5164)    113.890      3.473      6.50      38.87

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.24
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.3622

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-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35   4.168     6.00    23.43
        + ID2= 2 (5164):   113.89   3.473     6.50    38.87
          ================================================
          ID = 3 (8132):   234.24   6.889     6.50    30.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   0.660 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  10.672
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.196

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1481) |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02         32.73
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     641.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81          4.73
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      10.95 (ii)    47.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.72          0.26     1.796 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75      6.00
     RUNOFF VOLUME    (mm)=      52.40          4.53     12.67
     TOTAL RAINFALL   (mm)=      54.40         54.40     54.40
     RUNOFF COEFFICIENT   =       0.96          0.08      0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1310      1.6343
                         0.2090     0.7802   |   5.1870      1.8598
                         1.1960     0.9062   |   6.0380      2.0805
                         2.2280     1.1562   |   6.4380      2.0905
                         3.0910     1.3741   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750      1.796      6.00      12.67
     OUTFLOW: ID= 1 (5148)     61.750      0.139      8.75      12.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.76
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5204
```

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--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   0.585 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.986
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.073

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   0.585     8.00     3.99
       + ID2= 2 (5148):    61.75   0.139     8.75    12.65
         ================================================
         ID = 3 (9148):   417.89   0.723     8.00     5.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      32.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         3.02
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       1.83 (ii)   45.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.11         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.005 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      52.40         2.94         10.25
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.05          0.19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  16.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0110      0.0042
                         0.0010     0.0020   |   0.0140      0.0049
                         0.0030     0.0023   |   0.0160      0.0054
                         0.0060     0.0030   |   0.4160      0.0154
                         0.0080     0.0036   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1501)     0.160     0.005      6.00      10.25
     OUTFLOW: ID= 1 (5150)     0.160     0.000      7.75       7.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.58

                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0009

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.135 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   1.874
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.034

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.135     6.75     1.87
       + ID2= 2 (5150):     0.16   0.000     7.75     7.19
         ================================================
         ID = 3 (9150):   105.88   0.135     6.75     1.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   0.723     8.00     5.27
       + ID2= 2 (9150):   105.88   0.135     6.75     1.88
         ================================================
         ID = 3 (8116):   523.77   0.833     7.50     4.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1521.0) ------>
               Distance      Elevation       Manning
                   0.00         290.00        0.0500
                  15.34         286.87        0.0500
                  46.03         284.84        0.0500
                  88.22         283.07        0.0500
                 126.57         282.11        0.0500
                 153.42         280.34        0.0500
                 157.26         280.07        0.0500
                 161.09         279.72        0.0500
                 167.76         278.94    0.0500 /0.0300  Main Channel
                 168.01         278.60        0.0300      Main Channel
                 168.76         278.60        0.0300      Main Channel
                 169.51         278.60        0.0300      Main Channel
                 169.76         278.90    0.0300 /0.0500  Main Channel
                 173.76         279.40        0.0500
                 180.27         279.69        0.0500
                 184.11         279.93        0.0500
                 218.62         281.86        0.0500
                 260.82         283.20        0.0500
                 360.54         289.25        0.0500
                 379.72         289.80        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    278.90    .114E+04        0.4          0.80       45.70
      0.87    279.47    .932E+04        4.2          0.98       37.22
      1.45    280.05    .353E+05       17.5          1.09       33.68
      2.02    280.62    .831E+05       47.8          1.26       29.01
      2.59    281.19    .155E+06      102.9          1.46       25.06
      3.17    281.77    .250E+06      189.3          1.66       22.03
      3.74    282.34    .375E+06      298.5          1.75       20.91
```

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       4.32   282.92    .547E+06     456.5          1.83      19.98
       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     0.83    7.50   4.58      0.36      0.82
     OUTFLOW: ID= 1 (6152)  523.77     0.78    8.50   4.58      0.36      0.82


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-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   0.660     7.25    10.67
       + ID2= 2 (6152):   523.77   0.784     8.50     4.58
         ================================================
         ID = 3 (8122):   648.14   1.390     8.00     5.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   0.973 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.394
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.364 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.641
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         3.94
               over (min)        15.00        60.00
     Storage Coeff.  (min)=       6.55 (ii)   45.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00

     Unit Hyd. peak  (cms)=       0.10         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.45         0.02          1.457 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      52.40         4.90          38.15
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.09           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  31.3     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7460      0.3544
                         0.0380     0.1987   |   0.9370      0.3839
                         0.2160     0.2386   |   1.0900      0.4129
                         0.4020     0.2749   |   1.4900      0.4229
                         0.5580     0.3133   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      1.457      6.00      38.15
     OUTFLOW: ID= 1 (5154)     11.150      0.307      6.25      38.03

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.08
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2582

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-------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   0.478 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.423
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   0.478     7.25     5.42
       + ID2= 2 (5154):    11.15   0.307     6.25    38.03
         ================================================
         ID = 3 (9154):   200.32   0.723     6.50     7.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.364     6.75     6.64
       + ID2= 2 (9154):   200.32   0.723     6.50     7.24
         ================================================
         ID = 3 (8118):   283.81   1.081     6.50     7.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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--------------------
              <------ DATA FOR SECTION (1581.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0400
                 19.20         288.88        0.0400
                 48.00         288.26        0.0400
                119.99         283.68        0.0400
                167.99         282.07        0.0400
                196.79         281.32        0.0400
                210.79         280.90        0.0400
                219.79         280.38    0.0400 /0.0300  Main Channel
                220.04         279.65        0.0300      Main Channel
                220.79         279.65        0.0300      Main Channel
                221.54         279.65        0.0300      Main Channel
                221.79         280.39    0.0300 /0.0400  Main Channel
                225.79         280.59        0.0400
                235.19         280.88        0.0400
                254.39         281.50        0.0400
                273.58         282.56        0.0400
                302.38         283.42        0.0400
                359.98         284.03        0.0400
                436.77         289.37        0.0400
                475.17         290.37        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.37   280.01    .973E+03       0.5         0.86      31.78
      0.73   280.38    .210E+04       1.5         1.18      23.16
      1.30   280.95    .149E+05       8.6         0.95      28.91
      1.86   281.51    .579E+05      40.0         1.13      24.12
      2.43   282.08    .133E+06     118.5         1.46      18.75
      2.99   282.64    .236E+06     254.6         1.77      15.46
      3.56   283.21    .369E+06     450.3         2.00      13.67
      4.13   283.78    .542E+06     702.7         2.13      12.86
      4.69   284.34    .767E+06    1125.2         2.41      11.36
      5.26   284.91    .101E+07    1697.1         2.75       9.93
      5.82   285.47    .127E+07    2379.1         3.07       8.91
      6.39   286.04    .155E+07    3171.4         3.36       8.14
      6.95   286.60    .184E+07    4075.5         3.64       7.53
      7.52   287.17    .215E+07    5093.1         3.89       7.03
      8.09   287.74    .247E+07    6226.5         4.13       6.62
      8.65   288.30    .281E+07    7461.2         4.36       6.28
      9.22   288.87    .318E+07    8635.1         4.46       6.13
      9.78   289.43    .357E+07   10143.6         4.67       5.86
     10.35   290.00    .398E+07   11608.8         4.79       5.71

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     1.08    6.50   7.06      0.57      1.02
     OUTFLOW: ID= 1 (6158)  283.81     0.98    7.25   7.06      0.54      0.99


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--------------------
| ADD HYD   (8120) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0158):   178.59   0.973     7.25    11.39
       + ID2= 2 (6158):   283.81   0.982     7.25     7.06
         ==========================================
         ID = 3 (8120):   462.40   1.955     7.25     8.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8124) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8120):   462.40   1.955     7.25     8.74
       + ID2= 2 (8122):   648.14   1.390     8.00     5.75
         ==========================================
         ID = 3 (8124):  1110.54   3.287     7.50     6.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1601.0) ------>
              Distance      Elevation       Manning
                  0.00         261.02        0.0400
                 29.89         254.30        0.0400
                 40.75         252.58        0.0400
                 62.49         251.30        0.0400
                114.11         250.94        0.0400
                130.41         248.58        0.0400
                141.28         247.50        0.0400
                154.86         246.87        0.0400
                155.20         246.70        0.0400
                160.20         246.30    0.0400 /0.0300  Main Channel
                160.30         245.30        0.0300      Main Channel
                165.20         245.30        0.0300      Main Channel
                165.30         246.30    0.0300 /0.0400  Main Channel
                168.45         246.96        0.0400
                195.62         249.20        0.0400
                203.77         250.82        0.0400
                225.50         256.78        0.0400
                244.52         261.14        0.0400
                255.39         261.95        0.0400
                268.97         261.92        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   245.80    .120E+05       2.9         1.18      68.31
      1.00   246.30    .242E+05       8.5         1.70      47.47
      1.92   247.22    .825E+05      31.7         1.86      43.34
      2.84   248.14    .248E+06     102.5         2.00      40.39
      3.76   249.06    .506E+06     247.7         2.37      34.03
      4.68   249.98    .832E+06     486.8         2.83      28.49
      5.60   250.90    .121E+07     814.9         3.27      24.71
      6.52   251.82    .180E+07    1157.1         3.11      25.97
      7.44   252.74    .253E+07    1840.2         3.52      22.92
      8.36   253.66    .331E+07    2727.1         3.98      20.25
      9.29   254.59    .414E+07    3782.6         4.43      18.22
     10.21   255.51    .499E+07    5010.7         4.86      16.61
     11.13   256.43    .589E+07    6397.4         5.26      15.33
     12.05   257.35    .681E+07    7932.8         5.64      14.31
     12.97   258.27    .777E+07    9621.2         5.99      13.46
     13.89   259.19    .877E+07   11469.4         6.33      12.74
     14.81   260.11    .980E+07   13478.4         6.66      12.12
     15.73   261.03    .109E+08   15651.7         6.97      11.58
     16.65   261.95    .120E+08   17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     3.29    7.50   6.99      0.53      1.20
     OUTFLOW: ID= 1 (6160) 1110.54     2.82    9.00   6.99      0.48      1.18


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--------------------
| CALIB            |
| STANDHYD  (1601) |   Area    (ha)=  19.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  69.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        14.27          4.76
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=       356.18         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        71.81         13.24
               over (min)          15.00         45.00
     Storage Coeff.  (min)=         7.69 (ii)    31.71 (ii)
     Unit Hyd. Tpeak (min)=        15.00         45.00
     Unit Hyd. peak  (cms)=         0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.37          0.11      2.410 (iii)
     TIME TO PEAK    (hrs)=         6.00          6.50      6.00
     RUNOFF VOLUME    (mm)=        52.40         11.86     39.83
     TOTAL RAINFALL   (mm)=        54.40         54.40     54.40
     RUNOFF COEFFICIENT   =         0.96          0.22      0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5160) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2730	0.6034
	0.0640	0.3377	1.5980	0.6540
	0.3690	0.4055	1.8600	0.7037
	0.6870	0.4676	2.2600	0.7137
	0.9520	0.5332	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1601)	19.030	2.410	6.00	39.83
OUTFLOW: ID= 1 (5160)	19.030	0.547	6.50	39.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.68
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4421

CALIB / NASHYD (1602) / ID= 1 DT=15.0 min			
	Area (ha)= 299.79	Curve Number (CN)= 60.3	
	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.42		

Unit Hyd Qpeak (cms)= 3.592

PEAK FLOW (cms)= 1.176 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 11.197
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.206

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9160) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1602):	299.79	1.176	8.00	11.20
+ ID2= 2 (5160):	19.03	0.547	6.50	39.76
ID = 3 (9160):	318.82	1.467	6.75	12.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8126) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6160):	1110.54	2.817	9.00	6.99
+ ID2= 2 (9160):	318.82	1.467	6.75	12.90
ID = 3 (8126):	1429.36	4.089	8.75	8.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (1621) / ID= 1 DT=15.0 min			
	Area (ha)= 46.07		
	Total Imp(%)= 45.00	Dir. Conn.(%)= 20.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.73	25.34
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	554.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	over (min)	71.81 / 15.00	15.61 / 45.00
Storage Coeff.	(min)=	10.03 (ii)	32.52 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.09	0.03

		TOTALS
PEAK FLOW	(cms)=	1.55 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	20.01
TOTAL RAINFALL	(mm)=	54.40
RUNOFF COEFFICIENT	=	0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5162) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0820	1.1997
	0.1560	0.5629	3.8700	1.3716
	0.8930	0.6512	4.5050	1.5398
	1.6620	0.8407	4.9050	1.5498
	2.3060	1.0035	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1621)	46.070	1.817	6.00	20.01
OUTFLOW: ID= 1 (5162)	46.070	0.297	7.75	19.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 16.33
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.5802

CALIB / STANDHYD (1622) / ID= 1 DT=15.0 min			
	Area (ha)= 144.07		
	Total Imp(%)= 26.00	Dir. Conn.(%)= 11.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.46	106.61
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	980.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	over (min)	71.81 / 15.00	10.71 / 45.00
Storage Coeff.	(min)=	14.12 (ii)	40.26 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	3.035 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	14.67
TOTAL RAINFALL	(mm)=	54.40
RUNOFF COEFFICIENT	=	0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9162) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1622):	144.07	3.035	6.00	14.67
+ ID2= 2 (5162):	46.07	0.297	7.75	19.99
ID = 3 (9162):	190.14	3.099	6.00	15.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8128)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8126):	1429.36	4.089	8.75	8.31
+	ID2= 2 (9162):	190.14	3.099	6.00	15.96
	ID = 3 (8128):	1619.50	4.948	8.00	9.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8128):	1619.50	4.948	8.00	9.21
+	ID2= 2 (8132):	234.24	6.889	6.50	30.94
	ID = 3 (8130):	1853.74	11.631	6.50	11.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6166)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1661.0) ------>

Distance	Elevation	Manning	
0.00	248.36	0.0500	
41.67	246.98	0.0500	
95.82	244.93	0.0500	
149.98	242.42	0.0500	
191.64	241.88	0.0500	
224.97	239.90	0.0500	
229.13	239.35	0.0500	
233.30	237.77	0.0500	
237.47	236.57	0.0500	
240.63	235.60	0.0500 /0.0300	Main Channel
241.63	234.10	0.0300	Main Channel
247.13	234.10	0.0300	Main Channel
247.53	235.60	0.0300 /0.0500	Main Channel
254.13	236.25	0.0500	
266.63	236.77	0.0500	
283.29	237.84	0.0500	
291.63	238.89	0.0500	
329.12	244.66	0.0500	
370.78	249.55	0.0500	
412.44	253.17	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	234.85	.130E+05	6.0	1.36	36.45
1.50	235.60	.276E+05	18.1	1.95	25.41
2.25	236.35	.544E+05	40.0	2.18	22.69
3.00	237.10	.117E+06	80.1	2.04	24.32
3.75	237.85	.213E+06	148.9	2.07	23.89
4.50	238.60	.334E+06	255.1	2.27	21.85
5.25	239.35	.473E+06	395.8	2.49	19.90
6.00	240.10	.631E+06	563.8	2.65	18.66
6.75	240.85	.824E+06	773.2	2.79	17.77
7.50	241.60	.106E+07	1037.9	2.92	16.97
8.26	242.36	.135E+07	1326.7	2.92	16.94
9.01	243.11	.173E+07	1758.5	3.01	16.44
9.76	243.86	.217E+07	2285.9	3.13	15.81
10.51	244.61	.265E+07	2909.5	3.26	15.17
11.26	245.36	.318E+07	3610.1	3.37	14.67
12.01	246.11	.377E+07	4417.4	3.48	14.21
12.76	246.86	.441E+07	5348.0	3.60	13.75
13.51	247.61	.512E+07	6394.0	3.71	13.34
14.26	248.36	.589E+07	7580.3	3.82	12.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8130)	1853.74	11.63	6.50	11.96	1.10	1.58
OUTFLOW: ID= 1 (6166)	1853.74	9.26	7.00	11.95	0.95	1.48

ADD HYD (8136)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6166):	1853.74	9.257	7.00	11.95
+	ID2= 2 (8134):	434.70	11.277	6.00	31.12
	ID = 3 (8136):	2288.44	14.955	7.00	15.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2021)	Area (ha)= 107.32		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 27.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.29	59.03
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	845.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	43.99
over (min)		15.00	30.00
Storage Coeff. (min)=		12.93 (ii)	27.79 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	4.47	3.10	6.403 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	52.40	21.49	29.84
TOTAL RAINFALL	(mm)=	54.40	54.40	54.40
RUNOFF COEFFICIENT	=	0.96	0.40	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5202)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	5.1480	2.8069	
	0.3630	1.2717	6.4200	3.2412	
	1.5670	1.4796	7.4640	3.6910	
	2.7880	1.9296	7.8640	3.7010	
	3.8580	2.3404	0.0000	0.0000	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2021)		107.320	6.403	6.00	29.84
OUTFLOW: ID= 1 (5202)		107.320	2.023	6.75	29.83
PEAK FLOW REDUCTION [Qout/Qin](%)= 31.59					
TIME SHIFT OF PEAK FLOW			(min)= 45.00		
MAXIMUM STORAGE USED			(ha.m.)= 1.6625		

CALIB			
STANDHYD (2022)	Area (ha)= 361.21		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 36.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	216.73	144.48
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1551.79	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	60.07

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            over (min)       15.00        45.00
     Storage Coeff.  (min)=      18.61 (ii)   31.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      17.12         8.91        20.978 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      52.40        24.29         34.41
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.45          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  20.978     6.00    34.41
       + ID2= 2 (5202):   107.32   2.023     6.75    29.83
         ================================================
         ID = 3 (8110):   468.53  21.201     6.00    33.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.96         9.63
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      23.41 (ii)   50.69 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.18         4.27          6.461 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75          6.25
     RUNOFF VOLUME    (mm)=      52.40         9.19         13.08
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.17          0.24

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   1.069 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   5.648
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   1.069     9.25     5.65
       + ID2= 2 (0102):   466.00   6.461     6.25    13.08
         ================================================
         ID = 3 (8000):  1159.84   6.998     6.25     8.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                  0.00         330.16        0.0450
                 50.03         328.36        0.0450
                 89.34         326.33        0.0450
                117.94         324.30        0.0450
                160.82         322.75        0.0450
                178.34         319.96        0.0450
                183.34         319.81        0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78        0.0300      Main Channel
                185.84         318.72        0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70        0.0450
                198.84         320.38        0.0450
                200.13         320.81        0.0450
                218.00         322.49        0.0450
                239.44         323.49        0.0450
                250.17         323.96        0.0450
                275.18         325.20        0.0450
                310.92         326.47        0.0450
                353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   319.02    .624E+03       0.1         0.45       73.00
      0.60   319.32    .181E+04       0.6         0.67       49.46
      1.23   319.95    .128E+05       4.9         0.77       43.38
      1.86   320.58    .396E+05      19.1         0.96       34.50
      2.48   321.20    .757E+05      43.5         1.15       28.98
      3.11   321.83    .125E+06      81.2         1.30       25.58
      3.74   322.46    .187E+06     135.9         1.45       22.92
      4.37   323.09    .269E+06     195.6         1.45       22.90
      5.00   323.72    .387E+06     287.8         1.48       22.44
      5.63   324.35    .545E+06     428.4         1.56       21.22
      6.25   324.97    .735E+06     630.5         1.71       19.42
      6.88   325.60    .952E+06     876.1         1.83       18.12
      7.51   326.23    .120E+07    1177.0         1.95       17.03
      8.14   326.86    .149E+07    1554.4         2.08       15.93
      8.77   327.49    .179E+07    2009.7         2.23       14.88
      9.40   328.12    .213E+07    2533.9         2.37       13.99
     10.02   328.74    .249E+07    3112.6         2.49       13.31
     10.65   329.37    .288E+07    3760.9         2.60       12.75
     11.28   330.00    .330E+07    4494.8         2.71       12.23

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84     7.00    6.25   8.63      1.32      0.79
     OUTFLOW: ID= 1 (6104) 1159.84     5.33    7.00   8.63      1.25      0.77

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-------------------
| CALIB             |
| STANDHYD  (1041) |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      66.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         4.86
               over (min)        15.00        45.00
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     Storage Coeff.  (min)=       2.82 (ii)   38.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.00          0.094 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         6.03          38.46
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.11           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450      0.0213
                         0.0020     0.0120   |   0.0560      0.0231
                         0.0130     0.0144   |   0.0660      0.0248
                         0.0240     0.0165   |   0.4660      0.0348
                         0.0340     0.0189   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)    0.670     0.094      6.00      38.46
     OUTFLOW: ID= 1 (5104)    0.670     0.021      6.25      36.20

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.31
                    TIME SHIFT OF PEAK FLOW        (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0162

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-------------------
| CALIB            |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   1.188 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.190
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.114

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1042):   527.14   1.188     8.00     6.19
       + ID2= 2 (5104):     0.67   0.021     6.25    36.20
         ================================================
         ID = 3 (9104):   527.81   1.194     8.00     6.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6104):  1159.84   5.330     7.00     8.63
       + ID2= 2 (9104):   527.81   1.194     8.00     6.23
         ================================================
         ID = 3 (8002):  1687.65   6.441     7.25     7.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1061) |   Area    (ha)=  32.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------

                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         19.25
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.01 (ii)   29.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.85          0.39          3.089 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         14.21          33.69
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.26           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580      0.9744
                         0.1090     0.5252   |   2.7090      1.0694
                         0.6250     0.6260   |   3.1540      1.1625
                         1.1640     0.7386   |   3.5540      1.1725
                         1.6140     0.8505   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)   32.260     3.089      6.00      33.69
     OUTFLOW: ID= 1 (5106)   32.260     0.644      6.75      33.65

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.84
                    TIME SHIFT OF PEAK FLOW        (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6366

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   0.988 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  10.199
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.187

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1062):   227.27   0.988     7.75    10.20
       + ID2= 2 (5106):    32.26   0.644     6.75    33.65
         ================================================
         ID = 3 (9106):   259.53   1.551     6.75    13.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65   6.441     7.25     7.88
       + ID2= 2 (9106):   259.53   1.551     6.75    13.11
         ================================================
         ID = 3 (8004):  1947.18   7.938     7.00     8.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1081.0) ------>
               Distance      Elevation       Manning
                   0.00         326.06        0.0400
                  12.06         325.74        0.0400
                  30.15         324.28        0.0400
                  59.27         320.35        0.0400
                  72.37         317.60        0.0400
                  87.45         314.52        0.0400
                  93.48         313.91        0.0400
                 105.54         313.55        0.0400
                 106.17         313.40    0.0400 /0.0300  Main Channel
                 110.62         313.04        0.0300      Main Channel
                 110.82         312.97        0.0300      Main Channel
                 111.57         313.08        0.0300      Main Channel
                 111.67         313.48    0.0300 /0.0400  Main Channel
                 129.66         316.62        0.0400
                 150.77         318.95        0.0400
                 180.92         319.61        0.0400
                 205.04         321.23        0.0400
                 232.18         322.09        0.0400
                 268.37         322.31        0.0400
                 298.52         326.00        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.43  313.40    .244E+04        0.7        0.59      58.83
        1.09  314.06    .214E+05       10.4        1.01      34.24
        1.76  314.73    .600E+05       40.2        1.39      24.89
        2.42  315.39    .109E+06       92.1        1.75      19.80
        3.08  316.05    .169E+06      166.5        2.05      16.88
        3.75  316.72    .237E+06      264.4        2.31      14.97
        4.41  317.38    .318E+06      386.3        2.52      13.72
        5.07  318.04    .411E+06      539.3        2.72      12.71
        5.74  318.71    .517E+06      725.5        2.91      11.88
        6.40  319.37    .642E+06      909.2        2.94      11.77
        7.06  320.03    .806E+06     1179.3        3.04      11.38
        7.72  320.69    .989E+06     1515.9        3.18      10.87
        8.39  321.36    .119E+07     1895.5        3.30      10.49
        9.05  322.02    .143E+07     2310.2        3.36      10.30
        9.71  322.68    .172E+07     2763.2        3.33      10.39
       10.38  323.35    .205E+07     3477.6        3.53       9.81
       11.04  324.01    .238E+07     4284.3        3.73       9.27
       11.70  324.67    .274E+07     5154.0        3.91       8.85
       12.37  325.34    .311E+07     6104.0        4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8004) 1947.18     7.94    7.00   8.58      0.92      0.85
     OUTFLOW: ID= 1 (6108) 1947.18     6.93    7.75   8.58      0.85      0.80


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--------------------
| CALIB            |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.61        10.20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     521.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         3.76
               over (min)        15.00        60.00

     Storage Coeff.  (min)=       9.67 (ii)   49.42 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.86         0.06          4.877 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=      52.40         4.68          38.08
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.09           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  30.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7300      1.2970
                          0.1380     0.7271   |   3.4270      1.4050
                          0.7910     0.8733   |   3.9900      1.5110
                          1.4720     1.0061   |   4.3900      1.5210
                          2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1081)     40.810     4.877      6.00      38.08
     OUTFLOW: ID= 1 (5108)     40.810     1.092      6.50      38.05

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.40
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.9358

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.334 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   4.127
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.076

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.334     7.25     4.13
       + ID2= 2 (5108):    40.81   1.092     6.50    38.05
         ================================================
         ID = 3 (9108):   207.05   1.392     6.50    10.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18   6.928     7.75     8.58
       + ID2= 2 (9108):   207.05   1.392     6.50    10.81
         ================================================
         ID = 3 (8006):  2154.23   7.715     7.75     8.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1101) |   Area    (ha)=  60.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07        18.90
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     637.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        16.38
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.91 (ii)   32.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.49         0.51         5.702 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        12.48         34.44
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.23          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0780      1.8615
                         0.2060     1.0120   |   5.1210      2.0372
                         1.1810     1.2083   |   5.9610      2.2096
                         2.2000     1.4181   |   6.3610      2.2196
                         3.0510     1.6293   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970      5.702      6.00      34.44
     OUTFLOW: ID= 1 (5110)     60.970      1.235      6.75      34.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.65
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2293

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-------------------
| CALIB             |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   0.947 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   9.545
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.175

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1102):   262.95   0.947     8.00      9.54
       + ID2= 2 (5110):    60.97   1.235     6.75     34.42
         ================================================
         ID = 3 (9110):   323.92   2.049     6.75     14.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8006):  2154.23   7.715     7.75      8.79
       + ID2= 2 (9110):   323.92   2.049     6.75     14.23
         ================================================
         ID = 3 (8008):  2478.15   9.354     7.50      9.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                   0.00         320.59        0.0400
                  13.48         317.93        0.0400
                  40.45         311.52        0.0400
                  64.04         307.68        0.0400
                  74.15         307.01        0.0400
                  91.00         307.22        0.0400
                 107.86         305.21        0.0400
                 111.23         304.86        0.0400
                 113.32         304.60    0.0400 /0.0300  Main Channel
                 117.77         304.24        0.0300      Main Channel
                 117.97         304.17        0.0300      Main Channel
                 118.72         304.28        0.0300      Main Channel
                 118.82         304.68    0.0300 /0.0400  Main Channel
                 124.71         304.76        0.0400
                 171.90         306.30        0.0400
                 205.60         307.24        0.0400
                 239.31         308.24        0.0400
                 262.90         310.64        0.0400
                 289.86         314.34        0.0400
                 333.68         317.66        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43    304.60    .372E+04       0.6         0.54      97.65
      1.12    305.29    .463E+05      12.5         0.85      61.89
      1.80    305.97    .149E+06      53.0         1.13      46.85
      2.49    306.66    .311E+06     134.2         1.37      38.62
      3.18    307.35    .554E+06     261.6         1.50      35.27
      3.87    308.04    .894E+06     490.7         1.74      30.37
      4.55    308.72    .129E+07     833.0         2.05      25.75
      5.24    309.41    .171E+07    1269.8         2.36      22.39
      5.93    310.10    .215E+07    1789.0         2.64      20.01
      6.62    310.79    .261E+07    2392.7         2.90      18.21
      7.30    311.47    .310E+07    3087.8         3.16      16.74
      7.99    312.16    .361E+07    3873.6         3.40      15.52
      8.68    312.85    .413E+07    4741.0         3.64      14.52
      9.37    313.54    .467E+07    5689.3         3.86      13.69
     10.05    314.22    .523E+07    6718.4         4.07      12.97
     10.74    314.91    .581E+07    7770.7         4.24      12.46
     11.43    315.60    .641E+07    8897.5         4.40      12.01
     12.12    316.29    .704E+07   10113.2         4.55      11.61
     12.80    316.97    .770E+07   11420.1         4.70      11.24

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15     9.35    7.50   9.50      0.94      0.74
     OUTFLOW: ID= 1 (6112) 2478.15     7.56    8.75   9.50      0.83      0.69

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-------------------
| CALIB             |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48         4.48
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     257.68        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         8.21
               over (min)        15.00        45.00
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     Storage Coeff.  (min)=       6.34 (ii)   35.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.47         0.06          0.489 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         5.65          17.33
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.10           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660     0.2787
                         0.0340     0.1406   |   0.8360     0.3122
                         0.1930     0.1653   |   0.9740     0.3450
                         0.3590     0.2034   |   1.3740     0.3550
                         0.4980     0.2383   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)    9.960     0.489      6.00      17.33
     OUTFLOW: ID= 1 (5112)    9.960     0.029      8.25      17.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.93
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1200

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1122)  |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   0.445 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   3.971
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.073

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9112) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1122):   404.93   0.445     9.25     3.97
        + ID2= 2 (5112):     9.96   0.029     8.25    17.23
          ================================================
          ID = 3 (9112):   414.89   0.474     9.25     4.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8010) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6112):  2478.15   7.562     8.75     9.50
        + ID2= 2 (9112):   414.89   0.474     9.25     4.29
          ================================================
          ID = 3 (8010):  2893.04   8.034     8.75     8.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1141.0) ------>
                Distance      Elevation       Manning
                    0.00         312.27        0.0500
                   14.07         309.70        0.0500
                   28.14         306.51        0.0500
                   35.17         305.81        0.0500
                   42.20         304.95        0.0500
                   52.75         304.24        0.0500
                   77.37         303.61        0.0500
                   98.47         301.33        0.0500
                  131.76         300.40    0.0500 /0.0300  Main Channel
                  136.21         300.04        0.0300      Main Channel
                  136.41         299.97        0.0300      Main Channel
                  137.16         300.08        0.0300      Main Channel
                  137.26         300.48    0.0300 /0.0500  Main Channel
                  140.68         300.53        0.0500
                  179.36         302.20        0.0500
                  214.53         303.82        0.0500
                  242.66         305.27        0.0500
                  288.38         307.66        0.0500
                  316.52         311.76        0.0500
                  348.17         313.48        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43    300.40   .366E+04       0.7          0.59       88.31
      1.05    301.02   .505E+05      12.1          0.75       69.49
      1.68    301.65   .165E+06      52.7          0.99       52.28
      2.30    302.27   .324E+06     130.3          1.26       41.40
      2.93    302.90   .520E+06     247.1          1.48       35.08
      3.55    303.52   .754E+06     406.8          1.68       30.91
      4.18    304.15   .104E+07     586.1          1.76       29.55
      4.80    304.77   .138E+07     856.0          1.93       26.96
      5.43    305.40   .177E+07    1201.1          2.12       24.56
      6.05    306.02   .219E+07    1612.2          2.30       22.63
      6.68    306.65   .264E+07    2090.6          2.47       21.07
      7.30    307.27   .313E+07    2653.0          2.64       19.65
      7.93    307.90   .364E+07    3303.9          2.83       18.36
      8.55    308.52   .417E+07    4053.9          3.03       17.14
      9.18    309.15   .471E+07    4871.9          3.22       16.12
      9.80    309.77   .527E+07    5756.2          3.41       15.25
     10.43    310.40   .584E+07    6699.8          3.58       14.52
     11.05    311.02   .642E+07    7710.5          3.74       13.89
     11.68    311.65   .702E+07    8788.5          3.90       13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04     8.03    8.75   8.76      0.83      0.68
     OUTFLOW: ID= 1 (6114) 2893.04     7.07   10.50   8.76      0.78      0.67

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-------------------
| CALIB             |
| STANDHYD  (1141)  |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.75         10.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     360.09         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         13.58
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       7.75 (ii)   31.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.53          0.25          0.625 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40          9.86          16.24
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.18           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  43.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5114) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.3010      0.5065
                         0.0660     0.2376   |   1.6340      0.5791
                         0.3770     0.2749   |   1.9020      0.6501
                         0.7020     0.3549   |   2.3020      0.6601
                         0.9730     0.4237   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1141)     19.450      0.625      6.00      16.24
     OUTFLOW: ID= 1 (5114)     19.450      0.058      8.75      16.19

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.33
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2099

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (1142) |   Area    (ha)= 268.19   Curve Number   (CN)= 51.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.197

     PEAK FLOW       (cms)=   0.947 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.324
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1142):   268.19   0.947     7.75     8.32
       + ID2= 2 (5114):    19.45   0.058     8.75    16.19
         ================================================
         ID = 3 (9114):   287.64   1.004     7.75     8.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6114):  2893.04   7.067    10.50     8.76
       + ID2= 2 (9114):   287.64   1.004     7.75     8.86
         ================================================
         ID = 3 (8012):  3180.68   7.817    10.25     8.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   1.414 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.512
     TOTAL RAINFALL   (mm)=  54.400

     RUNOFF COEFFICIENT   =   0.230

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0116):   206.43   1.414     7.00    12.51
       + ID2= 2 (8012):  3180.68   7.817    10.25     8.76
         ================================================
         ID = 3 (8014):  3387.11   8.601    10.00     8.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1181.0) ------>
              Distance      Elevation       Manning
                 0.00         307.18        0.0450
                24.89         299.75        0.0450
                37.34         296.39        0.0450
                71.57         292.75        0.0450
                96.46         291.12        0.0450
               108.90         289.43        0.0450
               112.02         288.86        0.0450
               115.13         288.46        0.0450
               117.24         288.32    0.0450 /0.0350  Main Channel
               117.49         288.15        0.0350      Main Channel
               118.24         288.00        0.0350      Main Channel
               118.99         288.20        0.0350      Main Channel
               119.24         288.36    0.0350 /0.0450  Main Channel
               121.35         288.40        0.0450
               149.35         289.36        0.0450
               171.14         290.47        0.0450
               208.47         293.14        0.0450
               236.48         295.17        0.0450
               280.04         299.48        0.0450
               308.04         307.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.32   288.32    .116E+04        0.2        0.62      81.92
        1.30   289.30    .631E+05       22.2        1.07      47.43
        2.29   290.29    .218E+06      117.5        1.64      30.95
        3.27   291.27    .448E+06      314.6        2.15      23.72
        4.25   292.25    .756E+06      625.6        2.53      20.13
        5.24   293.24    .115E+07     1093.2        2.91      17.50
        6.22   294.22    .161E+07     1731.6        3.28      15.50
        7.20   295.20    .214E+07     2547.4        3.63      14.01
        8.19   296.19    .274E+07     3584.9        4.00      12.72
        9.17   297.17    .338E+07     4859.1        4.39      11.60
       10.15   298.15    .407E+07     6341.5        4.76      10.70
       11.13   299.13    .480E+07     8024.6        5.11       9.97
       12.12   300.12    .556E+07    10006.6        5.49       9.27
       13.10   301.10    .635E+07    12244.6        5.89       8.64
       14.08   302.08    .716E+07    14681.7        6.26       8.13
       15.07   303.07    .799E+07    17316.5        6.62       7.69
       16.05   304.05    .884E+07    20148.1        6.96       7.31
       17.03   305.03    .971E+07    23176.2        7.29       6.98
       18.02   306.02    .106E+08    26400.8        7.61       6.69

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11     8.60   10.00   8.99      0.70      0.74
     OUTFLOW: ID= 1 (6118) 3387.11     8.04   11.25   8.99      0.67      0.73


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-------------------
| CALIB           |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200
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```
     PEAK FLOW       (cms)=   0.950 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.723
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   0.950     7.75     6.72
       + ID2= 2 (6118):  3387.11   8.042    11.25     8.99
         ================================================
         ID = 3 (8016):  3727.64   8.654    11.00     8.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    259.80    .626E+04        2.5         1.23      41.35
       1.41    260.71    .462E+05       21.8         1.44      35.27
       2.31    261.61    .149E+06       79.6         1.63      31.19
       3.22    262.52    .340E+06      200.1         1.80      28.34
       4.12    263.42    .636E+06      446.8         2.15      23.71
       5.03    264.33    .995E+06      819.9         2.52      20.23
       5.93    265.23    .141E+07     1337.0         2.90      17.56
       6.84    266.14    .187E+07     1984.8         3.25      15.67
       7.74    267.04    .237E+07     2766.0         3.57      14.26
       8.65    267.95    .292E+07     3596.9         3.76      13.53
       9.55    268.85    .355E+07     4575.4         3.93      12.95
      10.46    269.76    .427E+07     5814.9         4.16      12.23
      11.36    270.66    .503E+07     7319.0         4.44      11.46
      12.27    271.57    .584E+07     9009.7         4.71      10.81
      13.17    272.47    .670E+07    10886.3         4.96      10.26
      14.08    273.38    .761E+07    12893.2         5.17       9.84
      14.98    274.28    .858E+07    15098.1         5.37       9.48
      15.89    275.19    .961E+07    17527.6         5.57       9.14
      16.79    276.09    .107E+08    20190.3         5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64     8.65   11.00   8.79      0.79      1.29
     OUTFLOW: ID= 1 (6122) 3727.64     8.49   11.75   8.79      0.78      1.29


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-------------------
| CALIB             |
| STANDHYD  (1221) |   Area    (ha)= 117.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00

-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88         66.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     886.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81          9.92
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.30 (ii)    40.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.88          0.98          3.268 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40          7.52          14.70
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.14           0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8880      3.0390
                          0.3990     1.4100   |   9.9040      3.4850
                          2.2850     1.6269   |  11.5290      3.9214
                          4.2550     2.1164   |  11.9290      3.9314
                          5.9010     2.5338   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      3.268      6.00      14.70
     OUTFLOW: ID= 1 (5122)    117.910      0.323      8.75      14.69

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.88
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1414

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-------------------
| CALIB             |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   0.655 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.447
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.119

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   246.95   0.655     7.75     6.45
       + ID2= 2 (5122):   117.91   0.323     8.75    14.69
         ================================================
         ID = 3 (8018):   364.86   0.972     8.00     9.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64   8.492   11.75     8.79
       + ID2= 2 (8018):   364.86   0.972    8.00     9.11
         ================================================
         ID = 3 (8020):  4092.50   9.171   11.75     8.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.07        32.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     578.45        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         8.92
           over (min)      =      15.00        45.00
     Storage Coeff.  (min)=      10.29 (ii)   38.42 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.18         0.44          2.351 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40         8.73         20.09
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.16          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   3.3570     1.2179
                         0.1700     0.5264   |   4.2160     1.4221
                         0.9720     0.5968   |   4.9080     1.6217
                         1.8110     0.8165   |   5.3080     1.6317
                         2.5120     0.9954   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.190      2.351      6.00      20.09
     OUTFLOW: ID= 1 (5126)     50.190      0.526      7.00      20.07

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.39
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5598

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.509

     PEAK FLOW       (cms)=   0.599 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.113
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   0.599     6.50    10.11
       + ID2= 2 (5126):    50.19   0.526     7.00    20.07
         ================================================
         ID = 3 (8024):   133.52   1.106     7.00    13.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   0.569 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   6.147
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.113

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   0.569     6.50     6.15
       + ID2= 2 (8024):   133.52   1.106     7.00    13.86
         ================================================
         ID = 3 (8026):   254.95   1.663     6.75    10.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                  0.00         270.58        0.0400
                  7.71         270.36        0.0400
                 15.43         269.48        0.0400
                 23.14         265.88        0.0400
                 42.43         261.83        0.0400
                 61.71         258.31        0.0400
                 75.21         256.62        0.0400
                 90.64         255.35        0.0400
                 92.49         255.00    0.0400 /0.0300  Main Channel
                 93.49         254.00        0.0300      Main Channel
                 94.49         253.90        0.0300      Main Channel
                 94.99         253.80        0.0300      Main Channel
                 95.49         253.70        0.0300      Main Channel
                 95.99         253.80        0.0300      Main Channel
                 98.49         255.00    0.0300 /0.0400  Main Channel
                100.28         255.44        0.0400
                134.99         257.45        0.0400
                148.49         259.67        0.0400
                167.77         263.42        0.0400
                190.92         270.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.65    254.35    .439E+04       2.0         1.24       36.10
      1.30    255.00    .131E+05       9.4         1.92       23.39
      2.18    255.88    .433E+05      37.0         2.30       19.54
      3.06    256.76    .131E+06     113.3         2.34       19.20
      3.95    257.65    .273E+06     273.8         2.70       16.64
      4.83    258.53    .453E+06     538.5         3.21       14.01
      5.71    259.41    .658E+06     902.9         3.70       12.14
      6.59    260.29    .886E+06    1368.4         4.16       10.79
      7.48    261.18    .114E+07    1936.3         4.59        9.79
      8.36    262.06    .141E+07    2610.9         4.99        9.01
      9.24    262.94    .171E+07    3398.7         5.37        8.36
     10.12    263.82    .202E+07    4309.6         5.75        7.81
     11.01    264.71    .235E+07    5347.5         6.13        7.33
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      11.89   265.59    .270E+07    6501.0          6.48       6.93
      12.77   266.47    .307E+07    7808.6          6.86       6.55
      13.65   267.35    .345E+07    9250.5          7.23       6.21
      14.54   268.24    .384E+07   10808.3          7.59       5.92
      15.42   269.12    .424E+07   12482.5          7.94       5.66
      16.30   270.00    .466E+07   14127.4          8.18       5.49

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8026)  254.95    1.66    6.75  10.18      0.53      1.24
    OUTFLOW: ID= 1 (6128)  254.95    1.38    7.50  10.18      0.44      1.24


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-------------------
| CALIB             |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      27.93        27.93
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     610.30        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      71.81        16.37
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      10.63 (ii)   32.69 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.09         0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=       2.68         0.76         2.986 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      52.40        12.74        24.24
    TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
    RUNOFF COEFFICIENT   =       0.96         0.23         0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7380      1.5139
                         0.1890     0.7401   |   4.6930      1.7113
                         1.0830     0.8643   |   5.4630      1.9045
                         2.0160     1.0853   |   5.8630      1.9045
                         2.7960     1.2819   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1281)     55.870      2.986      6.00      24.24
    OUTFLOW: ID= 1 (5128)     55.870      0.601      7.25      24.22

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.14
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8006

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

    Unit Hyd Qpeak  (cms)=   5.093

    PEAK FLOW       (cms)=   1.438 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  11.652
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.214

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.


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-------------------
| ADD HYD   (9128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1282):   184.36   1.438     6.75    11.65
      + ID2= 2 (5128):    55.87   0.601     7.25    24.22
        ================================================
        ID = 3 (9128):   240.23   2.002     7.00    14.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6128):   254.95   1.381     7.50    10.18
      + ID2= 2 (9128):   240.23   2.002     7.00    14.58
        ================================================
        ID = 3 (8028):   495.18   3.311     7.25    12.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8020):  4092.50   9.171    11.75     8.81
      + ID2= 2 (8028):   495.18   3.311     7.25    12.31
        ================================================
        ID = 3 (8022):  4587.68  10.204    11.25     9.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      79.36        96.99
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=    1084.28        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      71.81        13.09
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      15.01 (ii)   39.13 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=       5.64         1.92         6.406 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      52.40        10.34        19.59
    TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
    RUNOFF COEFFICIENT   =       0.96         0.19         0.36


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.7960      4.5929
                         0.5970     2.1554   |  14.8120      5.2509
                         3.4170     2.4937   |  17.2430      5.8948
                         6.3630     3.2187   |  17.6430      5.9048
                         8.8260     3.8422   |   0.0000      0.0000
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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)    176.350     6.406      6.00      19.59
     OUTFLOW: ID= 1 (5120)    176.350     1.003      8.00      19.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.66
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2053

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-------------------
| CALIB           |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39         40.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     686.39         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         12.83
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.41 (ii)    35.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.28          0.82      2.611 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      52.40         10.24      18.67
     TOTAL RAINFALL   (mm)=      54.40         54.40      54.40
     RUNOFF COEFFICIENT   =       0.96          0.19       0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1202):    70.67   2.611     6.00    18.67
        + ID2= 2 (5120):   176.35   1.003     8.00    19.58
          ================================================
          ID = 3 (8030):   247.02   2.848     6.00    19.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8022):  4587.68  10.204    11.25     9.19
        + ID2= 2 (8030):   247.02   2.848     6.00    19.32
          ================================================
          ID = 3 (8032):  4834.70  10.880    11.25     9.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                   0.00         257.18        0.0350
                  62.45         254.70        0.0350
                 109.29         252.74        0.0350
                 150.92         251.55        0.0350
                 192.56         248.96        0.0350
                 239.39         247.16        0.0350
                 291.84         246.00        0.0350
                 296.84         245.00        0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60        0.0300      Main Channel
                 301.84         244.60        0.0300      Main Channel
                 303.44         244.60        0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00        0.0350
                 309.84         246.00        0.0350
                 317.46         247.22        0.0350
                 348.68         254.83        0.0350
                 359.09         256.70        0.0350
                 452.76         258.23        0.0350
                 515.22         258.33        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40    245.00    .870E+04       1.2          0.64      124.12
       1.04    245.64    .468E+05       9.5          0.96       81.81
       1.68    246.28    .109E+06      25.6          1.11       70.86
       2.32    246.92    .257E+06      63.5          1.17       67.51
       2.96    247.56    .498E+06     142.7          1.36       58.18
       3.61    248.21    .800E+06     266.7          1.58       50.01
       4.25    248.85    .116E+07     437.4          1.78       44.24
       4.89    249.49    .157E+07     669.1          2.01       39.20
       5.53    250.13    .203E+07     954.9          2.23       35.36
       6.17    250.77    .252E+07    1294.4          2.43       32.42
       6.81    251.41    .305E+07    1689.6          2.62       30.07
       7.45    252.05    .363E+07    2090.7          2.73       28.93
       8.09    252.69    .429E+07    2553.1          2.82       27.98
       8.73    253.33    .501E+07    3138.4          2.96       26.60
       9.37    253.97    .579E+07    3803.8          3.11       25.36
      10.02    254.62    .662E+07    4549.3          3.25       24.25
      10.66    255.26    .751E+07    5364.9          3.38       23.32
      11.30    255.90    .845E+07    6265.7          3.51       22.49
      11.94    256.54    .946E+07    7260.1          3.63       21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.    MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70    10.88   11.25   9.71      1.09      0.97
     OUTFLOW: ID= 1 (6130) 4834.70    10.45   12.25   9.71      1.08      0.97

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-------------------
| CALIB           |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93        115.27
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1461.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         55.13
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.95 (ii)    31.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      20.16          6.54     22.982 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      52.40         24.18      37.44
     TOTAL RAINFALL   (mm)=      54.40         54.40      54.40
     RUNOFF COEFFICIENT   =       0.96          0.44       0.69

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  18.6040     9.7083
                         1.1320     5.3237   |  22.6740    10.8355
```

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                      6.6360     6.1006   |  30.4650     12.2155
                     10.3780     7.2341   |  31.8650     12.2255
                     14.1960     8.4233   |   0.0000      0.0000

                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    320.200     22.982      6.00      37.44
     OUTFLOW: ID= 1 (5130)    320.200      7.659      7.00      37.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.33
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.4530

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| CALIB           |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   0.887 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  21.236
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.390

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (1302):    65.86   0.887    6.75     21.24
       + ID2= 2 (5130):   320.20   7.659     7.00     37.44
         ================================================
         ID = 3 (8036):   386.06   8.539     7.00     34.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8034) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.70  10.448    12.25      9.71
       + ID2= 2 (8036):   386.06   8.539     7.00     34.67
         ================================================
         ID = 3 (8034):  5220.76  11.749    12.25     11.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        17.11
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.66 (ii)   27.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.35         0.11          0.421 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40        12.69          23.41
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.23           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4580      0.1865
                         0.0230     0.0917   |   0.5750      0.2106
                         0.1330     0.1071   |   0.6700      0.2341
                         0.2470     0.1341   |   1.0700      0.2441
                         0.3430     0.1582   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)     6.850     0.421      6.00      23.41
     OUTFLOW: ID= 1 (5186)     6.850     0.067      7.00      23.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.03
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0980

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-------------------
| CALIB           |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32       196.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1516.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        14.14
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      18.35 (ii)   41.74 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.52         4.04         12.141 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        11.64         21.01
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.21          0.39

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (1862):   344.94  12.141     6.00     21.01
       + ID2= 2 (5186):     6.85   0.067     7.00     23.27
         ================================================
         ID = 3 (9186):   351.79  12.154     6.00     21.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      86.41        40.00
     Mannings n           =      0.013        0.250
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     Max.Eff.Inten.(mm/hr)=      71.81        67.24
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      3.29 (ii)   15.83 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.03        0.121 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=     52.40        20.48       35.16
     TOTAL RAINFALL   (mm)=     54.40        54.40       54.40
     RUNOFF COEFFICIENT   =      0.96         0.38        0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750      0.0357
                         0.0040     0.0200   |   0.0940      0.0386
                         0.0220     0.0240   |   0.1100      0.0416
                         0.0410     0.0277   |   0.5100      0.0516
                         0.0560     0.0315   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)    1.120     0.121      6.00      35.16
     OUTFLOW: ID= 1 (5188)    1.120     0.021      6.75      34.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.74
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0241

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-------------------
| CALIB           |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    126.04       181.37
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1431.57        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        15.74
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     17.73 (ii)   40.14 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     10.36         4.24       12.067 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     52.40        13.62       23.31
     TOTAL RAINFALL   (mm)=     54.40        54.40       54.40
     RUNOFF COEFFICIENT   =      0.96         0.25        0.43


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1882):   307.41  12.067     6.00    23.31
       + ID2= 2 (5188):     1.12   0.021     6.75    34.03
         ================================================
         ID = 3 (9188):   308.53  12.070     6.00    23.35
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9186):   351.79  12.154     6.00    21.06
       + ID2= 2 (9188):   308.53  12.070     6.00    23.35
         ================================================
         ID = 3 (8068):   660.32  24.224     6.00    22.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     44.72        67.08
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    863.33        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        14.58
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     13.09 (ii)   36.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.92         1.54        3.539 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     52.40        11.71       18.63
     TOTAL RAINFALL   (mm)=     54.40        54.40       54.40
     RUNOFF COEFFICIENT   =      0.96         0.22        0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7800      2.5656
                         0.3790     1.0207   |   7.3720      3.0829
                         1.6240     1.1939   |   8.7710      3.5956
                         3.0930     1.6631   |   9.1710      3.6056
                         4.3530     2.1032   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)   111.800     3.539      6.00      18.63
     OUTFLOW: ID= 1 (5182)   111.800     1.044      7.25      18.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.49
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.1147

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| CALIB           |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.244 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.977
     TOTAL RAINFALL   (mm)=  54.400
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     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.244     7.00     9.98
       + ID2= 2 (5182):   111.80   1.044     7.25    18.62
         ================================================
         ID = 3 (8062):   156.20   1.285     7.25    16.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 145.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.63        75.44
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        20.75
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.15 (ii)   34.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.10         2.52          5.142 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        14.57         21.76
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.27          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.9270      2.3472
                         0.2980     1.0088   |   7.4630      2.7585
                         1.6660     1.1775   |   8.7490      3.1642
                         3.1100     1.4809   |   9.1490      3.1742
                         4.4100     1.8897   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    145.070      5.142      6.00      21.76
     OUTFLOW: ID= 1 (5184)    145.070      2.433      6.75      21.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.32
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3480

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| CALIB             |
| STANDHYD  (1842) |   Area    (ha)= 117.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.33        68.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     884.87        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        17.66
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.28 (ii)   34.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.05         1.93          3.836 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        13.57         20.17
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.25          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   117.45   3.836     6.00    20.17
       + ID2= 2 (5184):   145.07   2.433     6.75    21.75
         ================================================
         ID = 3 (8060):   262.52   4.774     6.50    21.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.52   4.774     6.50    21.05
       + ID2= 2 (8062):   156.20   1.285     7.25    16.16
         ================================================
         ID = 3 (8064):   418.72   5.329     6.50    19.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1781) |   Area    (ha)=  55.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  13.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.65        33.86
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     608.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        50.91
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.61 (ii)   24.62 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.19         2.20          2.634 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      52.40        23.09         26.90
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.42          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.1870      0.7248
                          0.1880     0.3394   |   9.3670      0.8313
                          1.7260     0.4003   |  10.7440      0.9285
                          3.2000     0.4933   |  11.1440      0.9385
                          4.6710     0.6039   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     55.500     2.634      6.25      26.90
     OUTFLOW: ID= 1 (5178)     55.500     2.174      6.50      26.89

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.53
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4447

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--------------------
| CALIB            |
| NASHYD    (1782) |   Area    (ha)= 219.91   Curve Number   (CN)= 77.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   4.921

     PEAK FLOW       (cms)=   2.515 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.583
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.360

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1782):   219.91   2.515     7.00    19.58
       + ID2= 2 (5178):    55.50   2.174     6.50    26.89
         ================================================
         ID = 3 (8046):   275.41   4.584     6.50    21.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   1.200 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  13.003
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   226.65   1.200     7.75    13.00
       + ID2= 2 (8046):   275.41   4.584     6.50    21.06
         ================================================
         ID = 3 (8050):   502.06   5.572     6.50    17.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         18.02
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.65 (ii)    31.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.67          1.10        2.125 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=      52.40         15.54        22.17
     TOTAL RAINFALL   (mm)=      54.40         54.40        54.40
     RUNOFF COEFFICIENT   =       0.96          0.29         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1370      1.3070
                          0.0580     0.5427   |   1.4280      1.5354
                          0.3290     0.6196   |   1.6620      1.7593
                          0.6130     0.8627   |   2.0620      1.7693
                          0.8510     1.0621   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300     2.125      6.00      22.17
     OUTFLOW: ID= 1 (5174)     56.300     0.461      7.50      22.13

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.71
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7346

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--------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   0.809 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.652
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   0.809     6.75    15.65
       + ID2= 2 (5174):    56.30   0.461     7.50    22.13
         ================================================
         ID = 3 (8044):   139.10   1.229     7.25    18.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB           |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   2.077 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.917
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.366

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   1.186 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.463
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.156

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   1.182 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.923
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.238

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   1.186     7.00     8.46
       + ID2= 2 (0170):   166.91   1.182     7.00    12.92
         ================================================
         ID = 3 (8040):   414.04   2.368     7.00    10.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   2.077     7.00    19.92
       + ID2= 2 (8040):   414.04   2.368     7.00    10.26
         ================================================
         ID = 3 (8042):   616.27   4.446     7.00    13.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (1741.0) ------>
               Distance      Elevation       Manning
                 0.00        296.00        0.0450
                13.36        288.94        0.0450
                26.71        288.64        0.0450
                51.19        287.96        0.0450
                73.45        287.32        0.0450
                86.81        286.48        0.0450
               102.39        285.08        0.0450
               110.73        282.76        0.0450
               115.73        281.06    0.0450 /0.0350  Main Channel
               115.74        280.35        0.0350      Main Channel
               120.73        280.35        0.0350      Main Channel
               120.74        281.10    0.0350 /0.0450  Main Channel
               125.74        282.64        0.0450
               135.78        286.87        0.0450
               149.13        289.58        0.0450
               162.49        292.29        0.0450
               175.84        293.95        0.0450
               195.88        295.13        0.0450
               213.68        296.02        0.0450
               220.36        296.09        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.71   281.06    .136E+05       6.0         1.69       37.89
       1.50   281.85    .358E+05      22.5         2.42       26.43
       2.28   282.63    .726E+05      53.8         2.85       22.47
       3.07   283.42    .124E+06     104.1         3.24       19.79
       3.86   284.21    .189E+06     176.7         3.60       17.81
       4.64   284.99    .268E+06     274.9         3.94       16.26
       5.43   285.78    .369E+06     390.8         4.07       15.73
       6.21   286.56    .501E+06     551.6         4.23       15.15
       7.00   287.35    .674E+06     750.5         4.28       14.97
       7.79   288.14    .920E+06     993.3         4.15       15.44
       8.57   288.92    .126E+07    1361.5         4.14       15.47
       9.36   289.71    .167E+07    1986.0         4.56       14.04
      10.15   290.50    .210E+07    2739.7         5.02       12.76
      10.93   291.28    .254E+07    3615.0         5.47       11.70
      11.72   292.07    .300E+07    4608.8         5.91       10.83
      12.50   292.85    .347E+07    5693.3         6.30       10.16
      13.29   293.64    .397E+07    6892.9         6.67        9.60
      14.08   294.43    .450E+07    8150.4         6.97        9.19
      14.86   295.21    .506E+07    9525.0         7.23        8.86

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8042)  616.27     4.45    7.00  13.43      0.53      1.69
    OUTFLOW: ID= 1 (6174)  616.27     4.08    8.00  13.43      0.48      1.69

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-------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   4.080     8.00    13.43
       + ID2= 2 (8044):   139.10   1.229     7.25    18.28
         ================================================
         ID = 3 (8048):   755.37   5.226     7.75    14.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37   5.226     7.75    14.32
       + ID2= 2 (8050):   502.06   5.572     6.50    17.42
         ================================================
         ID = 3 (8052):  1257.43   9.382     7.25    15.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.43   9.382     7.25    15.56
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       + ID2= 2 (8064):   418.72   5.329     6.50    19.22
         ==================================================
         ID = 3 (8058):  1676.15  14.490     7.00    16.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        13.95
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.63 (ii)   38.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.62         2.55         3.642 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        12.81         17.17
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.24          0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        23.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.21 (ii)   29.31 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.72         1.08         2.381 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        16.11         23.73
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.30          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000    |   3.2640     1.3175
                         0.1650     0.6418    |   4.0090     1.4908
                         0.9450     0.7489    |   4.7720     1.6604
                         1.7610     0.9426    |   5.1720     1.6704
                         2.4420     1.1144    |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      2.381      6.00      23.73
     OUTFLOW: ID= 1 (5176)     48.800      0.508      7.25      23.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.34
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6909

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| ADD HYD   (8056) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00   3.642     6.00    17.17
       + ID2= 2 (5176):    48.80   0.508     7.25    23.71
         ================================================
         ID = 3 (8056):   210.80   3.717     6.00    18.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80   3.717     6.00    18.68
       + ID2= 2 (8058):  1676.15  14.490     7.00    16.47
         ================================================
         ID = 3 (8066):  1886.95  17.581     6.50    16.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.95  17.581     6.50    16.72
       + ID2= 2 (8068):   660.32  24.224     6.00    22.13
         ================================================
         ID = 3 (8070):  2547.27  36.045     6.00    18.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1901.0) ------>
               Distance      Elevation       Manning
                   0.00         261.34        0.0600
                  19.76         261.64        0.0600
                  59.28         261.29        0.0600
                  79.04         261.09        0.0600
                 103.74         255.99        0.0600
                 153.13         253.42        0.0600
                 192.65         252.78        0.0600
                 212.29         249.80        0.0600
                 217.29         249.50    0.0600 /0.0350  Main Channel
                 217.30         249.05        0.0350      Main Channel
                 222.29         249.05        0.0350      Main Channel
                 222.30         249.50    0.0350 /0.0600  Main Channel
                 227.30         249.80        0.0600
                 232.17         252.31        0.0600
                 276.63         253.53        0.0600
                 326.03         256.97        0.0600
                 355.67         257.30        0.0600
                 400.12         260.08        0.0600
                 469.28         261.25        0.0600
                 489.04         262.53        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.45   249.50    .436E+04       1.0          0.43      75.97
       1.07   250.12    .205E+05       5.4          0.51      62.96
       1.70   250.75    .451E+05      14.8          0.64      50.78
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       2.32   251.37    .762E+05      29.2          0.74      43.46
       2.94   251.99    .114E+06      49.1          0.84      38.61
       3.57   252.62    .161E+06      70.2          0.85      38.18
       4.19   253.24    .248E+06      93.4          0.73      44.29
       4.81   253.86    .398E+06     154.9          0.76      42.79
       5.44   254.49    .576E+06     246.1          0.83      38.99
       6.06   255.11    .779E+06     362.7          0.90      35.79
       6.68   255.73    .101E+07     506.5          0.98      33.15
       7.30   256.35    .126E+07     687.6          1.06      30.52
       7.93   256.98    .153E+07     902.8          1.15      28.18
       8.55   257.60    .183E+07    1114.3          1.18      27.39
       9.17   258.22    .216E+07    1407.8          1.26      25.55
       9.80   258.85    .250E+07    1735.4          1.35      24.03
      10.42   259.47    .286E+07    2097.5          1.42      22.73
      11.04   260.09    .324E+07    2492.3          1.49      21.63
      11.67   260.72    .364E+07    2837.8          1.51      21.39

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.27    36.05    6.00  18.12      2.53      0.77
     OUTFLOW: ID= 1 (6190) 2547.27    24.96    6.75  18.12      2.14      0.71


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| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.82          5.67
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     299.89         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         57.43
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.94 (ii)    20.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.77          0.45          1.060 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         22.73          31.92
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.42           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9030     0.3849
                          0.0460     0.1975   |   1.1330     0.4289
                          0.2610     0.2331   |   1.3190     0.4720
                          0.4870     0.2836   |   1.7190     0.4820
                          0.6750     0.3308   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1901)     13.490     1.060      6.00      31.92
     OUTFLOW: ID= 1 (5190)     13.490     0.288      6.75      31.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.20
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2403

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
--------------------
```

```
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     142.74        131.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1352.77         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         49.29
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.14 (ii)    31.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      10.52          6.69         13.367 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         21.39          30.07
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.39           0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9190) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1902):   274.50  13.367     6.00    30.07
       + ID2= 2 (5190):    13.49   0.288     6.75    31.85
         ================================================
         ID = 3 (9190):   287.99  13.396     6.00    30.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):  2547.27  24.957     6.75    18.12
       + ID2= 2 (9190):   287.99  13.396     6.00    30.16
         ================================================
         ID = 3 (8072):  2835.26  33.820     6.50    19.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                  0.00         264.40         0.0500
                  3.64         263.94         0.0500
                 14.54         261.05         0.0500
                 29.08         256.78         0.0500
                 36.36         254.96         0.0500
                 50.90         252.20         0.0500
                 65.44         249.78         0.0500
                 76.35         246.86         0.0500
                 77.24         245.90         0.0500
                 82.24         245.45    0.0500 /0.0350  Main Channel
                 82.25         244.90         0.0350      Main Channel
                 87.25         244.90         0.0350      Main Channel
                 87.26         245.45    0.0350 /0.0500  Main Channel
                 94.53         246.89         0.0500
                170.87         247.16         0.0500
                218.13         248.69         0.0500
                265.40         249.22         0.0500
                301.75         250.78         0.0500
                338.11         253.47         0.0500
                359.92         264.00         0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.55   245.45    .345E+04       2.0          0.71      29.20
```

```
       1.53   246.43    .174E+05      14.6          1.05      19.92
       2.50   247.40    .767E+05      52.8          0.86      24.20
       3.48   248.38    .224E+06     199.8          1.11      18.71
       4.46   249.36    .429E+06     441.2          1.29      16.19
       5.43   250.33    .691E+06     874.3          1.58      13.18
       6.41   251.31    .987E+06    1468.3          1.86      11.20
       7.38   252.28    .131E+07    2224.8          2.13       9.79
       8.36   253.26    .165E+07    3132.4          2.37       8.78
       9.34   254.24    .201E+07    4256.4          2.65       7.87
      10.31   255.21    .238E+07    5551.0          2.92       7.15
      11.29   256.19    .276E+07    6996.8          3.17       6.57
      12.27   257.17    .314E+07    8585.9          3.42       6.10
      13.24   258.14    .353E+07   10315.9          3.65       5.71
      14.22   259.12    .393E+07   12180.7          3.87       5.38
      15.19   260.09    .434E+07   14178.2          4.09       5.10
      16.17   261.07    .475E+07   16306.5          4.29       4.85
      17.15   262.05    .517E+07   18558.6          4.49       4.64
      18.12   263.02    .559E+07   20939.7          4.68       4.45

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8072) 2835.26    33.82    6.50  19.35      2.02      0.94
    OUTFLOW: ID= 1 (6192) 2835.26    29.96    7.00  19.35      1.92      0.96


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--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  72.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.35         41.92
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     694.12         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         17.51
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.48 (ii)    32.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.21          1.21      2.705 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      52.40         13.78      21.11
     TOTAL RAINFALL   (mm)=      54.40         54.40      54.40
     RUNOFF COEFFICIENT   =       0.96          0.25       0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1390      1.4346
                          0.2060     0.7072   |   3.8730      1.6637
                          0.9550     0.8170   |   4.8310      1.9184
                          1.7940     1.0081   |   5.2310      1.9284
                          2.4250     1.1871   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     72.270     2.705      6.00      21.11
     OUTFLOW: ID= 1 (5192)     72.270     0.842      7.00      21.10

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.12
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8055

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| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 174.34
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      67.99        106.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1078.08         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         16.27
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.95 (ii)    37.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.57          2.68      5.653 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      52.40         13.33      20.37
     TOTAL RAINFALL   (mm)=      54.40         54.40      54.40
     RUNOFF COEFFICIENT   =       0.96          0.25       0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1922):   174.34   5.653     6.00    20.37
       + ID2= 2 (5192):    72.27   0.842     7.00    21.10
         ================================================
         ID = 3 (8074):   246.61   5.753     6.00    20.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.26  29.957     7.00    19.35
       + ID2= 2 (8074):   246.61   5.753     6.00    20.58
         ================================================
         ID = 3 (8076):  3081.87  33.114     7.00    19.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   0.828 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  14.154
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.260

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1941) |   Area    (ha)=   0.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.34          0.42
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      71.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        47.62
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.93 (ii)   17.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03      0.041 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      52.40        20.15      24.97
     TOTAL RAINFALL   (mm)=      54.40        54.40      54.40
     RUNOFF COEFFICIENT   =       0.96         0.37       0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0510      0.0197
                         0.0030     0.0093   |   0.0640      0.0226
                         0.0150     0.0107   |   0.0740      0.0253
                         0.0270     0.0138   |   0.4740      0.0353
                         0.0380     0.0165   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)     0.760      0.041      6.00      24.97
     OUTFLOW: ID= 1 (5194)     0.760      0.012      6.75      23.96

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.90
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0104

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-------------------
| CALIB             |
| NASHYD    (1942)  |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   2.401 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  14.894
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9194) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1942):   255.33   2.401     6.75    14.89
        + ID2= 2 (5194):     0.76   0.012     6.75    23.96
          ================================================
          ID = 3 (9194):   256.09   2.414     6.75    14.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0196):    41.47   0.828     6.00    14.15
        + ID2= 2 (9194):   256.09   2.414     6.75    14.92
          ================================================
          ID = 3 (8078):   297.56   3.066     6.50    14.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1981.0) ------>
                Distance      Elevation       Manning
                    0.00         267.15        0.0500
                   22.99         265.94        0.0500
                   51.73         261.39        0.0500
                   74.72         258.75        0.0500
                   94.83         257.79        0.0500
                  114.95         254.36        0.0500
                  126.44         254.06        0.0500
                  132.19         253.68        0.0500
                  135.06         253.35        0.0500
                  137.94         252.93    0.0500 /0.0300  Main Channel
                  140.81         252.41        0.0300      Main Channel
                  143.69         251.89        0.0300      Main Channel
                  146.56         252.51        0.0300      Main Channel
                  149.43         253.36    0.0300 /0.0500  Main Channel
                  158.05         255.89        0.0500
                  172.42         256.25        0.0500
                  204.03         259.15        0.0500
                  229.90         260.36        0.0500
                  252.89         260.46        0.0500
                  284.50         260.45        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35    252.24    .111E+04       0.6         0.97       31.07
       0.69    252.58    .442E+04       3.8         1.55       19.42
       1.04    252.93    .974E+04      11.1         2.06       14.65
       1.51    253.40    .203E+05      31.2         2.77       10.87
       1.98    253.87    .357E+05      65.0         3.30        9.14
       2.45    254.34    .596E+05     112.9         3.43        8.80
       2.92    254.81    .935E+05     186.8         3.62        8.34
       3.39    255.28    .131E+06     282.1         3.89        7.75
       3.86    255.75    .172E+06     398.2         4.18        7.22
       4.33    256.22    .221E+06     527.0         4.31        6.99
       4.80    256.69    .282E+06     697.3         4.47        6.75
       5.27    257.16    .350E+06     898.5         4.64        6.50
       5.74    257.63    .425E+06    1131.4         4.82        6.26
       6.21    258.10    .508E+06    1367.4         4.88        6.19
       6.68    258.57    .603E+06    1635.6         4.91        6.14
       7.15    259.04    .709E+06    1977.2         5.04        5.98
       7.62    259.51    .826E+06    2360.5         5.17        5.83
       8.09    259.98    .954E+06    2790.7         5.29        5.70
       8.56    260.45    .110E+07    3179.6         5.25        5.74

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     3.07    6.50  14.81      0.61      1.37
     OUTFLOW: ID= 1 (6198)  297.56     2.87    7.00  14.81      0.59      1.32

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-------------------
| CALIB             |
| STANDHYD  (1981)  |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min  |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
-------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       65.98         83.97
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      999.83         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81         18.96
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       14.29 (ii)    35.10 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.07          0.03
                                                      *TOTALS*
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     PEAK FLOW       (cms)=       4.22         2.54          5.263 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40        14.36          21.59
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.26           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.9910      3.4957
                         0.4390     1.7800   |  13.3530      3.9512
                         2.6180     2.0449   |  15.3540      4.3979
                         5.1680     2.5932   |  15.7540      4.4079
                         7.9230     3.0040   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950      5.263      6.00      21.59
     OUTFLOW: ID= 1 (5198)    149.950      1.401      7.50      21.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.61
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.9012

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-------------------
| CALIB            |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12       192.49
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1266.52        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        11.88
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.47 (ii)   41.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.02         3.34          4.345 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40        11.63          15.30
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.21           0.28

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   240.61   4.345     6.00    15.30
       + ID2= 2 (5198):   149.95   1.401     7.50    21.58
         ================================================
         ID = 3 (8080):   390.56   4.663     6.50    17.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   2.874     7.00    14.81
       + ID2= 2 (8080):   390.56   4.663     6.50    17.71
         ================================================
         ID = 3 (8082):   688.12   7.074     6.50    16.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.87  33.114     7.00    19.44
       + ID2= 2 (8082):   688.12   7.074     6.50    16.46
         ================================================
         ID = 3 (8084):  3769.99  39.558     6.75    18.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2001.0) ------>
              Distance      Elevation       Manning
                 0.00         252.47        0.0500
                10.38         252.29        0.0500
                20.76         252.28        0.0500
                41.52         247.66        0.0500
                62.28         247.47        0.0500
                80.45         247.34        0.0500
                90.83         246.85        0.0500
               103.81         245.51        0.0500
               106.00         244.50        0.0500
               108.99         244.05    0.0500 /0.0300  Main Channel
               109.00         243.50        0.0300      Main Channel
               114.00         243.50        0.0300      Main Channel
               114.01         244.05    0.0300 /0.0500  Main Channel
               118.99         244.50        0.0500
               132.36         245.09        0.0500
               150.52         245.83        0.0500
               199.83         249.24        0.0500
               207.62         250.16        0.0500
               236.16         253.11        0.0500
               256.92         253.83        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28    243.77    .365E+04        0.7        0.54      81.42
      0.55    244.05    .730E+04        2.2        0.81      54.59
      1.05    244.55    .197E+05        7.2        0.97      45.51
      1.54    245.04    .463E+05       17.2        0.99      44.76
      2.04    245.54    .895E+05       34.8        1.03      42.81
      2.53    246.03    .152E+06       62.8        1.09      40.43
      3.03    246.53    .232E+06      104.7        1.20      36.91
      3.52    247.02    .328E+06      159.7        1.29      34.19
      4.02    247.52    .450E+06      223.4        1.32      33.56
      4.51    248.01    .627E+06      326.9        1.38      31.99
      5.01    248.51    .820E+06      463.0        1.50      29.52
      5.50    249.00    .103E+07      626.0        1.62      27.30
      6.00    249.50    .124E+07      820.1        1.75      25.24
      6.49    249.99    .147E+07     1044.4        1.89      23.42
      6.99    250.49    .170E+07     1292.6        2.01      21.95
      7.48    250.98    .195E+07     1565.6        2.13      20.71
      7.98    251.48    .220E+07     1864.5        2.25      19.65
      8.47    251.97    .246E+07     2189.4        2.36      18.73
      8.97    252.47    .274E+07     2427.5        2.35      18.80

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    39.56    6.75  18.90      2.12      1.04
     OUTFLOW: ID= 1 (6200) 3769.99    33.78    7.75  18.90      2.00      1.03
```

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--------------------
| CALIB              |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54        22.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        49.58
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.79 (ii)   23.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.37         1.47         2.291 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        21.51         27.38
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.40          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7210      1.0525
                          0.1450     0.4892   |   3.4130      1.1947
                          0.7930     0.5722   |   4.0030      1.3346
                          1.4410     0.7540   |   4.4030      1.3446
                          2.0370     0.8927   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480     2.291      6.00       27.38
     OUTFLOW: ID= 1 (5200)     42.480     0.843      6.75       27.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.81
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5882

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--------------------
| CALIB              |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56        50.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     696.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        22.44
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.51 (ii)   30.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.52         1.90         2.315 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        18.99         23.34
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.35          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 = 3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   2.315     6.00    23.34
        + ID2= 2 (5200):    42.48   0.843     6.75    27.36
          ================================================
          ID = 3 (8086):   115.27   2.914     6.50    24.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 = 3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  33.784     7.75    18.90
        + ID2= 2 (8086):   115.27   2.914     6.50    24.82
          ================================================
          ID = 3 (8088):  3885.26  34.988     7.50    19.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 = 3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76  11.749    12.25    11.56
        + ID2= 2 (8088):  3885.26  34.988     7.50    19.07
          ================================================
          ID = 3 (8038):  9106.02  46.380     7.50    14.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                   0.00         252.00        0.0400
                   2.35         244.60        0.0400
                  39.94         243.14        0.0400
                  58.74         242.65        0.0400
                  91.63         242.03        0.0400
                 101.03         241.69        0.0400
                 103.38         241.66        0.0400
                 105.73         240.76        0.0400
                 105.93         240.59        0.0400
                 109.18         240.28    0.0400 /0.0300  Main Channel
                 110.43         239.81        0.0300      Main Channel
                 111.68         239.81        0.0300      Main Channel
                 113.43         240.09    0.0300 /0.0400  Main Channel
                 118.43         240.50        0.0400
                 138.62         241.68        0.0400
                 152.72         241.60        0.0400
                 166.82         242.68        0.0400
                 185.62         249.09        0.0400
                 197.36         251.00        0.0400
                 232.61         252.28        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.28   240.09    .118E+04       0.1         0.20      142.09
      0.91   240.72    .114E+05       2.4         0.35       79.92
      1.53   241.34    .352E+05       9.4         0.45       62.17
      2.16   241.97    .831E+05      22.8         0.46       60.69
      2.79   242.60    .172E+06      54.2         0.53       52.74
      3.41   243.22    .297E+06     111.4         0.63       44.49
      4.04   243.85    .445E+06     194.1         0.74       38.22
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       4.67   244.48    .612E+06     301.1          0.83      33.88
       5.29   245.10    .793E+06     443.0          0.94      29.82
       5.92   245.73    .976E+06     611.3          1.06      26.60
       6.55   246.36    .116E+07     802.0          1.17      24.12
       7.18   246.99    .135E+07    1014.0          1.27      22.16
       7.80   247.61    .154E+07    1246.2          1.37      20.56
       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02    46.38    7.50  14.76      2.63      0.51
     OUTFLOW: ID= 1 (1365) 9106.02    38.34    8.50  14.76      2.46      0.50


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96        68.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1180.11        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        47.63
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.79 (ii)   30.18 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.65         3.44        15.108 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        19.12         34.43
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.35          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9970      7.9437
                          0.9210     5.2645   |  12.4650      8.5839
                          3.2690     5.3433   |  16.9060      9.2236
                          6.3980     5.6925   |  17.3060      9.2336
                          7.1860     6.8155   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)    208.900     15.108      6.00      34.43
     OUTFLOW: ID= 1 (5132)    208.900      1.371      8.25      34.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.07
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.2809

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--------------------
| CALIB            |
| STANDHYD  (1322) |   Area    (ha)=  81.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        51.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     739.10        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        16.24
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.92 (ii)   34.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.26         1.36          3.807 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        14.90         24.27
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.27          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1322):    81.94   3.807     6.00    24.27
        + ID2= 2 (5132):   208.90   1.371     8.25    34.42
          ================================================
          ID = 3 (8090):   290.84   4.178     6.00    31.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84        57.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     804.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        12.45
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.55 (ii)   37.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.24         1.11          4.687 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        11.36         22.85
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.21          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64        41.15
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     626.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        10.92
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.79 (ii)   36.74 (ii)
```

```
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.93         0.70         2.213 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        10.69         19.03
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.20          0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1250      1.0755
                         0.1070     0.6119   |   1.7570      1.1641
                         0.4130     0.6225   |   2.3860      1.2526
                         0.8380     0.7018   |   2.7860      1.2626
                         0.9790     0.8884   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790      2.213      6.00      19.03
     OUTFLOW: ID= 1 (5134)     58.790      0.551      7.25      19.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.89
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6507

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-------------------
| ADD HYD   (9134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1342):    97.16   4.687     6.00    22.85
       + ID2= 2 (5134):    58.79   0.551     7.25    19.01
         ============================================
         ID = 3 (9134):   155.95   4.738     6.00    21.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8090):   290.84   4.178     6.00    31.56
       + ID2= 2 (9134):   155.95   4.738     6.00    21.40
         ============================================
         ID = 3 (8092):   446.79   8.916     6.00    28.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1361.0) ------>
              Distance      Elevation       Manning
                 0.00         262.81        0.0400
                37.23         260.54        0.0400
                79.12         256.98        0.0400
               111.70         254.74        0.0400
               172.20         252.76        0.0400
               251.32         248.82        0.0400
               255.97         248.75        0.0400
               260.43         248.76        0.0400
               265.43         248.49        0.0400
               268.68         248.18    0.0400 /0.0300  Main Channel
               269.93         247.71        0.0300      Main Channel
               271.18         247.71        0.0300      Main Channel
               272.93         247.99        0.0300      Main Channel
               277.93         248.40    0.0300 /0.0400  Main Channel
               283.90         248.88        0.0400
               307.17         249.60        0.0400
               321.13         251.59        0.0400
               363.01         257.08        0.0400
               400.25         257.58        0.0400
               460.75         261.91        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.47    248.18    .881E+04       1.3          0.76      114.66
       1.19    248.90    .742E+05      17.3          1.22       71.44
       1.92    249.63    .278E+06      78.3          1.48       59.26
       2.64    250.35    .589E+06     210.3          1.87       46.69
       3.36    251.07    .974E+06     414.3          2.23       39.19
       4.08    251.79    .143E+07     696.2          2.55       34.32
       4.81    252.52    .197E+07    1063.0          2.83       30.86
       5.53    253.24    .259E+07    1505.7          3.06       28.62
       6.25    253.96    .331E+07    2051.3          3.26       26.85
       6.97    254.68    .413E+07    2720.9          3.46       25.30
       7.70    255.41    .504E+07    3584.5          3.73       23.43
       8.42    256.13    .601E+07    4580.9          4.00       21.87
       9.14    256.85    .704E+07    5707.9          4.25       20.57
       9.86    257.57    .818E+07    6636.1          4.26       20.53
      10.59    258.30    .945E+07    8115.0          4.50       19.42
      11.31    259.02    .108E+08    9759.2          4.74       18.45
      12.03    259.74    .122E+08   11569.5          4.96       17.61
      12.75    260.46    .137E+08   13550.6          5.18       16.87
      13.48    261.19    .153E+08   15636.4          5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79     8.92    6.00  28.02      0.81      0.93
     OUTFLOW: ID= 1 (1366)  446.79     2.98    7.25  28.02      0.55      0.79

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-------------------
| CALIB             |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67        275.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1574.36         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         15.93
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      18.77 (ii)    41.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.82          6.41          9.410 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40         14.96         20.20
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.96          0.27          0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.34         63.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
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     Length            (m)=     968.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        45.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.02 (ii)   28.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.09         3.40          8.202 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        19.03         28.71
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.35          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.3486
                         0.3100     2.4365   |   5.9200      5.0324
                         1.7670     2.5993   |   7.0820      5.7151
                         3.4020     2.8510   |   7.4820      5.7251
                         4.0310     3.5962   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620      8.202      6.00      28.71
     OUTFLOW: ID= 1 (5136)    140.620      1.719      7.25      28.69

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.96
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.6016

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| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1362):   371.79   9.410     6.00    20.20
        + ID2= 2 (5136):   140.62   1.719     7.25    28.69
          ================================================
          ID = 3 (8096):   512.41   9.547     6.00    22.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1366):   446.79   2.982     7.25    28.02
        + ID2= 2 (8096):   512.41   9.547     6.00    22.53
          ================================================
          ID = 3 (8094):   959.20  11.796     6.50    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1365):  9106.02  38.337     8.50    14.76
        + ID2= 2 (8094):   959.20  11.796     6.50    25.09
          ================================================
          ID = 3 (8098): 10065.22  44.373     8.00    15.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.78         39.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     801.00         40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         8.12
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.51 (ii)   41.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.11         0.47          5.297 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40         5.78         21.63
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.11          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.4380      2.7648
                         0.3260     1.4281   |   8.0830      3.0750
                         1.8650     1.6876   |   9.4100      3.3790
                         3.4730     2.0447   |   9.8100      3.3890
                         4.8170     2.3809   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)     96.240      5.297      6.00      21.63
     OUTFLOW: ID= 1 (5138)     96.240      0.447      8.00      21.62

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.44
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.4492

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-------------------
| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   0.577 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   4.315
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.079

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1382):   318.55   0.577     7.75     4.32
        + ID2= 2 (5138):    96.24   0.447     8.00    21.62
          ================================================
          ID = 3 (9138):   414.79   1.022     8.00     8.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1402) |   Area    (ha)= 131.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.05        93.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     935.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         4.38
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      13.73 (ii)   51.12 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.15         0.65          4.342 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      52.40         5.85         15.63
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.11          0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1401) |   Area    (ha)=  27.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.32        15.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     427.16        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         5.26
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       8.58 (ii)   43.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.59         0.15          1.645 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40         6.43         21.60
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.12          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5140) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8310     0.7127
                          0.0930     0.3344   |   2.2990     0.8148
                          0.5300     0.3869   |   2.6760     0.9148
                          0.9880     0.4994   |   3.0760     0.9248
                          1.3700     0.5962   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1401)     27.370     1.645      6.00      21.60
     OUTFLOW: ID= 1 (5140)     27.370     0.257      6.75      21.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.66
                TIME SHIFT OF PEAK FLOW         (min)= 45.00

                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3546

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9140) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1402):   131.22   4.342     6.00    15.63
        + ID2= 2 (5140):    27.37   0.257     6.75    21.57
          ================================================
          ID = 3 (9140):   158.59   4.401     6.00    16.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9138):   414.79   1.022     8.00     8.33
        + ID2= 2 (9140):   158.59   4.401     6.00    16.65
          ================================================
          ID = 3 (8102):   573.38   4.859     6.00    10.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                  0.00         295.50        0.0400
                  7.25         295.36        0.0400
                 14.50         295.22        0.0400
                 21.75         295.22        0.0400
                 29.00         294.23        0.0400
                 52.56         286.45        0.0400
                 67.06         281.44        0.0400
                 77.94         278.28        0.0400
                 82.81         277.20    0.0400 /0.0300  Main Channel
                 83.21         276.80        0.0300      Main Channel
                 88.81         276.80        0.0300      Main Channel
                 96.41         276.80        0.0300      Main Channel
                 96.81         277.20    0.0300 /0.0400  Main Channel
                103.31         278.96        0.0400
                108.75         280.16        0.0400
                117.81         282.73        0.0400
                135.94         290.30        0.0400
                159.50         292.14        0.0400
                174.00         293.07        0.0400
                179.44         293.37        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.40   277.20    .238E+05       6.9         1.27       57.28
      1.25   278.05    .889E+05      50.9         2.50       29.13
      2.10   278.90    .179E+06     133.4         3.26       22.36
      2.95   279.75    .293E+06     256.7         3.83       19.03
      3.80   280.60    .432E+06     426.0         4.31       16.90
      4.66   281.46    .593E+06     644.3         4.75       15.35
      5.51   282.31    .776E+06     915.3         5.16       14.12
      6.36   283.16    .978E+06    1242.2         5.55       13.12
      7.21   284.01    .120E+07    1626.2         5.94       12.27
      8.06   284.86    .143E+07    2065.6         6.30       11.57
      8.91   285.71    .169E+07    2562.4         6.64       10.97
      9.76   286.56    .196E+07    3118.0         6.97       10.46
     10.61   287.41    .224E+07    3733.3         7.28       10.02
     11.46   288.26    .255E+07    4411.9         7.57        9.62
     12.31   289.11    .287E+07    5155.6         7.86        9.27
     13.17   289.97    .321E+07    5966.6         8.14        8.96
     14.02   290.82    .357E+07    6705.0         8.22        8.87
     14.87   291.67    .398E+07    7494.3         8.24        8.85
     15.72   292.52    .444E+07    8405.3         8.28        8.80

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.38     4.86    6.00  10.63      0.28      1.27
     OUTFLOW: ID= 1 (6142)  573.38     2.15    7.00  10.63      0.12      1.27
```

```
--------------------
| CALIB            |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.40         38.37
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     682.01         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         22.51
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.36 (ii)    30.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.69          1.47          2.300 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         15.83          21.31
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.29           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   4.6670      1.8169
                         0.2360     0.8525    |   5.8600      2.0773
                         1.3520     0.9863    |   6.8220      2.3321
                         2.5180     1.2732    |   7.2220      2.3421
                         3.4920     1.5199    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770     2.300      6.00      21.31
     OUTFLOW: ID= 1 (5142)     69.770     0.572      7.50      21.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.87
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8948

--------------------
| CALIB            |
| NASHYD    (1422) |   Area     (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   1.496 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.507
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1422):   326.77   1.496     8.00    11.51
       + ID2= 2 (5142):    69.77   0.572     7.50    21.30
         ================================================
         ID = 3 (9142):   396.54   2.061     7.75    13.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6142):   573.38   2.153     7.00    10.63
       + ID2= 2 (9142):   396.54   2.061     7.75    13.23
         ================================================
         ID = 3 (8104):   969.92   4.118     7.50    11.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          3.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     204.78         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         50.50
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.52 (ii)    19.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18          0.25          0.337 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         21.29          25.96
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.39           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4210      0.1639
                         0.0210     0.0769    |   0.5290      0.1874
                         0.1220     0.0890    |   0.6150      0.2104
                         0.2270     0.1148    |   1.0150      0.2204
                         0.3150     0.1371    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)     6.290     0.337      6.00      25.96
     OUTFLOW: ID= 1 (5144)     6.290     0.111      6.75      25.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.96
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0882

--------------------
| CALIB            |
| NASHYD    (1442) |   Area     (ha)= 129.40   Curve Number   (CN)= 74.9
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.147

     PEAK FLOW       (cms)=   1.429 (i)
     TIME TO PEAK    (hrs)=   6.750
```

```
     RUNOFF VOLUME    (mm)=  17.829
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.328

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1442):   129.40   1.429     6.75    17.83
       + ID2= 2 (5144):     6.29   0.111     6.75    25.81
         ================================================
         ID = 3 (9144):   135.69   1.540     6.75    18.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8104):   969.92   4.118     7.50    11.69
       + ID2= 2 (9144):   135.69   1.540     6.75    18.20
         ================================================
         ID = 3 (8106):  1105.61   5.510     7.50    12.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                   0.00         262.00        0.0350
                  39.58         257.13        0.0350
                 123.69         257.51        0.0350
                 183.07         256.83        0.0350
                 202.86         255.73        0.0350
                 212.75         254.73        0.0350
                 222.65         252.86        0.0350
                 232.44         250.70    0.0350 /0.0300  Main Channel
                 236.44         250.20        0.0300      Main Channel
                 236.84         249.80        0.0300      Main Channel
                 242.44         249.80        0.0300      Main Channel
                 250.04         249.80        0.0300      Main Channel
                 250.44         250.20        0.0300      Main Channel
                 252.33         250.57    0.0300 /0.0350  Main Channel
                 286.97         253.52        0.0350
                 331.50         255.80        0.0350
                 380.98         255.55        0.0350
                 445.30         258.40        0.0350
                 455.19         259.82        0.0350
                 489.83         262.22        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.39   250.19    .169E+05        5.4         1.04      52.00
        0.77   250.57    .373E+05       16.6         1.44      37.46
        1.44   251.24    .911E+05       60.3         2.14      25.19
        2.11   251.91    .169E+06      136.3         2.61      20.64
        2.79   252.59    .270E+06      249.7         2.99      18.05
        3.46   253.26    .396E+06      405.4         3.31      16.28
        4.13   253.93    .549E+06      603.3         3.56      15.15
        4.80   254.60    .737E+06      857.8         3.77      14.31
        5.48   255.28    .963E+06     1174.6         3.95      13.67
        6.15   255.95    .128E+07     1449.5         3.66      14.74
        6.82   256.62    .173E+07     2046.4         3.83      14.07
        7.49   257.29    .227E+07     2665.2         3.81      14.17
        8.17   257.97    .310E+07     3705.2         3.87      13.93
        8.84   258.64    .400E+07     5127.4         4.15      12.99
        9.51   259.31    .492E+07     6858.6         4.51      11.95
       10.18   259.98    .587E+07     8815.5         4.86      11.09
       10.86   260.66    .684E+07    10954.6         5.18      10.41
       11.53   261.33    .785E+07    13324.3         5.49       9.82
       12.20   262.00    .890E+07    15923.2         5.79       9.31

                                  <---- hydrograph ---->   <-pipe / channel->
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                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61     5.51    7.50  12.49      0.39      1.04
     OUTFLOW: ID= 1 (6146) 1105.61     4.88    8.25  12.49      0.35      1.04


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.91         76.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     864.95         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         24.79
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.10 (ii)    31.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.24          3.14          3.727 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      52.40         20.51         24.66
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.96          0.38          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.65         51.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     745.16         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         44.58
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.98 (ii)    26.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.11          2.80          3.865 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40         21.36         26.32
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.96          0.39          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   8.9200      2.5813
                        0.2820     0.8782    |  11.0570      3.0328
```

```
                    2.5360     1.0372   |  12.9860      3.4993
                    4.7880     1.7148   |  13.3860      3.5093
                    6.7570     2.1134   |   0.0000      0.0000

                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (1461)    83.290     3.865      6.00      26.32
  OUTFLOW: ID= 1 (5146)    83.290     2.037      6.75      26.31

            PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.70
            TIME SHIFT OF PEAK FLOW        (min)= 45.00
            MAXIMUM  STORAGE   USED       (ha.m.)=  1.0123

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-------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1462):   112.22   3.727     6.50    24.66
      + ID2= 2 (5146):    83.29   2.037     6.75    26.31
        ================================================
        ID = 3 (8099):   195.51   5.226     6.50    25.36

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6146):  1105.61   4.882     8.25    12.49
      + ID2= 2 (8099):   195.51   5.226     6.50    25.36
        ================================================
        ID = 3 (8108):  1301.12   7.784     6.75    14.43

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8098): 10065.22  44.373     8.00    15.75
      + ID2= 2 (8108):  1301.12   7.784     6.75    14.43
        ================================================
        ID = 3 (8100): 11366.34  50.734     8.00    15.60

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (2021.0) ------>
            Distance      Elevation       Manning
               0.00         245.48        0.0400
              29.68         242.80        0.0400
              74.20         240.39        0.0400
             155.81         237.12        0.0400
             200.33         234.48        0.0400
             244.85         234.67        0.0400
             259.69         233.96        0.0400
             274.53         233.84        0.0400
             281.68         233.40        0.0400
             285.78         232.40    0.0400 /0.0300  Main Channel
             286.78         231.40        0.0300      Main Channel
             296.78         231.40        0.0300      Main Channel
             299.78         232.40    0.0300 /0.0400  Main Channel
             311.62         233.74        0.0400
             333.88         234.34        0.0400
             497.11         235.32        0.0400
             571.31         237.32        0.0400
             675.18         239.10        0.0400
             704.86         242.71        0.0400
             734.54         242.62        0.0400

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.50   231.90    .221E+05       4.7         0.85       78.67
      1.00   232.40    .482E+05      15.3         1.28       52.40
      1.60   233.00    .913E+05      38.3         1.68       39.77
      2.20   233.60    .154E+06      72.9         1.90       35.24
      2.80   234.20    .278E+06     124.2         1.79       37.30
      3.40   234.80    .599E+06     214.3         1.44       46.59
      4.01   235.41    .125E+07     445.0         1.43       46.90
      4.61   236.01    .205E+07     838.4         1.64       40.81
      5.21   236.61    .293E+07    1361.6         1.86       35.89
      5.81   237.21    .389E+07    2011.2         2.08       32.23
      6.41   237.81    .494E+07    2753.5         2.24       29.91
      7.01   238.41    .612E+07    3635.0         2.39       28.04
      7.61   239.01    .741E+07    4672.5         2.53       26.43
      8.21   239.61    .880E+07    5999.3         2.74       24.44
      8.82   240.22    .102E+08    7510.0         2.94       22.72
      9.42   240.82    .117E+08    9201.9         3.15       21.23
     10.02   241.42    .132E+08   11059.7         3.35       19.95
     10.62   242.02    .148E+08   13073.4         3.54       18.87
     11.22   242.62    .164E+08   15242.1         3.73       17.93

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.    MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
  INFLOW : ID= 2 (8100) *******    50.73    8.00  15.60      1.82      1.75
  OUTFLOW: ID= 1 (6202) *******    48.71    8.75  15.60      1.78      1.74

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-------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6202): 11366.34  48.714     8.75    15.60
      + ID2= 2 (8110):   468.53  21.201     6.00    33.36
        ================================================
        ID = 3 (8112): 11834.87  51.778     8.50    16.30

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (8112)   ********     51.778      8.50      16.30
  OUTFLOW: ID= 1 (5555)   ********     50.918      9.00      16.30

            PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.34
            TIME SHIFT OF PEAK FLOW        (min)= 30.00
            MAXIMUM  STORAGE   USED       (ha.m.)=  7.6703

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| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5555): 11834.87  50.918     9.00    16.30
      + ID2= 2 (8136):  2288.44  14.955     7.00    15.59
        ================================================
        ID = 3 (8114): 14123.31  60.838     8.75    16.19

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  49.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
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                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88         11.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     576.43         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         94.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.27 (ii)    21.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.16          1.57          5.190 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         29.39          40.90
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.54           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.5640      2.4459
                          0.1690     0.8986   |   4.2460      2.7624
                          1.3810     1.2959   |   4.8070      3.0770
                          2.2440     1.6904   |   5.2070      3.0870
                          2.8510     2.0623   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840     5.190      6.00      40.90
     OUTFLOW: ID= 1 (5206)     49.840     1.119      6.75      40.87

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.56
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2109

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--------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1226.65         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         63.77
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      16.16 (ii)    28.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.33          6.10         17.202 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         25.54          36.82
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.47           0.68


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  17.202     6.00    36.82
        + ID2= 2 (5206):    49.84   1.119     6.75    40.87
          ================================================
          ID = 3 (8144):   275.54  17.329     6.00    37.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66        132.24
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1182.93         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         16.15
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.81 (ii)    37.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.26          3.26          7.582 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         14.13          22.16
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.26           0.41


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.0280      5.1901
                          0.5340     2.0405   |  16.1840      5.6427
                          3.0020     2.3552   |  19.0840      6.7700
                          5.5440     3.8411   |  19.4840      6.7800
                          8.4130     4.5335   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900     7.582      6.00      22.16
     OUTFLOW: ID= 1 (5204)    209.900     2.916      7.00      22.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.46
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.3466

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--------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86         44.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     873.77         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         46.07
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.18 (ii)    27.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.96          2.45          7.485 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         17.95          29.67
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     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.33           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   114.52   7.485     6.00    29.67
        + ID2= 2 (5204):   209.90   2.916     7.00    22.16
          ================================================
          ID = 3 (8140):   324.42   7.748     6.00    24.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2061.0) ------>
               Distance      Elevation       Manning
                   0.00         253.07        0.0350
                  13.98         252.89        0.0350
                  27.95         251.99        0.0350
                  34.94         252.18        0.0350
                  41.93         252.02        0.0350
                  73.38         250.35        0.0350
                  94.34         247.09        0.0350
                 111.81         244.79        0.0350
                 115.31         244.24        0.0350
                 117.55         244.20    0.0350 /0.0300  Main Channel
                 118.80         243.60        0.0300      Main Channel
                 122.30         243.60        0.0300      Main Channel
                 122.55         244.60    0.0300 /0.0350  Main Channel
                 146.76         244.74        0.0350
                 164.23         247.26        0.0350
                 213.15         248.92        0.0350
                 241.10         249.51        0.0350
                 272.55         250.87        0.0350
                 300.50         252.26        0.0350
                 345.93         253.67        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.30   243.90    .310E+04       1.4          1.23      36.25
       0.60   244.20    .676E+04       4.6          1.81      24.64
       1.12   244.72    .221E+05      17.1          2.07      21.60
       1.64   245.24    .754E+05      64.1          2.28      19.60
       2.17   245.77    .139E+06     149.8          2.88      15.50
       2.69   246.29    .214E+06     273.3          3.43      13.04
       3.21   246.81    .299E+06     436.1          3.91      11.43
       3.73   247.33    .395E+06     632.6          4.30      10.40
       4.25   247.85    .511E+06     836.4          4.39      10.18
       4.77   248.37    .653E+06    1114.9          4.58       9.76
       5.30   248.90    .822E+06    1472.1          4.81       9.30
       5.82   249.42    .102E+07    1872.2          4.91       9.10
       6.34   249.94    .126E+07    2444.6          5.22       8.56
       6.86   250.46    .151E+07    3113.1          5.52       8.09
       7.38   250.98    .180E+07    3843.5          5.74       7.79
       7.90   251.50    .211E+07    4717.8          6.00       7.45
       8.43   252.03    .245E+07    5701.4          6.24       7.16
       8.95   252.55    .284E+07    6727.5          6.36       7.03
       9.47   253.07    .326E+07    7885.3          6.48       6.90

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.42     7.75    6.00  24.81      0.73      1.87
     OUTFLOW: ID= 1 (6206)  324.42     4.94    6.50  24.81      0.61      1.82


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--------------------
| ADD HYD   (8142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.42   4.943     6.50    24.81
        + ID2= 2 (8144):   275.54  17.329     6.00    37.56
          ================================================
          ID = 3 (8142):   599.96  20.163     6.00    30.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.31  60.838     8.75    16.19
        + ID2= 2 (8142):   599.96  20.163     6.00    30.66
          ================================================
          ID = 3 (8138): 14723.27  65.054     8.25    16.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2081.0) ------>
               Distance      Elevation       Manning
                   0.00         249.19        0.1000
                  73.11         244.13        0.1000
                 121.86         243.39        0.1000
                 243.71         240.01        0.1000
                 353.38         238.75        0.1000
                 450.87         235.40        0.1000
                 499.61         231.40        0.1000
                 511.80         230.96        0.1000
                 523.98         230.12        0.1000
                 534.50         227.80    0.1000 /0.0500  Main Channel
                 536.50         226.70        0.0500      Main Channel
                 546.50         226.70        0.0500      Main Channel
                 548.50         227.80    0.0500 /0.1000  Main Channel
                 572.72         230.25        0.1000
                 682.40         230.50        0.1000
                 804.25         233.95        0.1000
                 926.11         235.83        0.1000
                1047.96         240.70        0.1000
                1145.45         243.26        0.1000
                1206.38         247.03        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55   227.25    .111E+05       2.0          0.33      92.44
       1.10   227.80    .242E+05       6.5          0.50      61.56
       2.23   228.93    .700E+05      26.0          0.68      44.91
       3.36   230.06    .150E+06      60.8          0.74      41.04
       4.49   231.19    .446E+06     130.8          0.54      56.83
       5.62   232.32    .925E+06     287.4          0.57      53.66
       6.76   233.46    .152E+07     522.9          0.63      48.32
       7.89   234.59    .223E+07     827.2          0.68      44.91
       9.02   235.72    .312E+07    1219.5          0.72      42.61
      10.15   236.85    .418E+07    1780.6          0.78      39.11
      11.28   237.98    .537E+07    2479.2          0.85      36.07
      12.41   239.11    .669E+07    3282.9          0.90      33.95
      13.54   240.24    .824E+07    4228.6          0.94      32.47
      14.67   241.37    .997E+07    5384.6          0.99      30.87
      15.81   242.51    .119E+08    6698.4          1.03      29.56
      16.94   243.64    .140E+08    8235.2          1.08      28.25
      18.07   244.77    .162E+08   10104.2          1.14      26.73
      19.20   245.90    .185E+08   12251.5          1.21      25.21
      20.33   247.03    .209E+08   14597.0          1.28      23.89

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******    65.05    8.25  16.78      3.43      0.73
     OUTFLOW: ID= 1 (6208) *******    61.96    9.25  16.78      3.38      0.74


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| CALIB           |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.96        62.87
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      22.80 (ii)   35.68 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      15.92         9.35        22.942 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50          6.25
     RUNOFF VOLUME    (mm)=      52.40        23.36         34.10
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.43          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.39       136.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        20.97
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.81 (ii)   35.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.96         4.49          7.808 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        18.26         25.09
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.34          0.46

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.00        14.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        49.09
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.64 (ii)   24.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.48         0.87          7.031 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        26.10         44.51
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.48          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.8000      1.5745
                         0.1900     0.9984   |   3.7500      1.7809
                         1.0900     1.1991   |   4.7100      1.9291
                         2.0200     1.3813   |   5.4800      2.0745

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000      7.031      6.00      44.51
     OUTFLOW: ID= 1 (9289)     56.000      2.026      6.50      44.48

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.82
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3837

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-------------------
| ADD HYD   (9262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2081):   209.70   7.808     6.00    25.09
        + ID2= 2 (9289):    56.00   2.026     6.50    44.48
          ================================================
          ID = 3 (9262):   265.70   8.376     6.50    29.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  16.8530      8.3371
                         0.8360     4.7353   |  21.1630      9.3975
                         4.7810     5.1070   |  25.1140     10.4406
                         8.9050     6.2484   |  25.5140     10.4506
                        12.6070     7.1796   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700      8.376      6.50      29.17
     OUTFLOW: ID= 1 (5208)    265.700      1.426      8.75      29.17

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.02
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.7926

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2082):   426.60  22.942     6.25    34.10
        + ID2= 2 (5208):   265.70   1.426     8.75    29.17
          ================================================
          ID = 3 (8148):   692.30  23.258     6.25    32.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8146) |
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```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.27  61.963     9.25    16.78
       + ID2= 2 (8148):   692.30  23.258     6.25    32.21
         ================================================
         ID = 3 (8146): 15415.57  65.450     9.00    17.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                   0.00         241.81        0.0800
                  28.43         241.78        0.0800
                  85.30         237.04        0.0800
                 149.27         231.32        0.0800
                 170.60         230.10        0.0800
                 255.89         229.37        0.0800
                 277.22         228.68        0.0800
                 284.33         228.42        0.0800
                 291.43         228.16        0.0800
                 297.76         227.00    0.0800 /0.0350  Main Channel
                 298.76         225.00        0.0350      Main Channel
                 312.76         225.00        0.0350      Main Channel
                 313.76         227.00    0.0350 /0.0800  Main Channel
                 326.97         229.50        0.0800
                 348.30         230.29        0.0800
                 376.73         229.76        0.0800
                 490.46         235.75        0.0800
                 568.65         236.24        0.0800
                 661.06         241.85        0.0800
                 703.71         246.04        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.67   225.67    .141E+05       6.6         0.69      35.86
       1.33   226.33    .289E+05      20.4         1.04      23.65
       2.00   227.00    .443E+05      39.3         1.31      18.81
       2.93   227.93    .730E+05      77.8         1.57      15.64
       3.85   228.85    .123E+06     131.1         1.57      15.65
       4.78   229.78    .228E+06     205.6         1.33      18.51
       5.70   230.70    .503E+06     356.7         1.05      23.49
       6.63   231.63    .846E+06     608.7         1.06      23.17
       7.55   232.55    .123E+07     946.4         1.14      21.65
       8.48   233.48    .165E+07    1367.0         1.22      20.13
       9.41   234.41    .211E+07    1871.8         1.31      18.80
      10.33   235.33    .261E+07    2463.2         1.40      17.65
      11.26   236.26    .317E+07    2999.4         1.40      17.63
      12.18   237.18    .384E+07    3848.3         1.48      16.63
      13.11   238.11    .454E+07    4806.0         1.56      15.75
      14.03   239.03    .528E+07    5876.9         1.64      14.97
      14.96   239.96    .605E+07    7062.7         1.72      14.29
      15.88   240.88    .687E+07    8365.0         1.80      13.68
      16.81   241.81    .771E+07    9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    65.45    9.00  17.47      2.63      1.48
     OUTFLOW: ID= 1 (6210) *******    65.26    9.25  17.47      2.63      1.48


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--------------------
| CALIB            |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     140.67        52.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1133.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        46.48
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.52 (ii)   22.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      20.46         3.24         22.526 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      53.40        25.07         44.33
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT    =      0.98         0.46          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.5000     8.0000
                         0.3000     2.0000   |   3.5000    10.0000
                         0.9000     5.0000   |   4.5000    13.0000
                         2.0000     7.5000   |   5.5000    14.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2104)    192.700     22.526      6.00      44.33
     OUTFLOW: ID= 1 (9283)    192.700      1.448      8.00      44.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.43
                TIME SHIFT OF PEAK FLOW          (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  6.2530

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--------------------
| CALIB            |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.33         7.77
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     272.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        58.53
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.32 (ii)   14.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.91          1.121 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      53.40        28.95         31.39
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT    =      0.98         0.53          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9284) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5600     0.2067
                         0.0400     0.1045   |   0.7400     0.2572
                         0.2200     0.1166   |   0.9300     0.3046
                         0.4000     0.1670   |   1.0900     0.3510

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
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     INFLOW : ID= 2 (2103)     11.100      1.121      6.00      31.39
     OUTFLOW: ID= 1 (9284)     11.100      0.373      6.50      31.33

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.24
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1618

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| ADD HYD   (9258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9283):   192.70   1.448     8.00    44.33
        + ID2= 2 (9284):    11.10   0.373     6.50    31.33
          ================================================
          ID = 3 (9258):   203.80   1.642     7.00    43.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0060      0.0024
                         0.0020     0.0013   |   0.0080      0.0027
                         0.0030     0.0017   |   0.0090      0.0031
                         0.0050     0.0020   |   0.4090      0.0131

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      1.642      7.00      43.62
     OUTFLOW: ID= 1 (5210)    203.800      1.642      7.25      43.62

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.97
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0440

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-------------------
| CALIB             |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.137 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.418
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.394

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2102):    14.38   0.137     7.50    21.42
        + ID2= 2 (5210):   203.80   1.642     7.25    43.62
          ================================================
          ID = 3 (9210):   218.18   1.778     7.25    42.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6210): 15415.57  65.263     9.25    17.47
        + ID2= 2 (9210):   218.18   1.778     7.25    42.15
          ================================================
          ID = 3 (8150): 15633.75  66.814     9.25    17.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.77          5.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     615.85         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81        134.01
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.69 (ii)    20.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.95          0.97          7.587 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         30.16          46.62
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.55           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.30          1.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     171.27         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         19.35
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.96 (ii)    25.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.59          0.04          0.622 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         17.36          41.88
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.32           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2200      0.1226
                         0.0100     0.0778   |   0.2900      0.1387
                         0.0800     0.0934   |   0.3700      0.1503
                         0.1600     0.1076   |   0.4300      0.1616

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)     4.400      0.622      6.00      41.88
     OUTFLOW: ID= 1 (9290)     4.400      0.157      6.25      41.44

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.29
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1073
```

```
| ADD HYD   (9264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89   7.587     6.00    46.62
       + ID2= 2 (9290):     4.40   0.157     6.25    41.44
         ================================================
         ID = 3 (9264):    61.29   7.608     6.00    46.24
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1000      2.1402
                         0.2080     1.2793   |   5.1480      2.2661
                         1.1880     1.5546   |   5.9930      2.3900
                         2.2120     1.7255   |   6.3930      2.4000
                         3.0680     1.9336   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9264)     61.290     7.608      6.00      46.24
     OUTFLOW: ID= 1 (5212)     61.290     1.718      6.75      46.22

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.59
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6622
```

```
| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.46       189.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1334.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        17.39
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.00 (ii)   38.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.81         4.98        10.834 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      52.40        17.47         25.85
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.32          0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3600      4.9180
                         0.9100     2.4658   |  17.8700      6.1368
                         5.1800     2.7404   |  22.4400      7.2882
                         9.6400     3.9605   |  26.1200      8.4139

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2122)    267.100     10.834      6.00      25.85
     OUTFLOW: ID= 1 (9312)    267.100      5.610      6.75      25.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.78
```

```
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.8664
```

```
| ADD HYD   (8152) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5212):    61.29   1.718     6.75    46.22
       + ID2= 2 (9312):   267.10   5.610     6.75    25.85
         ================================================
         ID = 3 (8152):   328.39   7.329     6.75    29.65
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2141.0) ------>
              Distance      Elevation       Manning
                 0.00         259.29        0.0500
                15.33         258.91        0.0500
                38.33         258.57        0.0500
                65.16         257.93        0.0500
                95.82         253.44        0.0500
               111.15         251.21        0.0500
               130.32         249.67        0.0500
               149.48         248.51        0.0500
               150.66         248.50    0.0500 /0.0370  Main Channel
               150.81         247.50        0.0370      Main Channel
               154.66         247.50        0.0370      Main Channel
               155.66         248.50    0.0370 /0.0500  Main Channel
               160.98         248.50        0.0500
               187.81         249.78        0.0500
               199.31         252.13        0.0500
               245.30         254.04        0.0500
               264.46         253.99        0.0500
               298.96         255.23        0.0500
               329.62         257.02        0.0500
               379.45         258.82        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50    248.00    .648E+04        2.1         1.00      52.30
      1.00    248.50    .139E+05        6.4         1.44      36.35
      1.61    249.11    .570E+05       22.6         1.24      42.01
      2.21    249.71    .143E+06       63.6         1.39      37.61
      2.82    250.32    .263E+06      142.9         1.70      30.69
      3.43    250.93    .403E+06      257.2         2.00      26.11
      4.04    251.54    .562E+06      410.4         2.29      22.82
      4.64    252.14    .735E+06      601.3         2.56      20.37
      5.25    252.75    .933E+06      791.0         2.66      19.67
      5.86    253.36    .117E+07     1038.0         2.79      18.74
      6.46    253.96    .144E+07     1344.4         2.93      17.82
      7.07    254.57    .178E+07     1664.1         2.93      17.83
      7.68    255.18    .217E+07     2140.2         3.10      16.87
      8.28    255.78    .259E+07     2722.9         3.30      15.83
      8.89    256.39    .304E+07     3387.1         3.50      14.94
      9.50    257.00    .351E+07     4132.7         3.69      14.16
     10.11    257.61    .402E+07     4913.0         3.83      13.64
     10.71    258.21    .458E+07     5648.3         3.87      13.50
     11.32    258.82    .521E+07     6343.1         3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.39     7.33    6.75  29.65      1.04      1.42
     OUTFLOW: ID= 1 (6214)  328.39     5.34    7.25  29.65      0.88      1.30
```

```
| CALIB            |
| STANDHYD  (2144) |   Area    (ha)=  93.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.82        23.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
```

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     Length           (m)=     787.82        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        20.02
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.39 (ii)   32.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.22         0.77    10.532 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50     6.00
     RUNOFF VOLUME    (mm)=      52.40        17.90    42.05
     TOTAL RAINFALL   (mm)=      54.40        54.40    54.40
     RUNOFF COEFFICIENT   =       0.96         0.33     0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9285) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6500      2.6150
                          0.3200     1.6583   |   6.2300      2.9579
                          1.8100     1.9916   |   7.8200      3.2041
                          3.3600     2.2943   |   9.1000      3.4456

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2144)     93.100     10.532      6.00      42.05
     OUTFLOW: ID= 1 (9285)     93.100      2.784      6.50      42.04

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.44
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.2046

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2143) |   Area    (ha)= 158.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=   9.00
--------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.16       117.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1027.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        22.40
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.53 (ii)   33.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.10         4.22     4.828 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50     6.50
     RUNOFF VOLUME    (mm)=      52.40        19.39    22.36
     TOTAL RAINFALL   (mm)=      54.40        54.40    54.40
     RUNOFF COEFFICIENT   =       0.96         0.36     0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9200      2.8224
                          0.5400     1.3792   |  10.5900      3.5534
                          3.0700     1.5175   |  13.3000      4.2519
                          5.7200     2.2534   |  15.4900      4.9349

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2143)    158.300      4.828      6.50      22.36
     OUTFLOW: ID= 1 (9286)    158.300      3.091      7.00      22.36

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.02
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.5319

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| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9285):    93.10   2.784     6.50    42.04
        + ID2= 2 (9286):   158.30   3.091     7.00    22.36
          ================================================
          ID = 3 (9260):   251.40   5.412     7.00    29.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5370      0.9877
                          0.1280     0.4635   |   3.1860      1.1293
                          0.5900     0.5362   |   3.7090      1.2678
                          1.3690     0.6921   |   3.9980      1.2778
                          1.8980     0.8262   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9260)    251.400      5.412      7.00      29.64
     OUTFLOW: ID= 1 (5214)    251.400      3.589      7.50      29.64

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.31
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2382

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--------------------
| CALIB            |
| STANDHYD  (2142) |   Area    (ha)=  65.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  10.00
--------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.70        47.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     661.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        11.22
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.15 (ii)   36.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.07         0.84     1.401 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50     6.00
     RUNOFF VOLUME    (mm)=      52.40        10.21    14.43
     TOTAL RAINFALL   (mm)=      54.40        54.40    54.40
     RUNOFF COEFFICIENT   =       0.96         0.19     0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2142):    65.54   1.401     6.00    14.43
       + ID2= 2 (5214):   251.40   3.589     7.50    29.64
         ================================================
         ID = 3 (9214):   316.94   4.012     7.50    26.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6214):   328.39   5.341     7.25    29.65
       + ID2= 2 (9214):   316.94   4.012     7.50    26.50
         ================================================
         ID = 3 (8154):   645.33   9.235     7.25    28.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2163) |   Area    (ha)=  69.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.82         50.88
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     681.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         45.62
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.36 (ii)    26.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.01          2.87       3.269 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.25
     RUNOFF VOLUME    (mm)=      52.40         23.54       26.14
     TOTAL RAINFALL   (mm)=      54.40         54.40       54.40
     RUNOFF COEFFICIENT   =       0.96          0.43        0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9271) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.4900      1.2605
                           0.2400     0.6230   |   4.6600      1.5808
                           1.3500     0.6885   |   5.8600      1.8854
                           2.5200     1.0102   |   6.8200      2.1832

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2163)     69.700      3.269      6.25      26.14
     OUTFLOW: ID= 1 (9271)     69.700      1.634      6.75      26.13

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.98
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7677

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--------------------
| CALIB            |
| STANDHYD  (2169) |   Area    (ha)=   3.50
```

```
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          2.45
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     152.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         21.99
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.63 (ii)    24.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07          0.11        0.138 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      52.40         18.32        21.72
     TOTAL RAINFALL   (mm)=      54.40         54.40        54.40
     RUNOFF COEFFICIENT   =       0.96          0.34         0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.1800      0.0659
                           0.0100     0.0333   |   0.2400      0.0820
                           0.0700     0.0372   |   0.3000      0.0971
                           0.1300     0.0532   |   0.3500      0.1119

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2169)     3.500      0.138      6.00      21.72
     OUTFLOW: ID= 1 (9272)     3.500      0.067      6.75      21.49

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.57
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0372

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--------------------
| ADD HYD   (9251) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9271):    69.70   1.634     6.75    26.13
       + ID2= 2 (9272):     3.50   0.067     6.75    21.49
         ================================================
         ID = 3 (9251):    73.20   1.701     6.75    25.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5216) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.7400      2.4559
                           0.1890     1.6831   |   4.6960      2.6646
                           1.0830     1.7903   |   5.4670      2.8688
                           2.0170     2.0202   |   5.8670      2.8788
                           2.7980     2.2179   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9251)     73.200      1.701      6.75      25.91
     OUTFLOW: ID= 1 (5216)     73.200      0.130     16.75      25.88

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.63
                   TIME SHIFT OF PEAK FLOW         (min)=600.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.1550
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--------------------
| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51        58.06
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        18.30
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.50 (ii)   32.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.82         1.75          1.941 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      52.40        16.98         19.46
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.31          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570      1.941      6.50      19.46
     OUTFLOW: ID= 1 (9316)     72.570      1.764      6.50      19.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.87
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0962

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5216):    73.20   0.130    16.75    25.88
       + ID2= 2 (9316):    72.57   1.764     6.50    19.46
         ================================================
         ID = 3 (9216):   145.77   1.777     6.50    22.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8154):   645.33   9.235     7.25    28.10
       + ID2= 2 (9216):   145.77   1.777     6.50    22.68
         ================================================
         ID = 3 (8156):   791.10  10.337     7.25    27.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (2181.0) ------>
             Distance      Elevation       Manning
                 0.00         256.38        0.0450
                 7.70         254.85        0.0450
                15.40         253.20        0.0450
                19.25         252.29        0.0450
                23.10         251.17        0.0450
                78.94         236.16        0.0450
                80.87         235.80        0.0450
                82.79         235.45        0.0450
                84.57         234.60    0.0450 /0.0300  Main Channel
                85.07         233.60        0.0300      Main Channel
                88.57         233.60        0.0300      Main Channel
                93.57         233.60        0.0300      Main Channel
                94.07         234.60    0.0300 /0.0450  Main Channel
                96.27         235.13        0.0450
                98.19         235.20        0.0450
               100.12         235.32        0.0450
               138.63         239.95        0.0450
               180.98         244.80        0.0450
               188.69         245.00        0.0450
               190.61         256.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.00   234.60    .181E+05       6.0         0.66       50.64
       2.13   235.73    .518E+05      23.8         0.93       36.27
       3.25   236.85    .119E+06      60.0         1.02       33.03
       4.38   237.98    .217E+06     120.6         1.12       29.99
       5.51   239.11    .346E+06     210.5         1.23       27.39
       6.63   240.23    .506E+06     334.1         1.33       25.22
       7.76   241.36    .697E+06     495.6         1.43       23.44
       8.88   242.48    .920E+06     699.8         1.53       21.91
      10.01   243.61    .117E+07     950.8         1.63       20.59
      11.14   244.74    .146E+07    1252.5         1.73       19.45
      12.26   245.86    .178E+07    1619.6         1.83       18.37
      13.39   246.99    .212E+07    2078.5         1.97       17.01
      14.52   248.12    .247E+07    2589.0         2.11       15.88
      15.64   249.24    .282E+07    3149.7         2.25       14.94
      16.77   250.37    .319E+07    3759.8         2.37       14.14
      17.89   251.49    .356E+07    4419.5         2.50       13.44
      19.02   252.62    .395E+07    5126.4         2.61       12.84
      20.15   253.75    .435E+07    5871.6         2.72       12.34
      21.27   254.87    .476E+07    6663.2         2.82       11.89

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10    10.34    7.25  27.10      1.28      0.71
     OUTFLOW: ID= 1 (6218)  791.10     7.73    8.00  27.10      1.11      0.68


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25        54.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     679.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        45.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.34 (ii)   26.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.78         3.03          3.339 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      52.40        24.36         26.33
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.45          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR (9282) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5000	3.5000
	0.8000	0.1000	6.0000	4.0000
	1.1000	2.0000	6.5000	4.5000
	2.5000	3.0000	7.0000	5.5000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2183)	69.300	3.339	6.25	26.33
OUTFLOW: ID= 1 (9282)	69.300	0.894	7.25	26.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.79
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.6987

RESERVOIR (5218) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5090	1.7553
	0.2280	0.8236	5.6620	2.0069
	1.3060	0.9528	6.5910	2.2530
	2.4320	1.2300	6.9910	2.2630
	3.3740	1.4683	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	69.300	0.894	7.25	26.33
OUTFLOW: ID= 1 (5218)	69.300	0.828	10.00	26.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 92.60
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.8957

CALIB / NASHYD (2182) / ID= 1 DT=15.0 min | Area (ha)= 82.95 | Curve Number (CN)= 67.7 | Ia (mm)= 5.00 | # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 0.79

Unit Hyd Qpeak (cms)= 1.786

PEAK FLOW (cms)= 0.650 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 14.100
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.259

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9218) / 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2182):	82.95	0.650	7.00	14.10
+ ID2= 2 (5218):	69.30	0.828	10.00	26.31
ID = 3 (9218):	152.25	1.223	9.50	19.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8158) / 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6218):	791.10	7.728	8.00	27.10
+ ID2= 2 (9218):	152.25	1.223	9.50	19.66
ID = 3 (8158):	943.35	8.502	8.00	25.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8151) / 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8150):	15633.75	66.814	9.25	17.81
+ ID2= 2 (8158):	943.35	8.502	8.00	25.90
ID = 3 (8151):	16577.10	74.177	9.00	18.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5504) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	33.0100	0.6700
	2.6400	0.0500	37.4800	0.7800
	4.8300	0.0900	47.5400	1.0100
	7.4100	0.1300	60.2300	1.2800
	10.3300	0.1900	71.9530	1.5258
	13.5300	0.2500	*******	3.0529
	16.9900	0.3200	*******	5.3299
	20.6800	0.3900	*******	8.4148
	24.6000	0.4800	*******	11.7637
	28.7100	0.5700	*******	11.7737

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8151)	********	74.177	9.00	18.27
OUTFLOW: ID= 1 (5504)	********	74.146	9.00	18.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.96
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.5737

ROUTE CHN (6220) / IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2201.0) ------>

Distance	Elevation	Manning	
0.00	245.59	0.0600	
5.76	245.45	0.0600	
23.03	242.27	0.0600	
57.58	232.35	0.0600	
86.37	226.18	0.0600	
109.41	224.31	0.0600	
115.17	223.86	0.0600	
120.92	222.78	0.0600	
126.68	221.93	0.0600	
128.06	221.50	0.0600 /0.0300	Main Channel
129.56	220.00	0.0300	Main Channel
141.56	220.00	0.0300	Main Channel
143.06	221.50	0.0300 /0.0600	Main Channel
149.72	223.77	0.0600	
155.47	225.09	0.0600	
253.36	229.21	0.0600	
333.98	227.50	0.0600	
454.90	229.25	0.0600	
500.97	233.11	0.0600	
570.07	237.42	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	220.75	.262E+05	5.5	0.57	79.44
1.50	221.50	.555E+05	17.5	0.86	52.89
2.44	222.44	.103E+06	42.7	1.14	40.03
3.37	223.37	.171E+06	79.4	1.27	35.98
4.31	224.31	.263E+06	128.1	1.33	34.22
5.25	225.25	.393E+06	191.7	1.34	34.19
6.18	226.18	.594E+06	276.7	1.28	35.77
7.12	227.12	.872E+06	399.9	1.26	36.33

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       8.06   228.06    .127E+07     542.7          1.17      38.92
       8.99   228.99    .199E+07     770.0          1.06      43.01
       9.93   229.93    .297E+07    1151.8          1.06      42.95
      10.86   230.86    .400E+07    1652.9          1.13      40.33
      11.80   231.80    .507E+07    2251.8          1.22      37.53
      12.74   232.74    .618E+07    2946.5          1.31      34.97
      13.67   233.67    .733E+07    3726.8          1.39      32.79
      14.61   234.61    .853E+07    4591.0          1.48      30.96
      15.55   235.55    .977E+07    5544.1          1.55      29.37
      16.48   236.48    .111E+08    6586.7          1.63      27.99
      17.42   237.42    .124E+08    7719.2          1.71      26.77

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******    74.15    9.00  18.27      3.24      1.25
     OUTFLOW: ID= 1 (6220) *******    72.08    9.50  18.27      3.19      1.24


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--------------------
| CALIB            |
| STANDHYD  (2207) |   Area    (ha)=  57.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   8.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.14         45.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     620.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         46.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.74 (ii)    25.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.76          2.69          2.972 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      52.40         25.62          27.77
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.47           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9278) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000      2.5000
                          0.2000     0.3000   |   0.6000      3.5000
                          0.3000     0.9000   |   0.7000      4.5000
                          0.4000     2.0000   |   0.8000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2207)     57.800     2.972      6.25      27.77
     OUTFLOW: ID= 1 (9278)     57.800     0.312      8.50      27.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.50
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0340

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--------------------
| CALIB            |
| STANDHYD  (2204) |   Area    (ha)=  13.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.98          3.33
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     297.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         44.29
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.91 (ii)    21.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.72          0.20          1.841 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         23.69          43.79
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.44           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9279) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6700      0.3747
                          0.0500     0.2376   |   0.8900      0.4238
                          0.2600     0.2854   |   1.1200      0.4591
                          0.4800     0.3287   |   1.3000      0.4937

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2204)     13.300      1.841      6.00      43.79
     OUTFLOW: ID= 1 (9279)     13.300      0.475      6.50      43.70

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.82
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3309

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| ADD HYD   (9255) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (9278):    57.80   0.312     8.50    27.76
      + ID2= 2 (9279):    13.30   0.475     6.50    43.70
        ================================================
        ID = 3 (9255):    71.10   0.737     6.50    30.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5220) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6050      1.0142
                          0.1320     0.4759   |   3.2710      1.1595
                          0.7550     0.5505   |   3.8080      1.3018
                          1.4050     0.7107   |   4.2080      1.3118
                          1.9490     0.8484   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9255)     71.100      0.737      6.50      30.74
     OUTFLOW: ID= 1 (5220)     71.100      0.384      9.75      30.73

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.09
                TIME SHIFT OF PEAK FLOW          (min)=195.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5062

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--------------------
| CALIB            |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.50
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     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   0.591 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  17.680
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2202):    98.00   0.591     8.25    17.68
       + ID2= 2 (5220):    71.10   0.384     9.75    30.73
         ================================================
         ID = 3 (9220):   169.10   0.943     9.25    23.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6220): 16577.10  72.082     9.50    18.27
       + ID2= 2 (9220):   169.10   0.943     9.25    23.17
         ================================================
         ID = 3 (8160): 16746.20  73.021     9.50    18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2221) |   Area    (ha)= 110.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  20.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.94        69.70
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     858.84        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        43.08
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.05 (ii)   28.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.40         3.57          5.625 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        21.94         28.03
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.40          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2224) |   Area    (ha)=  43.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  66.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.10        12.10
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     536.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        45.17
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.84 (ii)   24.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.83         0.70          5.264 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        23.88         42.70
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.44          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9288) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1600      1.1836
                         0.1500     0.7428   |   2.8900      1.3455
                         0.8400     0.8895   |   3.6300      1.4651
                         1.5600     1.0342   |   4.2300      1.5823

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2224)     43.200      5.264      6.00      42.70
     OUTFLOW: ID= 1 (9288)     43.200      1.483      6.50      42.67

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.17
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0196

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-------------------
| ADD HYD   (9261) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2221):   110.64   5.625     6.00    28.03
       + ID2= 2 (9288):    43.20   1.483     6.50    42.67
         ================================================
         ID = 3 (9261):   153.84   6.292     6.25    32.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2210      4.0213
                         0.4910     2.1348   |   9.0080      4.5380
                         2.1830     2.4433   |  15.0420      4.9977
                         3.9370     2.9883   |  15.4420      5.0077
                         5.4550     3.4692   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9261)    153.840      6.292      6.25      32.14
     OUTFLOW: ID= 1 (5222)    153.840      1.927      7.50      32.14

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.63
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.4018

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-------------------
| CALIB             |
| STANDHYD  (2222) |   Area    (ha)=  65.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  45.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.18        10.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
```

```
     Length            (m)=     661.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81       191.32
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.16 (ii)   19.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.81         2.92          6.797 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        36.32         43.56
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.67          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69   6.797     6.00     43.56
        + ID2= 2 (5222):   153.84   1.927     7.50     32.14
          ================================================
          ID = 3 (8164):   219.53   6.960     6.00     35.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99        33.76
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     593.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        25.05
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.45 (ii)   29.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.37         1.60          3.362 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        22.91         30.87
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.42          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39        26.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     764.63        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        44.29
               over (min)        15.00        30.00

     Storage Coeff.  (min)=      12.17 (ii)   26.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.86         1.41          9.744 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        23.69         42.07
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.44          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3900      2.3776
                          0.3000     1.4858   |   5.8700      2.7087
                          1.7000     1.7770   |   7.3700      2.9557
                          3.1700     2.0741   |   8.5800      3.1980

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700      9.744      6.00      42.07
     OUTFLOW: ID= 1 (9287)     87.700      2.845      6.50      42.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.20
                TIME SHIFT OF PEAK FLOW        (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.0240

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4470      0.1810
                          0.0230     0.0884   |   0.5620      0.2047
                          0.1300     0.1032   |   0.6540      0.2278
                          0.2410     0.1297   |   1.0540      0.2378
                          0.3350     0.1532   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      2.845      6.50      42.05
     OUTFLOW: ID= 1 (5224)     87.700      2.938      6.75      42.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=103.29
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2941

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   3.362     6.00     30.87
        + ID2= 2 (5224):    87.70   2.938     6.75     42.04
          ================================================
          ID = 3 (9224):   140.45   4.116     6.75     37.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8164):   219.53   6.960     6.00     35.55
        + ID2= 2 (9224):   140.45   4.116     6.75     37.84
          ================================================
          ID = 3 (8166):   359.98  10.342     6.00     36.45
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<-------- DATA FOR SECTION (2261.0) ------>

Distance	Elevation	Manning	
0.00	245.35	0.0600	
8.27	242.72	0.0600	
16.54	240.01	0.0600	
31.02	235.31	0.0600	
41.36	233.14	0.0600	
90.99	227.73	0.0600	
93.06	227.50	0.0600	
95.13	227.27	0.0600	
95.83	227.00	0.0600	
100.83	226.50	0.0600 /0.0350	Main Channel
101.33	225.50	0.0350	Main Channel
101.83	226.50	0.0350 /0.0600	Main Channel
105.83	227.00	0.0600	
107.54	227.39	0.0600	
109.60	227.62	0.0600	
111.67	227.86	0.0600	
146.83	231.76	0.0600	
173.71	234.77	0.0600	
186.12	238.23	0.0600	
202.67	238.35	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	226.00	.403E+03	0.0	0.16	330.59
1.00	226.50	.161E+04	0.1	0.26	208.26
1.70	227.20	.173E+05	1.5	0.27	195.72
2.39	227.89	.541E+05	5.9	0.35	152.27
3.09	228.59	.119E+06	16.0	0.43	124.08
3.79	229.29	.212E+06	33.8	0.51	104.65
4.49	229.99	.334E+06	61.2	0.59	90.97
5.18	230.68	.484E+06	99.7	0.66	80.88
5.88	231.38	.663E+06	151.0	0.73	73.13
6.58	232.08	.870E+06	216.5	0.80	66.95
7.27	232.77	.111E+07	297.5	0.87	61.91
7.97	233.47	.137E+07	398.1	0.94	57.29
8.67	234.17	.165E+07	518.9	1.01	53.12
9.36	234.86	.196E+07	658.9	1.08	49.59
10.06	235.56	.228E+07	827.0	1.17	46.02
10.76	236.26	.262E+07	1015.4	1.25	42.96
11.46	236.96	.296E+07	1221.2	1.33	40.41
12.15	237.65	.332E+07	1444.6	1.40	38.26
12.85	238.35	.368E+07	1598.2	1.40	38.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8166)	359.98	10.34	6.00	36.45	2.70	0.38
OUTFLOW: ID= 1 (6226)	359.98	3.42	7.50	36.44	2.00	0.30

```
| CALIB              |
| NASHYD    (2267) |   Area    (ha)=  10.50   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.47

     Unit Hyd Qpeak  (cms)=   0.383

     PEAK FLOW       (cms)=   0.208 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  22.481
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.413

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| RESERVOIR (9276) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5300      0.1297
                         0.0400     0.0402   |   0.7100      0.1837
                         0.2000     0.0341   |   0.8900      0.2402
                         0.3800     0.0910   |   1.0300      0.2954

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2267)    10.500     0.208      6.50      22.48
     OUTFLOW: ID= 1 (9276)    10.500     0.225      7.50      22.46

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=107.92
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0363

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
```

```
| CALIB              |
| STANDHYD  (2264) |   Area    (ha)= 117.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	88.35	29.45
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	886.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	44.29
over (min)		15.00	30.00
Storage Coeff. (min)=		13.30 (ii)	28.11 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	12.59	1.55	13.555 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	52.40	23.69	43.79
TOTAL RAINFALL	(mm)=	54.40	54.40	54.40
RUNOFF COEFFICIENT	=	0.96	0.44	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| RESERVOIR (9277) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.5000      8.0000
                         0.3000     2.0000   |   3.5000     10.0000
                         0.9000     5.0000   |   4.5000     13.0000
                         2.0000     7.5000   |   5.5000     14.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2264)    117.800     13.555      6.00      43.79
     OUTFLOW: ID= 1 (9277)    117.800      0.680      8.50      43.77

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.02
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.9015
```

```
| ADD HYD   (9253) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9276):    10.50   0.225     7.50    22.46
        + ID2= 2 (9277):   117.80   0.680     8.50    43.77
          ================================================
          ID = 3 (9253):   128.30   0.885     7.50    42.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.7530      0.6823
                          0.0890     0.3202   |   2.2010      0.7801
                          0.5080     0.3704   |   2.5620      0.8758
                          0.9450     0.4782   |   2.9620      0.8858
                          1.3110     0.5708   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300      0.885      7.50      42.03
     OUTFLOW: ID= 1 (5226)    128.300      0.769      9.25      42.02

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.81
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4425

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2262) |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.934

     PEAK FLOW       (cms)=   1.039 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.363
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.356

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2262):   119.28   1.039     7.50    19.36
        + ID2= 2 (5226):   128.30   0.769     9.25    42.02
          ================================================
          ID = 3 (9226):   247.58   1.719     8.25    31.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6226):   359.98   3.422     7.50    36.44
        + ID2= 2 (9226):   247.58   1.719     8.25    31.11
          ================================================
          ID = 3 (8168):   607.56   5.085     7.75    34.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8160): 16746.20  73.021     9.50    18.32
        + ID2= 2 (8168):   607.56   5.085     7.75    34.27
          ================================================
          ID = 3 (8162): 17353.76  77.376     9.25    18.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation       Manning
                   0.00         245.00        0.0600
                  18.60         244.74        0.0600
                  37.20         242.47        0.0600
                  93.01         233.71        0.0600
                 125.57         226.95        0.0600
                 213.93         221.63        0.0600
                 218.58         221.15        0.0600
                 223.23         220.45        0.0600
                 225.03         220.55    0.0600 /0.0300  Main Channel
                 225.53         218.05        0.0300      Main Channel
                 232.53         218.05        0.0300      Main Channel
                 240.03         218.05        0.0300      Main Channel
                 241.03         220.55    0.0300 /0.0600  Main Channel
                 246.48         221.00        0.0600
                 251.13         221.27        0.0600
                 255.78         221.22        0.0600
                 325.54         225.25        0.0600
                 367.40         228.91        0.0600
                 404.60         231.75        0.0600
                 460.41         245.00        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       1.25    219.30    .338E+05        16.0         0.86      35.15
       2.50    220.55    .696E+05        48.3         1.26      24.02
       3.94    221.99    .168E+06       116.0         1.26      24.14
       5.38    223.43    .392E+06       247.5         1.15      26.37
       6.81    224.86    .743E+06       472.6         1.16      26.20
       8.25    226.30    .122E+07       821.6         1.23      24.67
       9.69    227.74    .179E+07      1320.1         1.34      22.59
      11.13    229.18    .243E+07      1965.7         1.47      20.58
      12.57    230.62    .313E+07      2744.2         1.59      19.02
      14.01    232.06    .390E+07      3683.4         1.72      17.66
      15.44    233.49    .472E+07      4824.1         1.86      16.30
      16.88    234.93    .557E+07      6092.4         1.99      15.23
      18.32    236.37    .646E+07      7503.3         2.11      14.35
      19.76    237.81    .739E+07      9061.2         2.23      13.59
      21.20    239.25    .836E+07     10767.6         2.34      12.94
      22.64    240.69    .937E+07     12624.8         2.45      12.37
      24.07    242.12    .104E+08     14634.9         2.56      11.87
      25.51    243.56    .115E+08     16762.8         2.65      11.45
      26.95    245.00    .127E+08     18699.9         2.69      11.28

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******    77.38    9.25  18.88      3.12      1.26
     OUTFLOW: ID= 1 (6228) *******    76.03    9.75  18.88      3.10      1.26

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2287) |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.01         100.48
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     932.74          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      71.81          14.09
               over (min)        15.00          45.00
     Storage Coeff.  (min)=      13.71 (ii)     37.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00          45.00
     Unit Hyd. peak  (cms)=       0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.97           2.19       2.849 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.50        6.00
     RUNOFF VOLUME    (mm)=      52.40          13.29       17.20
     TOTAL RAINFALL   (mm)=      54.40          54.40       54.40
     RUNOFF COEFFICIENT   =       0.96           0.24        0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| RESERVOIR (9275) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5000      3.5000
                          0.8000     0.1000   |   6.0000      4.0000
                          1.5000     2.0000   |   6.5000      4.5000
                          2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2287)    130.500      2.849      6.00      17.20
     OUTFLOW: ID= 1 (9275)    130.500      1.040      7.50      17.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.50
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7525
```

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--------------------
| RESERVOIR (5228) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.7260      2.6184
                          0.3410     1.2286   |   8.4460      2.9937
                          1.9480     1.4214   |   9.8320      3.3609
                          3.6280     1.8348   |  10.2320      3.3709
                          5.0330     2.1904   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9275)    130.500      1.040      7.50      17.20
     OUTFLOW: ID= 1 (5228)    130.500      0.849     10.75      17.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 81.60
                  TIME SHIFT OF PEAK FLOW         (min)=195.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2896
```

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--------------------
| CALIB            |
| NASHYD    (2282) |   Area    (ha)= 180.03   Curve Number   (CN)= 61.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.754

     PEAK FLOW       (cms)=   0.892 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.759
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (9228) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2282):   180.03   0.892     7.75    11.76
        + ID2= 2 (5228):   130.50   0.849    10.75    17.19
          ================================================
          ID = 3 (9228):   310.53   1.476    10.50    14.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6228): 17353.76  76.034     9.75    18.88
        + ID2= 2 (9228):   310.53   1.476    10.50    14.04
          ================================================
          ID = 3 (8170): 17664.29  77.297    10.25    18.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2302) |   Area    (ha)=  30.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  11.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.84         21.63
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      450.70         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81         19.39
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        8.86 (ii)    29.48 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.58          0.79          1.068 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=       52.40         16.72          20.64
     TOTAL RAINFALL   (mm)=       54.40         54.40          54.40
     RUNOFF COEFFICIENT   =        0.96          0.31           0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2307) |   Area    (ha)= 175.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       43.75        131.25
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1080.12         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81         24.23
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       14.97 (ii)    33.83 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.29          5.12          5.797 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=       52.40         21.06          23.88
     TOTAL RAINFALL   (mm)=       54.40         54.40          54.40
     RUNOFF COEFFICIENT   =        0.96          0.39           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| RESERVOIR (9280) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.7500      3.0604
                          0.5900     1.4722   |  11.7100      3.8736
                          3.3900     1.6096   |  14.7000      4.6556
                          6.3200     2.4308   |  17.1100      5.4201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (2307)    175.000      5.797      6.50      23.88
     OUTFLOW: ID= 1 (9280)    175.000      3.605      7.00      23.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.18
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.6758

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.6830      2.7782
                         0.4700     1.3193   |  10.7480      3.1570
                         2.5870     1.5374   |  12.3570      3.5304
                         5.1590     1.9534   |  12.7570      3.5404
                         6.7830     2.3333   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9280)    175.000      3.605      7.00      23.87
     OUTFLOW: ID= 1 (5230)    175.000      1.299      8.25      23.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.04
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.4075

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   1.068     6.00    20.64
       + ID2= 2 (5230):   175.00   1.299     8.25    23.87
         ================================================
         ID = 3 (8172):   205.47   1.454     8.25    23.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.22

     Unit Hyd Qpeak  (cms)=   0.143

     PEAK FLOW       (cms)=   0.038 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  13.492
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0900      0.0300
                         0.0100     0.0136   |   0.1200      0.0386
                         0.0400     0.0146   |   0.1500      0.0471
                         0.0700     0.0234   |   0.1800      0.0554

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2329)      1.800      0.038      6.00      13.49
     OUTFLOW: ID= 1 (9269)      1.800      0.009      7.75      13.31

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.83
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0123

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-------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.16       139.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1107.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        17.80
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.20 (ii)   36.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.13         3.88          4.517 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      52.40        15.96          18.87
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.29           0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0000      4.0000
                         1.1000     0.3000   |   3.5000      4.5000
                         1.8000     1.8000   |   4.5000      6.0000
                         2.0000     2.5000   |   5.5000      8.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2327)    184.000      4.517      6.50      18.87
     OUTFLOW: ID= 1 (9270)    184.000      1.566      7.75      18.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.66
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3029

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-------------------
| ADD HYD   (9249) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.009     7.75    13.31
       + ID2= 2 (9270):   184.00   1.566     7.75    18.87
         ================================================
         ID = 3 (9249):   185.80   1.575     7.75    18.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.1130      4.3262
                         0.5630     2.0299   |  13.9540      4.9462
                         3.2190     2.3484   |  16.2450      5.5530
                         5.9950     3.0315   |  16.6450      5.5630
                         8.3150     3.6189   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800      1.575      7.75      18.82
     OUTFLOW: ID= 1 (5232)    185.800      1.128     11.50      18.81

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.62
                   TIME SHIFT OF PEAK FLOW         (min)=225.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0980

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| CALIB             |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   0.612 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.385
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   129.00   0.612     7.50    10.39
       + ID2= 2 (5232):   185.80   1.128    11.50    18.81
         ================================================
         ID = 3 (9232):   314.80   1.449    11.50    15.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8172):   205.47   1.454     8.25    23.39
       + ID2= 2 (9232):   314.80   1.449    11.50    15.36
         ================================================
         ID = 3 (8173):   520.27   2.373     8.25    18.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17664.29  77.297    10.25    18.80
       + ID2= 2 (8173):   520.27   2.373     8.25    18.53
         ================================================
         ID = 3 (8174): 18184.56  79.043    10.00    18.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2341.0) ------>
              Distance      Elevation       Manning
                 0.00         228.00        0.0550
                42.86         223.21        0.0550
                85.72         219.56        0.0550
               107.15         219.42        0.0550
               128.58         219.39        0.0550
               214.30         219.30        0.0550
               225.02         219.26        0.0550
               235.73         219.24        0.0550
               255.16         219.20    0.0550 /0.0350  Main Channel
               257.16         217.20        0.0350      Main Channel
               303.16         217.20        0.0350      Main Channel
               305.16         219.20    0.0350 /0.0550  Main Channel
               310.74         219.28        0.0550
               321.45         219.27        0.0550
               332.17         219.26        0.0550
               396.46         219.29        0.0550
               782.20         222.91        0.0550
               878.64         227.43        0.0550
               964.36         227.80        0.0550
              1060.79         228.00        0.0550

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   217.70    .887E+05       7.2         0.31     206.54
       1.00   218.20    .179E+06      22.7         0.48     131.74
       1.50   218.70    .272E+06      44.5         0.62     101.75
       2.00   219.20    .366E+06      71.8         0.75      84.97
       2.59   219.79    .993E+06     136.1         0.52     121.59
       3.17   220.37    .189E+07     258.6         0.52     121.80
       3.76   220.96    .294E+07     434.7         0.56     112.82
       4.35   221.55    .415E+07     665.9         0.61     103.88
       4.93   222.13    .551E+07     955.0         0.66      96.22
       5.52   222.72    .703E+07    1305.1         0.71      89.80
       6.11   223.31    .868E+07    1744.9         0.77      82.91
       6.69   223.89    .104E+08    2261.4         0.83      76.46
       7.28   224.48    .121E+08    2838.0         0.89      71.12
       7.87   225.07    .139E+08    3472.9         0.95      66.63
       8.45   225.65    .157E+08    4165.0         1.01      62.82
       9.04   226.24    .176E+08    4913.5         1.07      59.54
       9.63   226.83    .194E+08    5717.7         1.12      56.68
      10.21   227.41    .214E+08    6577.1         1.17      54.18
      10.80   228.00    .235E+08    6919.5         1.12      56.61

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8174) *******    79.04   10.00  18.79     2.07      0.71
     OUTFLOW: ID= 1 (6234) *******    72.43   11.50  18.79     2.01      0.74

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   0.699 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   9.766
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3100      4.0635
                         0.9000     1.7152   |  17.8000      5.3537
                         5.1600     1.7685   |  22.3500      6.6446
                         9.6100     3.0976   |  26.0300      7.9060

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100      0.699      9.25       9.77
     OUTFLOW: ID= 1 (9281)    266.100      0.468     14.00       9.76

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.94
               TIME SHIFT OF PEAK FLOW         (min)=285.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.8924

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-------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5630      0.1745
                         0.1300     0.0819   |   0.6550      0.1995
                         0.2420     0.0947   |   0.7760      0.2240
                         0.3350     0.1223   |   1.0550      0.2340
                         0.4480     0.1460   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      0.468     14.00       9.76
     OUTFLOW: ID= 1 (5234)    266.100      0.465     14.50       9.76

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.28
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
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                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1502
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2342) |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.23         0.83
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.06        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         6.79
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.63 (ii)   23.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01         0.024 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      53.40         6.60         10.33
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.98         0.12          0.19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2342):     1.06   0.024     6.00    10.33
       + ID2= 2 (5234):   266.10   0.465    14.50     9.76
         ================================================
         ID = 3 (9234):   267.16   0.465    14.50     9.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6234): 18184.56  72.428    11.50    18.79
       + ID2= 2 (9234):   267.16   0.465    14.50     9.77
         ================================================
         ID = 3 (8176): 18451.72  72.814    11.50    18.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2369) |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.64       340.26
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1716.39        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      48.96        19.20
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      23.04 (ii)   43.74 (ii)
     Unit Hyd. Tpeak (min)=      30.00        45.00
     Unit Hyd. peak  (cms)=       0.04         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.55         9.19         11.499 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50          6.50
     RUNOFF VOLUME    (mm)=      52.40        17.30         20.11
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.32          0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9266) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3000      8.0000
                          0.2000     2.0000   |   3.5000     10.0000
                          1.9000     7.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900     11.499      6.50      20.11
     OUTFLOW: ID= 1 (9266)    441.900      1.582      9.75      20.11

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.76
                   TIME SHIFT OF PEAK FLOW         (min)=195.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.0638

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5236) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1380      1.5897
                          1.0220     0.7542   |   3.7950      2.0204
                          1.7530     0.8200   |   4.4970      2.4373
                          2.3290     1.2567   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      1.582      9.75      20.11
     OUTFLOW: ID= 1 (5236)    441.900      1.574     10.50      20.11

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.50
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.8040

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2362) |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.218 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  10.618
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.195

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.218     8.00    10.62
       + ID2= 2 (5236):   441.90   1.574    10.50    20.11
         ================================================
         ID = 3 (9236):   494.49   1.748    10.25    19.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2381.0) ------>
               Distance      Elevation       Manning
                   0.00         241.54        0.0380
                 602.55         227.00        0.0380
                1702.00         224.50        0.0380
                1721.25         223.00        0.0380
                1725.10         222.60        0.0380
                1780.94         222.50        0.0380
                1782.87         222.45        0.0380
                1784.79         222.40    0.0380 /0.0300  Main Channel
                1786.57         221.75        0.0300      Main Channel
                1787.07         220.75        0.0300      Main Channel
                1787.57         220.75        0.0300      Main Channel
                1791.57         220.75        0.0300      Main Channel
                1794.07         221.75        0.0300      Main Channel
                1798.27         222.00        0.0300      Main Channel
                1800.19         222.35    0.0300 /0.0380  Main Channel
                1802.12         222.47        0.0380
                1840.63         223.00        0.0380
                1900.00         225.00        0.0380
                1950.00         226.00        0.0380
                2242.61         240.00        0.0380

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.80   221.55    .101E+05       5.2         1.14      32.36
       1.60   222.35    .296E+05      18.7         1.40      26.36
       2.64   223.39    .249E+06     151.8         1.35      27.33
       3.68   224.43    .613E+06     512.2         1.85      19.94
       4.71   225.46    .152E+07    1066.8         1.55      23.80
       5.75   226.50    .359E+07    2824.9         1.75      21.16
       6.79   227.54    .663E+07    6528.0         2.18      16.93
       7.83   228.58    .994E+07   12158.6         2.71      13.62
       8.87   229.62    .134E+08   19268.8         3.19      11.58
       9.91   230.66    .170E+08   27785.3         3.63      10.19
      10.94   231.69    .207E+08   37667.1         4.03       9.18
      11.98   232.73    .246E+08   48891.7         4.40       8.40
      13.02   233.77    .287E+08   61448.0         4.75       7.78
      14.06   234.81    .329E+08   75332.7         5.08       7.28
      15.10   235.85    .372E+08   90547.8         5.39       6.85
      16.14   236.89    .417E+08   *******         5.69       6.49
      17.17   237.92    .464E+08   *******         5.98       6.18
      18.21   238.96    .512E+08   *******         6.25       5.91
      19.25   240.00    .561E+08   *******         6.52       5.67

                              <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (9236)  494.49     1.75   10.25  19.10      0.27      1.14
    OUTFLOW: ID= 1 (6238)  494.49     1.70   11.25  19.10      0.26      1.14


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--------------------
| CALIB            |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.99         3.71
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    177.01        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        18.67
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.06 (ii)   25.99 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.14          0.152 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     52.40        17.10         19.57
     TOTAL RAINFALL   (mm)=     54.40        54.40         54.40
     RUNOFF COEFFICIENT   =      0.96         0.31          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300     0.0785
                          0.0200     0.0364   |   0.3100     0.1005
                          0.0900     0.0393   |   0.3900     0.1220
                          0.1700     0.0616   |   0.4600     0.1429

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)      4.700      0.152      6.25      19.57
     OUTFLOW: ID= 1 (9267)      4.700      0.093      6.75      19.47

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.00
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0405

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--------------------
| CALIB            |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   0.417 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.065
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.167

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100     1.3564
                          0.3100     0.5624   |   6.0400     1.7959
                          1.7500     0.5748   |   7.5800     2.2374
                          3.2600     1.0285   |   8.8300     2.6688

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)     90.200      0.417      7.00       9.06
     OUTFLOW: ID= 1 (9268)     90.200      0.203     11.00       9.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.63
                TIME SHIFT OF PEAK FLOW          (min)=240.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3680

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--------------------
| ADD HYD   (9247) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9267):     4.70   0.093     6.75    19.47
        + ID2= 2 (9268):    90.20   0.203    11.00     9.06
          ================================================
          ID = 3 (9247):    94.90   0.220    11.00     9.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   3.8780      1.5095
                        0.1960     0.7083   |   4.8600      1.7258
                        1.1230     0.8194   |   5.6680      1.9375
                        2.0920     1.0578   |   6.0680      1.9475
                        2.9010     1.2627   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9247)     94.900      0.220     11.00       9.58
     OUTFLOW: ID= 1 (5238)     94.900      0.115     17.00       9.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.28
                  TIME SHIFT OF PEAK FLOW         (min)=360.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4162

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-------------------
| CALIB           |
| NASHYD    (2382) |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   0.705 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  10.007
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2382):   216.80   0.705     8.25    10.01
       + ID2= 2 (5238):    94.90   0.115    17.00     9.57
         ================================================
         ID = 3 (9238):   311.70   0.734     8.75     9.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6238):   494.49   1.698    11.25    19.10
       + ID2= 2 (9238):   311.70   0.734     8.75     9.87
         ================================================
         ID = 3 (8180):   806.19   2.359    11.00    15.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18451.72  72.814    11.50    18.66
       + ID2= 2 (8180):   806.19   2.359    11.00    15.53
         ================================================
         ID = 3 (8178): 19257.91  75.143    11.50    18.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                   0.00         222.00        0.0450
                  11.46         221.00        0.0450
                 208.98         221.00        0.0450
                 404.04         220.97        0.0450
                 808.08         220.83        0.0450
                 905.60         220.17        0.0450
                 919.53         219.43        0.0450
                 933.47         219.22        0.0450
                 945.26         219.21    0.0450 /0.0300  Main Channel
                 946.26         217.81        0.0300      Main Channel
                 975.26         217.81        0.0300      Main Channel
                1003.26         217.81        0.0300      Main Channel
                1005.26         219.21    0.0300 /0.0450  Main Channel
                1017.06         219.28        0.0450
                1030.99         219.26        0.0450
                1044.92         219.23        0.0450
                1058.86         219.23        0.0450
                1253.91         219.22        0.0450
                1323.57         221.05        0.0450
                1379.30         222.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.20    218.01    .307E+05        2.2          0.20      227.52
       0.40    218.21    .617E+05        7.1          0.31      143.95
       0.60    218.41    .928E+05       14.0          0.41      110.33
       0.80    218.61    .124E+06       22.6          0.49       91.46
       1.00    218.81    .156E+06       32.8          0.57       79.15
       1.20    219.01    .188E+06       44.5          0.64       70.38
       1.40    219.21    .220E+06       57.5          0.70       63.77
       1.63    219.44    .413E+06       82.5          0.54       83.52
       1.87    219.68    .632E+06      120.9          0.51       87.03
       2.10    219.91    .858E+06      170.0          0.53       84.11
       2.33    220.14    .109E+07      228.7          0.56       79.62
       2.56    220.37    .134E+07      294.4          0.59       76.03
       2.80    220.61    .162E+07      371.1          0.61       72.75
       3.03    220.84    .192E+07      456.8          0.64       70.18
       3.26    221.07    .251E+07      552.1          0.59       75.74
       3.49    221.30    .333E+07      711.8          0.57       78.07
       3.73    221.54    .417E+07      907.0          0.58       76.62
       3.96    221.77    .502E+07     1134.1          0.61       73.70
       4.19    222.00    .587E+07     1390.9          0.64       70.34

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******    75.14   11.50  18.53      1.56      0.58
     OUTFLOW: ID= 1 (6240) *******    69.00   12.75  18.53      1.50      0.62

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-------------------
| CALIB           |
| NASHYD    (0240) |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   0.416 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=   7.010
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.129

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2407) |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.78         71.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     769.85         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         15.94
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.22 (ii)    34.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.98          1.82          2.060 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      52.40         14.96          17.58
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     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.28           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9273) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.4500      5.4723
                          0.3000     4.6746   |   5.9500      5.8930
                          1.7300     4.7225   |   7.4700      6.3047
                          3.2100     5.1511   |   8.7000      6.7071

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2407)     88.900     2.060      6.50      17.58
     OUTFLOW: ID= 1 (9273)     88.900     0.088     12.50      17.54

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.27
                   TIME SHIFT OF PEAK FLOW         (min)=360.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3713

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--------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0240):   345.47   0.416    12.00     7.01
        + ID2= 2 (9273):    88.90   0.088    12.50    17.54
          ================================================
          ID = 3 (9252):   434.37   0.503    12.00     9.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6240): 19257.91  68.998    12.75    18.53
        + ID2= 2 (9252):   434.37   0.503    12.00     9.17
          ================================================
          ID = 3 (8182): 19692.28  69.493    12.75    18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (2427) |   Area    (ha)=   5.40   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.249

     PEAK FLOW       (cms)=   0.092 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.826
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9274) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2700      0.0857
                          0.0200     0.0379   |   0.3600      0.1115
                          0.1000     0.0399   |   0.4500      0.1369
                          0.1900     0.0663   |   0.5300      0.1618

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2427)     5.400     0.092      6.50      16.83
     OUTFLOW: ID= 1 (9274)     5.400     0.070      7.50      16.74

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 75.91
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0399

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--------------------
| RESERVOIR (5242) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0480      1.0185
                          0.0020     1.0087   |   0.0600      1.0212
                          0.0140     1.0101   |   0.0700      1.0238
                          0.0260     1.0130   |   0.4700      1.0338
                          0.0360     1.0155   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9274)     5.400     0.070      7.50      16.74
     OUTFLOW: ID= 1 (5242)     5.400     0.000     35.00       0.27

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.25
                   TIME SHIFT OF PEAK FLOW         (min)=******
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0889

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--------------------
| CALIB            |
| NASHYD    (2422) |   Area    (ha)= 652.48   Curve Number   (CN)= 51.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.073

     PEAK FLOW       (cms)=   0.671 (i)
     TIME TO PEAK    (hrs)=  13.000
     RUNOFF VOLUME    (mm)=   8.477
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.156

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2422):   652.48   0.671    13.00     8.48
        + ID2= 2 (5242):     5.40   0.000    35.00     0.27
          ================================================
          ID = 3 (9242):   657.88   0.671    13.00     8.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8182): 19692.28  69.493    12.75    18.32
        + ID2= 2 (9242):   657.88   0.671    13.00     8.41
          ================================================
          ID = 3 (8184): 20350.16  70.164    12.75    18.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2441.0) ------>
               Distance      Elevation       Manning
                  0.00         225.00        0.0450
```

```
                2.50        220.10        0.0450
                3.00        220.06        0.0450
                3.64        220.07        0.0450
                7.28        220.08        0.0450
               10.91        220.09        0.0450
               14.55        219.81        0.0450
               18.19        219.29        0.0450
               24.13        219.21    0.0450 /0.0300  Main Channel
               24.63        217.81        0.0300      Main Channel
               69.13        217.81        0.0300      Main Channel
              114.13        217.81        0.0300      Main Channel
              115.13        219.21    0.0300 /0.0450  Main Channel
              120.06        219.25        0.0450
              123.70        219.32        0.0450
              127.34        219.77        0.0450
              130.98        219.88        0.0450
              134.61        219.99        0.0450
              350.00        220.18        0.0450
              360.18        225.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.35   218.16    .108E+06        9.0          0.29     200.52
      0.70   218.51    .216E+06       28.4          0.45     126.89
      1.05   218.86    .325E+06       55.7          0.59      97.27
      1.40   219.21    .434E+06       89.7          0.71      80.65
      1.79   219.60    .574E+06      135.9          0.81      70.36
      2.17   219.98    .726E+06      190.8          0.90      63.38
      2.56   220.37    .111E+07      264.3          0.82      69.82
      2.94   220.75    .157E+07      371.7          0.81      70.36
      3.33   221.14    .203E+07      503.4          0.85      67.30
      3.72   221.53    .250E+07      656.6          0.90      63.40
      4.10   221.91    .296E+07      829.6          0.96      59.54
      4.49   222.30    .343E+07     1021.1          1.02      56.00
      4.87   222.68    .390E+07     1230.2          1.08      52.83
      5.26   223.07    .437E+07     1456.2          1.14      50.01
      5.65   223.46    .484E+07     1698.4          1.20      47.51
      6.03   223.84    .531E+07     1956.3          1.26      45.28
      6.42   224.23    .579E+07     2229.3          1.32      43.28
      6.80   224.61    .626E+07     2517.0          1.38      41.48
      7.19   225.00    .674E+07     2819.2          1.44      39.85

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8184) *******    70.16   12.75  18.00      1.20      0.63
     OUTFLOW: ID= 1 (6244) *******    65.79   14.00  18.00      1.15      0.62


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--------------------
| CALIB            |
| STANDHYD  (2441) |   Area    (ha)=  91.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.18         50.34
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     781.11         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         23.87
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.33 (ii)    31.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.16          2.02          2.997 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         16.71          22.06
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.31           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2449) |   Area    (ha)= 143.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  17.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.69         94.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     977.07         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         21.11
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.10 (ii)    34.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.63          3.22          4.958 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         18.01          23.86
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.33           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9265) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.1600      2.7857
                          0.4900     1.4537   |   9.5800      3.4259
                          2.7800     1.6401   |  12.0300      4.0179
                          5.1700     2.2743   |  14.0100      4.5968

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2449)    143.200      4.958      6.00      23.86
     OUTFLOW: ID= 1 (9265)    143.200      2.504      7.00      23.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.49
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6212

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--------------------
| ADD HYD   (9245) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2441):    91.52    2.997     6.00     22.06
        + ID2= 2 (9265):   143.20    2.504     7.00     23.85
          ================================================
          ID = 3 (9245):   234.72    3.931     7.00     23.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5244) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  15.7000     11.1120
                          0.7950     7.8678   |  19.7140     11.9879
                          4.5470     8.3178   |  22.9500     12.8451
                          8.4690     9.2829   |  23.3500     12.8551
                         11.7470    10.1128   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9245)    234.720      3.931      7.00      23.15
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     OUTFLOW: ID= 1 (5244)    234.720      0.352     14.75      23.14

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.95
                   TIME SHIFT OF PEAK FLOW          (min)=465.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.4801

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--------------------
| CALIB            |
| NASHYD    (2442) |   Area    (ha)=1674.00   Curve Number   (CN)= 62.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  12.991

     PEAK FLOW       (cms)=   5.004 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  11.900
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2442):  1674.00   5.004     9.75    11.90
        + ID2= 2 (5244):   234.72   0.352    14.75    23.14
          ================================================
          ID = 3 (9244):  1908.72   5.319    10.00    13.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6244): 20350.16  65.786    14.00    18.00
        + ID2= 2 (9244):  1908.72   5.319    10.00    13.28
          ================================================
          ID = 3 (8186): 22258.88  69.701    14.00    17.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=   0.00
--------------------   VOLUME     (mm)=   0.00
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
  Comments:

          HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
          ACTUAL PEAK FLOW: PEAK (   0.00) + BASE (*******) = *******  (cms).
  TIME    FLOW |  TIME    FLOW |  TIME    FLOW |'  TIME    FLOW |  TIME    FLOW
   hrs     cms |   hrs     cms |   hrs     cms |'   hrs     cms |   hrs     cms
  0.00 ******* |  60.50 ******* |121.00 ******* |181.50 ******* |242.00 *******
  0.25 ******* |  60.75 ******* |121.25 ******* |181.75 ******* |242.25 *******
  0.50 ******* |  61.00 ******* |121.50 ******* |182.00 ******* |242.50 *******
  0.75 ******* |  61.25 ******* |121.75 ******* |182.25 ******* |242.75 *******
  1.00 ******* |  61.50 ******* |122.00 ******* |182.50 ******* |243.00 *******
  1.25 ******* |  61.75 ******* |122.25 ******* |182.75 ******* |243.25 *******
  1.50 ******* |  62.00 ******* |122.50 ******* |183.00 ******* |243.50 *******
  1.75 ******* |  62.25 ******* |122.75 ******* |183.25 ******* |243.75 *******
  2.00 ******* |  62.50 ******* |123.00 ******* |183.50 ******* |244.00 *******
  2.25 ******* |  62.75 ******* |123.25 ******* |183.75 ******* |244.25 *******
  2.50 ******* |  63.00 ******* |123.50 ******* |184.00 ******* |244.50 *******
  2.75 ******* |  63.25 ******* |123.75 ******* |184.25 ******* |244.75 *******
  3.00 ******* |  63.50 ******* |124.00 ******* |184.50 ******* |245.00 *******
  3.25 ******* |  63.75 ******* |124.25 ******* |184.75 ******* |245.25 *******
  3.50 ******* |  64.00 ******* |124.50 ******* |185.00 ******* |245.50 *******
  3.75 ******* |  64.25 ******* |124.75 ******* |185.25 ******* |245.75 *******
  4.00 ******* |  64.50 ******* |125.00 ******* |185.50 ******* |246.00 *******
  4.25 ******* |  64.75 ******* |125.25 ******* |185.75 ******* |246.25 *******
  4.50 ******* |  65.00 ******* |125.50 ******* |186.00 ******* |246.50 *******
  4.75 ******* |  65.25 ******* |125.75 ******* |186.25 ******* |246.75 *******
  5.00 ******* |  65.50 ******* |126.00 ******* |186.50 ******* |247.00 *******
  5.25 ******* |  65.75 ******* |126.25 ******* |186.75 ******* |247.25 *******
  5.50 ******* |  66.00 ******* |126.50 ******* |187.00 ******* |247.50 *******
  5.75 ******* |  66.25 ******* |126.75 ******* |187.25 ******* |247.75 *******
  6.00 ******* |  66.50 ******* |127.00 ******* |187.50 ******* |248.00 *******
  6.25 ******* |  66.75 ******* |127.25 ******* |187.75 ******* |248.25 *******
  6.50 ******* |  67.00 ******* |127.50 ******* |188.00 ******* |248.50 *******
  6.75 ******* |  67.25 ******* |127.75 ******* |188.25 ******* |248.75 *******
  7.00 ******* |  67.50 ******* |128.00 ******* |188.50 ******* |249.00 *******
  7.25 ******* |  67.75 ******* |128.25 ******* |188.75 ******* |249.25 *******
  7.50 ******* |  68.00 ******* |128.50 ******* |189.00 ******* |249.50 *******
  7.75 ******* |  68.25 ******* |128.75 ******* |189.25 ******* |249.75 *******
  8.00 ******* |  68.50 ******* |129.00 ******* |189.50 ******* |250.00 *******
  8.25 ******* |  68.75 ******* |129.25 ******* |189.75 ******* |250.25 *******
  8.50 ******* |  69.00 ******* |129.50 ******* |190.00 ******* |250.50 *******
  8.75 ******* |  69.25 ******* |129.75 ******* |190.25 ******* |250.75 *******
  9.00 ******* |  69.50 ******* |130.00 ******* |190.50 ******* |251.00 *******
  9.25 ******* |  69.75 ******* |130.25 ******* |190.75 ******* |251.25 *******
  9.50 ******* |  70.00 ******* |130.50 ******* |191.00 ******* |251.50 *******
  9.75 ******* |  70.25 ******* |130.75 ******* |191.25 ******* |251.75 *******
 10.00 ******* |  70.50 ******* |131.00 ******* |191.50 ******* |252.00 *******
 10.25 ******* |  70.75 ******* |131.25 ******* |191.75 ******* |252.25 *******
 10.50 ******* |  71.00 ******* |131.50 ******* |192.00 ******* |252.50 *******
 10.75 ******* |  71.25 ******* |131.75 ******* |192.25 ******* |252.75 *******
 11.00 ******* |  71.50 ******* |132.00 ******* |192.50 ******* |253.00 *******
 11.25 ******* |  71.75 ******* |132.25 ******* |192.75 ******* |253.25 *******
 11.50 ******* |  72.00 ******* |132.50 ******* |193.00 ******* |253.50 *******
 11.75 ******* |  72.25 ******* |132.75 ******* |193.25 ******* |253.75 *******
 12.00 ******* |  72.50 ******* |133.00 ******* |193.50 ******* |254.00 *******
 12.25 ******* |  72.75 ******* |133.25 ******* |193.75 ******* |254.25 *******
 12.50 ******* |  73.00 ******* |133.50 ******* |194.00 ******* |254.50 *******
 12.75 ******* |  73.25 ******* |133.75 ******* |194.25 ******* |254.75 *******
 13.00 ******* |  73.50 ******* |134.00 ******* |194.50 ******* |255.00 *******
 13.25 ******* |  73.75 ******* |134.25 ******* |194.75 ******* |255.25 *******
 13.50 ******* |  74.00 ******* |134.50 ******* |195.00 ******* |255.50 *******
 13.75 ******* |  74.25 ******* |134.75 ******* |195.25 ******* |255.75 *******
 14.00 ******* |  74.50 ******* |135.00 ******* |195.50 ******* |256.00 *******
 14.25 ******* |  74.75 ******* |135.25 ******* |195.75 ******* |256.25 *******
 14.50 ******* |  75.00 ******* |135.50 ******* |196.00 ******* |256.50 *******
 14.75 ******* |  75.25 ******* |135.75 ******* |196.25 ******* |256.75 *******
 15.00 ******* |  75.50 ******* |136.00 ******* |196.50 ******* |257.00 *******
 15.25 ******* |  75.75 ******* |136.25 ******* |196.75 ******* |257.25 *******
 15.50 ******* |  76.00 ******* |136.50 ******* |197.00 ******* |257.50 *******
 15.75 ******* |  76.25 ******* |136.75 ******* |197.25 ******* |257.75 *******
 16.00 ******* |  76.50 ******* |137.00 ******* |197.50 ******* |258.00 *******
 16.25 ******* |  76.75 ******* |137.25 ******* |197.75 ******* |258.25 *******
 16.50 ******* |  77.00 ******* |137.50 ******* |198.00 ******* |258.50 *******
 16.75 ******* |  77.25 ******* |137.75 ******* |198.25 ******* |258.75 *******
 17.00 ******* |  77.50 ******* |138.00 ******* |198.50 ******* |259.00 *******
 17.25 ******* |  77.75 ******* |138.25 ******* |198.75 ******* |259.25 *******
 17.50 ******* |  78.00 ******* |138.50 ******* |199.00 ******* |259.50 *******
 17.75 ******* |  78.25 ******* |138.75 ******* |199.25 ******* |259.75 *******
 18.00 ******* |  78.50 ******* |139.00 ******* |199.50 ******* |260.00 *******
 18.25 ******* |  78.75 ******* |139.25 ******* |199.75 ******* |260.25 *******
 18.50 ******* |  79.00 ******* |139.50 ******* |200.00 ******* |260.50 *******
 18.75 ******* |  79.25 ******* |139.75 ******* |200.25 ******* |260.75 *******
 19.00 ******* |  79.50 ******* |140.00 ******* |200.50 ******* |261.00 *******
 19.25 ******* |  79.75 ******* |140.25 ******* |200.75 ******* |261.25 *******
 19.50 ******* |  80.00 ******* |140.50 ******* |201.00 ******* |261.50 *******
 19.75 ******* |  80.25 ******* |140.75 ******* |201.25 ******* |261.75 *******
 20.00 ******* |  80.50 ******* |141.00 ******* |201.50 ******* |262.00 *******
 20.25 ******* |  80.75 ******* |141.25 ******* |201.75 ******* |262.25 *******
 20.50 ******* |  81.00 ******* |141.50 ******* |202.00 ******* |262.50 *******
 20.75 ******* |  81.25 ******* |141.75 ******* |202.25 ******* |262.75 *******
 21.00 ******* |  81.50 ******* |142.00 ******* |202.50 ******* |263.00 *******
 21.25 ******* |  81.75 ******* |142.25 ******* |202.75 ******* |263.25 *******
 21.50 ******* |  82.00 ******* |142.50 ******* |203.00 ******* |263.50 *******
 21.75 ******* |  82.25 ******* |142.75 ******* |203.25 ******* |263.75 *******
 22.00 ******* |  82.50 ******* |143.00 ******* |203.50 ******* |264.00 *******
 22.25 ******* |  82.75 ******* |143.25 ******* |203.75 ******* |264.25 *******
 22.50 ******* |  83.00 ******* |143.50 ******* |204.00 ******* |264.50 *******
 22.75 ******* |  83.25 ******* |143.75 ******* |204.25 ******* |264.75 *******
 23.00 ******* |  83.50 ******* |144.00 ******* |204.50 ******* |265.00 *******
 23.25 ******* |  83.75 ******* |144.25 ******* |204.75 ******* |265.25 *******
 23.50 ******* |  84.00 ******* |144.50 ******* |205.00 ******* |265.50 *******
 23.75 ******* |  84.25 ******* |144.75 ******* |205.25 ******* |265.75 *******
 24.00 ******* |  84.50 ******* |145.00 ******* |205.50 ******* |266.00 *******
 24.25 ******* |  84.75 ******* |145.25 ******* |205.75 ******* |266.25 *******
 24.50 ******* |  85.00 ******* |145.50 ******* |206.00 ******* |266.50 *******
 24.75 ******* |  85.25 ******* |145.75 ******* |206.25 ******* |266.75 *******
 25.00 ******* |  85.50 ******* |146.00 ******* |206.50 ******* |267.00 *******
 25.25 ******* |  85.75 ******* |146.25 ******* |206.75 ******* |267.25 *******
 25.50 ******* |  86.00 ******* |146.50 ******* |207.00 ******* |267.50 *******
 25.75 ******* |  86.25 ******* |146.75 ******* |207.25 ******* |267.75 *******
 26.00 ******* |  86.50 ******* |147.00 ******* |207.50 ******* |268.00 *******
 26.25 ******* |  86.75 ******* |147.25 ******* |207.75 ******* |268.25 *******
 26.50 ******* |  87.00 ******* |147.50 ******* |208.00 ******* |268.50 *******
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 26.75 ******* | 87.25 ******* |147.75 ******* |208.25 ******* |268.75 *******
 27.00 ******* | 87.50 ******* |148.00 ******* |208.50 ******* |269.00 *******
 27.25 ******* | 87.75 ******* |148.25 ******* |208.75 ******* |269.25 *******
 27.50 ******* | 88.00 ******* |148.50 ******* |209.00 ******* |269.50 *******
 27.75 ******* | 88.25 ******* |148.75 ******* |209.25 ******* |269.75 *******
 28.00 ******* | 88.50 ******* |149.00 ******* |209.50 ******* |270.00 *******
 28.25 ******* | 88.75 ******* |149.25 ******* |209.75 ******* |270.25 *******
 28.50 ******* | 89.00 ******* |149.50 ******* |210.00 ******* |270.50 *******
 28.75 ******* | 89.25 ******* |149.75 ******* |210.25 ******* |270.75 *******
 29.00 ******* | 89.50 ******* |150.00 ******* |210.50 ******* |271.00 *******
 29.25 ******* | 89.75 ******* |150.25 ******* |210.75 ******* |271.25 *******
 29.50 ******* | 90.00 ******* |150.50 ******* |211.00 ******* |271.50 *******
 29.75 ******* | 90.25 ******* |150.75 ******* |211.25 ******* |271.75 *******
 30.00 ******* | 90.50 ******* |151.00 ******* |211.50 ******* |272.00 *******
 30.25 ******* | 90.75 ******* |151.25 ******* |211.75 ******* |272.25 *******
 30.50 ******* | 91.00 ******* |151.50 ******* |212.00 ******* |272.50 *******
 30.75 ******* | 91.25 ******* |151.75 ******* |212.25 ******* |272.75 *******
 31.00 ******* | 91.50 ******* |152.00 ******* |212.50 ******* |273.00 *******
 31.25 ******* | 91.75 ******* |152.25 ******* |212.75 ******* |273.25 *******
 31.50 ******* | 92.00 ******* |152.50 ******* |213.00 ******* |273.50 *******
 31.75 ******* | 92.25 ******* |152.75 ******* |213.25 ******* |273.75 *******
 32.00 ******* | 92.50 ******* |153.00 ******* |213.50 ******* |274.00 *******
 32.25 ******* | 92.75 ******* |153.25 ******* |213.75 ******* |274.25 *******
 32.50 ******* | 93.00 ******* |153.50 ******* |214.00 ******* |274.50 *******
 32.75 ******* | 93.25 ******* |153.75 ******* |214.25 ******* |274.75 *******
 33.00 ******* | 93.50 ******* |154.00 ******* |214.50 ******* |275.00 *******
 33.25 ******* | 93.75 ******* |154.25 ******* |214.75 ******* |275.25 *******
 33.50 ******* | 94.00 ******* |154.50 ******* |215.00 ******* |275.50 *******
 33.75 ******* | 94.25 ******* |154.75 ******* |215.25 ******* |275.75 *******
 34.00 ******* | 94.50 ******* |155.00 ******* |215.50 ******* |276.00 *******
 34.25 ******* | 94.75 ******* |155.25 ******* |215.75 ******* |276.25 *******
 34.50 ******* | 95.00 ******* |155.50 ******* |216.00 ******* |276.50 *******
 34.75 ******* | 95.25 ******* |155.75 ******* |216.25 ******* |276.75 *******
 35.00 ******* | 95.50 ******* |156.00 ******* |216.50 ******* |277.00 *******
 35.25 ******* | 95.75 ******* |156.25 ******* |216.75 ******* |277.25 *******
 35.50 ******* | 96.00 ******* |156.50 ******* |217.00 ******* |277.50 *******
 35.75 ******* | 96.25 ******* |156.75 ******* |217.25 ******* |277.75 *******
 36.00 ******* | 96.50 ******* |157.00 ******* |217.50 ******* |278.00 *******
 36.25 ******* | 96.75 ******* |157.25 ******* |217.75 ******* |278.25 *******
 36.50 ******* | 97.00 ******* |157.50 ******* |218.00 ******* |278.50 *******
 36.75 ******* | 97.25 ******* |157.75 ******* |218.25 ******* |278.75 *******
 37.00 ******* | 97.50 ******* |158.00 ******* |218.50 ******* |279.00 *******
 37.25 ******* | 97.75 ******* |158.25 ******* |218.75 ******* |279.25 *******
 37.50 ******* | 98.00 ******* |158.50 ******* |219.00 ******* |279.50 *******
 37.75 ******* | 98.25 ******* |158.75 ******* |219.25 ******* |279.75 *******
 38.00 ******* | 98.50 ******* |159.00 ******* |219.50 ******* |280.00 *******
 38.25 ******* | 98.75 ******* |159.25 ******* |219.75 ******* |280.25 *******
 38.50 ******* | 99.00 ******* |159.50 ******* |220.00 ******* |280.50 *******
 38.75 ******* | 99.25 ******* |159.75 ******* |220.25 ******* |280.75 *******
 39.00 ******* | 99.50 ******* |160.00 ******* |220.50 ******* |281.00 *******
 39.25 ******* | 99.75 ******* |160.25 ******* |220.75 ******* |281.25 *******
 39.50 *******|100.00 ******* |160.50 ******* |221.00 ******* |281.50 *******
 39.75 *******|100.25 ******* |160.75 ******* |221.25 ******* |281.75 *******
 40.00 *******|100.50 ******* |161.00 ******* |221.50 ******* |282.00 *******
 40.25 *******|100.75 ******* |161.25 ******* |221.75 ******* |282.25 *******
 40.50 *******|101.00 ******* |161.50 ******* |222.00 ******* |282.50 *******
 40.75 *******|101.25 ******* |161.75 ******* |222.25 ******* |282.75 *******
 41.00 *******|101.50 ******* |162.00 ******* |222.50 ******* |283.00 *******
 41.25 *******|101.75 ******* |162.25 ******* |222.75 ******* |283.25 *******
 41.50 *******|102.00 ******* |162.50 ******* |223.00 ******* |283.50 *******
 41.75 *******|102.25 ******* |162.75 ******* |223.25 ******* |283.75 *******
 42.00 *******|102.50 ******* |163.00 ******* |223.50 ******* |284.00 *******
 42.25 *******|102.75 ******* |163.25 ******* |223.75 ******* |284.25 *******
 42.50 *******|103.00 ******* |163.50 ******* |224.00 ******* |284.50 *******
 42.75 *******|103.25 ******* |163.75 ******* |224.25 ******* |284.75 *******
 43.00 *******|103.50 ******* |164.00 ******* |224.50 ******* |285.00 *******
 43.25 *******|103.75 ******* |164.25 ******* |224.75 ******* |285.25 *******
 43.50 *******|104.00 ******* |164.50 ******* |225.00 ******* |285.50 *******
 43.75 *******|104.25 ******* |164.75 ******* |225.25 ******* |285.75 *******
 44.00 *******|104.50 ******* |165.00 ******* |225.50 ******* |286.00 *******
 44.25 *******|104.75 ******* |165.25 ******* |225.75 ******* |286.25 *******
 44.50 *******|105.00 ******* |165.50 ******* |226.00 ******* |286.50 *******
 44.75 *******|105.25 ******* |165.75 ******* |226.25 ******* |286.75 *******
 45.00 *******|105.50 ******* |166.00 ******* |226.50 ******* |287.00 *******
 45.25 *******|105.75 ******* |166.25 ******* |226.75 ******* |287.25 *******
 45.50 *******|106.00 ******* |166.50 ******* |227.00 ******* |287.50 *******
 45.75 *******|106.25 ******* |166.75 ******* |227.25 ******* |287.75 *******
 46.00 *******|106.50 ******* |167.00 ******* |227.50 ******* |288.00 *******
 46.25 *******|106.75 ******* |167.25 ******* |227.75 ******* |288.25 *******
 46.50 *******|107.00 ******* |167.50 ******* |228.00 ******* |288.50 *******
 46.75 *******|107.25 ******* |167.75 ******* |228.25 ******* |288.75 *******
 47.00 *******|107.50 ******* |168.00 ******* |228.50 ******* |289.00 *******
 47.25 *******|107.75 ******* |168.25 ******* |228.75 ******* |289.25 *******
 47.50 *******|108.00 ******* |168.50 ******* |229.00 ******* |289.50 *******
 47.75 *******|108.25 ******* |168.75 ******* |229.25 ******* |289.75 *******
 48.00 *******|108.50 ******* |169.00 ******* |229.50 ******* |290.00 *******
 48.25 *******|108.75 ******* |169.25 ******* |229.75 ******* |290.25 *******
 48.50 *******|109.00 ******* |169.50 ******* |230.00 ******* |290.50 *******
 48.75 *******|109.25 ******* |169.75 ******* |230.25 ******* |290.75 *******
 49.00 *******|109.50 ******* |170.00 ******* |230.50 ******* |291.00 *******
 49.25 *******|109.75 ******* |170.25 ******* |230.75 ******* |291.25 *******
 49.50 *******|110.00 ******* |170.50 ******* |231.00 ******* |291.50 *******
 49.75 *******|110.25 ******* |170.75 ******* |231.25 ******* |291.75 *******
 50.00 *******|110.50 ******* |171.00 ******* |231.50 ******* |292.00 *******
 50.25 *******|110.75 ******* |171.25 ******* |231.75 ******* |292.25 *******
 50.50 *******|111.00 ******* |171.50 ******* |232.00 ******* |292.50 *******
 50.75 *******|111.25 ******* |171.75 ******* |232.25 ******* |292.75 *******
 51.00 *******|111.50 ******* |172.00 ******* |232.50 ******* |293.00 *******
 51.25 *******|111.75 ******* |172.25 ******* |232.75 ******* |293.25 *******
 51.50 *******|112.00 ******* |172.50 ******* |233.00 ******* |293.50 *******
 51.75 *******|112.25 ******* |172.75 ******* |233.25 ******* |293.75 *******
 52.00 *******|112.50 ******* |173.00 ******* |233.50 ******* |294.00 *******
 52.25 *******|112.75 ******* |173.25 ******* |233.75 ******* |294.25 *******
 52.50 *******|113.00 ******* |173.50 ******* |234.00 ******* |294.50 *******
 52.75 *******|113.25 ******* |173.75 ******* |234.25 ******* |294.75 *******
 53.00 *******|113.50 ******* |174.00 ******* |234.50 ******* |295.00 *******
 53.25 *******|113.75 ******* |174.25 ******* |234.75 ******* |295.25 *******
 53.50 *******|114.00 ******* |174.50 ******* |235.00 ******* |295.50 *******
 53.75 *******|114.25 ******* |174.75 ******* |235.25 ******* |295.75 *******
 54.00 *******|114.50 ******* |175.00 ******* |235.50 ******* |296.00 *******
 54.25 *******|114.75 ******* |175.25 ******* |235.75 ******* |296.25 *******
 54.50 *******|115.00 ******* |175.50 ******* |236.00 ******* |296.50 *******
 54.75 *******|115.25 ******* |175.75 ******* |236.25 ******* |296.75 *******
 55.00 *******|115.50 ******* |176.00 ******* |236.50 ******* |297.00 *******
 55.25 *******|115.75 ******* |176.25 ******* |236.75 ******* |297.25 *******
 55.50 *******|116.00 ******* |176.50 ******* |237.00 ******* |297.50 *******
 55.75 *******|116.25 ******* |176.75 ******* |237.25 ******* |297.75 *******
 56.00 *******|116.50 ******* |177.00 ******* |237.50 ******* |298.00 *******
 56.25 *******|116.75 ******* |177.25 ******* |237.75 ******* |298.25 *******
 56.50 *******|117.00 ******* |177.50 ******* |238.00 ******* |298.50 *******
 56.75 *******|117.25 ******* |177.75 ******* |238.25 ******* |298.75 *******
 57.00 *******|117.50 ******* |178.00 ******* |238.50 ******* |299.00 *******
 57.25 *******|117.75 ******* |178.25 ******* |238.75 ******* |299.25 *******
 57.50 *******|118.00 ******* |178.50 ******* |239.00 ******* |299.50 *******
 57.75 *******|118.25 ******* |178.75 ******* |239.25 ******* |299.75 *******
 58.00 *******|118.50 ******* |179.00 ******* |239.50 ******* |300.00 *******
 58.25 *******|118.75 ******* |179.25 ******* |239.75 ******* |300.25 *******
 58.50 *******|119.00 ******* |179.50 ******* |240.00 ******* |300.50 *******
 58.75 *******|119.25 ******* |179.75 ******* |240.25 ******* |300.75 *******
 59.00 *******|119.50 ******* |180.00 ******* |240.50 ******* |301.00 *******
 59.25 *******|119.75 ******* |180.25 ******* |240.75 ******* |301.25 *******
 59.50 *******|120.00 ******* |180.50 ******* |241.00 ******* |301.50 *******
 59.75 *******|120.25 ******* |180.75 ******* |241.25 ******* |
 60.00 *******|120.50 ******* |181.00 ******* |241.50 ******* |
 60.25 *******|120.75 ******* |181.25 ******* |241.75 ******* |
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| ADD HYD   (8188) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22258.88  69.701    14.00    17.60
       + ID2= 2 (8190): 20350.16  65.786    14.00    18.00
         ================================================
         ID = 3 (8188): 42609.04 135.487    14.00    17.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   2.230 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  11.471
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.98       125.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1254.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        24.46
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.38 (ii)   35.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.61         4.85          7.628 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        16.88         22.92
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.31          0.42

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.1800      6.2621
                         0.8000     2.9957   |  12.5050      7.1218
                         3.0350     3.4813   |  14.4090      7.9633
                         5.6510     4.4353   |  14.8090      7.9733
                         7.7470     5.2683   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    236.120      7.628      6.00      22.92
     OUTFLOW: ID= 1 (5446)    236.120      1.975      7.75      22.91

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.89
                  TIME SHIFT OF PEAK FLOW         (min)=105.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.2520

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-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1238.89   2.230    12.00    11.47
       + ID2= 2 (5446):   236.12   1.975     7.75    22.91
         ================================================
         ID = 3 (8192):  1475.01   3.574     8.00    13.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 42609.04 135.487    14.00    17.79
       + ID2= 2 (8192):  1475.01   3.574     8.00    13.30
         ================================================
         ID = 3 (8194): 44084.05 138.247    14.00    17.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.295 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.270
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.115

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   1.056 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.059
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.203

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   0.721 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.134
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   1.019 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.333
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.293 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   6.832
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.293     6.50     6.83
       + ID2= 2 (0436):   187.51   1.019     7.00     9.33
         ================================================
         ID = 3 (8206):   244.15   1.301     6.75     8.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                   0.00         256.00        0.0600
                   9.23         255.50        0.0600
                  27.69         255.00        0.0600
                  50.77         254.90        0.0600
                  64.62         254.85        0.0600
                  78.47         252.26        0.0600
                  96.93         249.44        0.0600
                 129.24         245.94        0.0600
                 145.40         245.76        0.0600
                 146.20         245.80    0.0600 /0.0350  Main Channel
                 146.70         245.30        0.0350      Main Channel
                 147.70         245.30        0.0350      Main Channel
                 148.20         245.80    0.0350 /0.0600  Main Channel
                 150.01         245.78        0.0600
                 152.32         245.79        0.0600
                 163.86         246.72        0.0600
                 175.40         249.07        0.0600
                 186.94         253.15        0.0600
                 196.17         255.38        0.0600
                 228.48         255.55        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   245.80    .221E+04       0.9          1.02      40.44
       1.01   246.31    .352E+05      14.0          0.99      41.77
       1.53   246.83    .841E+05      47.3          1.39      29.61
       2.04   247.34    .144E+06     102.0          1.76      23.49
       2.55   247.85    .213E+06     177.3          2.07      19.99
       3.07   248.37    .291E+06     274.4          2.34      17.66
       3.58   248.88    .378E+06     394.6          2.58      15.97
       4.09   249.39    .474E+06     541.4          2.83      14.60
       4.61   249.91    .578E+06     719.9          3.08      13.38
       5.12   250.42    .688E+06     923.8          3.33      12.40
       5.63   250.93    .803E+06    1153.3          3.56      11.61
       6.14   251.44    .925E+06    1408.6          3.77      10.95
       6.66   251.96    .105E+07    1690.6          3.98      10.38
       7.17   252.47    .119E+07    2002.3          4.18       9.88
       7.68   252.98    .133E+07    2345.4          4.38       9.43
       8.20   253.50    .147E+07    2710.1          4.56       9.05
       8.71   254.01    .162E+07    3101.0          4.73       8.72
       9.22   254.52    .178E+07    3521.8          4.90       8.43
       9.74   255.04    .195E+07    3467.6          4.39       9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8206)  244.15     1.30    6.75   8.75      0.52      1.02
    OUTFLOW: ID= 1 (6438)  244.15     1.15    7.75   8.75      0.51      1.02


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-------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   0.721     6.75     8.13
       + ID2= 2 (6438):   244.15   1.147     7.75     8.75
         ================================================
         ID = 3 (8208):   374.85   1.768     7.50     8.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   1.056     7.75    11.06
       + ID2= 2 (8208):   374.85   1.768     7.50     8.54
         ================================================
         ID = 3 (8210):   601.20   2.822     7.50     9.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0432)  |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.398 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.817
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0430)  |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   0.790 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   9.231
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.170

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0428)  |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.320 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.080
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.149

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0426)  |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   1.310 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.401
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0424)  |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293
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```
     PEAK FLOW       (cms)=   0.506 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.325
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   0.506     6.50    10.32
       + ID2= 2 (0426):   247.17   1.310     7.25    11.40
         ================================================
         ID = 3 (8198):   296.74   1.705     7.00    11.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4281.0) ------>
              Distance      Elevation       Manning
                  0.00         246.54        0.0900
                  8.80         246.29        0.0900
                 30.78         246.03        0.0900
                 41.78         243.97        0.0900
                 63.77         237.16        0.0900
                 85.76         232.53        0.0900
                 96.75         230.16        0.0900
                109.94         228.40        0.0900
                112.14         228.28    0.0900 /0.0450  Main Channel
                112.84         228.00        0.0450      Main Channel
                113.34         227.50        0.0450      Main Channel
                114.34         227.50        0.0450      Main Channel
                114.84         228.00        0.0450      Main Channel
                116.54         228.29    0.0450 /0.0900  Main Channel
                118.74         228.40        0.0900
                120.94         228.52        0.0900
                149.52         229.51        0.0900
                169.31         230.69        0.0900
                186.00         234.27        0.0900
                217.69         243.56        0.0900

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.78   228.28    .205E+04       1.6         0.97      21.60
        1.58   229.08    .202E+05      16.6         1.02      20.37
        2.39   229.89    .665E+05      64.8         1.22      17.11
        3.19   230.69    .133E+06     158.1         1.49      14.05
        4.00   231.50    .213E+06     308.6         1.82      11.48
        4.80   232.30    .299E+06     504.9         2.11       9.89
        5.61   233.11    .394E+06     746.6         2.37       8.79
        6.41   233.91    .496E+06    1034.5         2.61       7.99
        7.21   234.71    .605E+06    1373.3         2.84       7.35
        8.02   235.52    .722E+06    1763.3         3.06       6.82
        8.82   236.32    .844E+06    2202.0         3.27       6.39
        9.63   237.13    .974E+06    2690.5         3.46       6.03
       10.43   237.93    .111E+07    3239.5         3.66       5.71
       11.23   238.73    .125E+07    3839.0         3.84       5.43
       12.04   239.54    .140E+07    4489.1         4.03       5.18
       12.84   240.34    .155E+07    5190.5         4.20       4.97
       13.65   241.15    .170E+07    5943.8         4.36       4.78
       14.45   241.95    .187E+07    6749.8         4.53       4.61
       15.26   242.76    .204E+07    7609.4         4.68       4.46

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     1.70    7.00  11.22      0.79      0.97
     OUTFLOW: ID= 1 (6428)  296.74     1.64    7.50  11.22      0.78      0.97


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| ADD HYD   (8200) |
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```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.320     6.50     8.08
       + ID2= 2 (6428):   296.74   1.640     7.50    11.22
         ================================================
         ID = 3 (8200):   347.27   1.911     7.25    10.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   0.790     6.50     9.23
       + ID2= 2 (8200):   347.27   1.911     7.25    10.76
         ================================================
         ID = 3 (8202):   458.91   2.625     7.00    10.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation       Manning
                  0.00         221.00        0.0600
                 15.29         219.85        0.0600
                 45.86         219.86        0.0600
                 76.44         219.96        0.0600
                110.84         220.23        0.0600
                112.00         220.15        0.0600
                114.66         220.09        0.0600
                118.48         219.73        0.0600
                120.80         219.70    0.0600 /0.0350  Main Channel
                121.30         219.20        0.0350      Main Channel
                122.30         219.20        0.0350      Main Channel
                122.80         219.70    0.0350 /0.0600  Main Channel
                129.95         220.11        0.0600
                175.81         220.24        0.0600
                214.03         220.55        0.0600
                252.25         220.61        0.0600
                290.47         220.70        0.0600
                328.69         221.04        0.0600
                347.80         221.08        0.0600
                378.37         221.04        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.08   219.28    .185E+03       0.0         0.23     149.38
        0.17   219.37    .399E+03       0.1         0.34     100.62
        0.25   219.45    .641E+03       0.1         0.42      80.98
        0.33   219.53    .911E+03       0.2         0.49      69.79
        0.42   219.62    .121E+04       0.3         0.55      62.35
        0.50   219.70    .154E+04       0.5         0.60      56.91
        0.61   219.81    .267E+04       0.7         0.56      61.28
        0.71   219.91    .901E+04       1.3         0.30     112.96
        0.82   220.02    .249E+05       3.4         0.28     122.71
        0.92   220.12    .452E+05       6.8         0.31     109.98
        1.03   220.23    .747E+05      12.2         0.33     102.05
        1.14   220.34    .112E+06      21.3         0.39      87.59
        1.24   220.44    .153E+06      33.0         0.44      77.01
        1.35   220.55    .196E+06      47.2         0.49      69.22
        1.46   220.66    .248E+06      62.3         0.51      66.48
        1.56   220.76    .310E+06      83.4         0.55      62.06
        1.67   220.87    .376E+06     108.8         0.59      57.56
        1.77   220.97    .444E+06     137.7         0.64      53.77
        1.88   221.08    .517E+06     163.6         0.65      52.70

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     2.62    7.00  10.39      0.78      0.29
     OUTFLOW: ID= 1 (6432)  458.91     1.77    9.25  10.39      0.73      0.30


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| ADD HYD   (8204) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.398     8.00     8.82
       + ID2= 2 (6432):   458.91   1.768     9.25    10.39
         ================================================
         ID = 3 (8204):   573.12   2.132     9.00    10.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   2.132     9.00    10.08
       + ID2= 2 (8210):   601.20   2.822     7.50     9.49
         ================================================
         ID = 3 (8212):  1174.32   4.704     8.00     9.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4421.0) ------>
              Distance      Elevation       Manning
                  0.00         221.00        0.0350
                 26.73         220.80        0.0350
                 53.47         220.60        0.0350
                 66.83         220.40        0.0350
                 80.20         220.20        0.0350
                347.52         220.00        0.0350
                354.21         219.59        0.0350
                360.89         219.50        0.0350
                367.57         219.08        0.0350
                368.76         219.00    0.0350 /0.0300  Main Channel
                369.26         218.50        0.0300      Main Channel
                374.26         218.50        0.0300      Main Channel
                374.76         219.00    0.0300 /0.0350  Main Channel
                380.94         220.33        0.0350
                387.62         219.62        0.0350
                394.31         219.23        0.0350
                454.45         219.07        0.0350
                514.60         219.09        0.0350
                660.00         219.19        0.0350
                661.63         221.00        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.12   218.62    .100E+04        0.2        0.28      92.89
       0.25   218.75    .205E+04        0.6        0.43      60.09
       0.37   218.87    .315E+04        1.1        0.55      46.99
       0.50   219.00    .430E+04        1.8        0.66      39.67
       0.63   219.13    .141E+05        3.4        0.37      69.99
       0.77   219.27    .652E+05       13.7        0.33      79.14
       0.90   219.40    .124E+06       35.5        0.45      58.02
       1.03   219.53    .183E+06       65.7        0.56      46.45
       1.17   219.67    .245E+06      103.8        0.66      39.30
       1.30   219.80    .307E+06      149.3        0.76      34.30
       1.43   219.93    .371E+06      201.6        0.85      30.65
       1.57   220.07    .440E+06      256.5        0.91      28.56
       1.70   220.20    .541E+06      325.7        0.94      27.70
       1.83   220.33    .663E+06      415.2        0.98      26.62
       1.97   220.47    .787E+06      520.3        1.03      25.21
       2.10   220.60    .913E+06      638.5        1.09      23.82
       2.23   220.73    .104E+07      767.2        1.15      22.62
       2.37   220.87    .117E+07      908.0        1.21      21.54
       2.50   221.00    .131E+07     1060.7        1.27      20.57

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8212) 1174.32     4.70    8.00   9.77      0.65      0.37
    OUTFLOW: ID= 1 (6442) 1174.32     4.12    9.75   9.77      0.64      0.37


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| ADD HYD   (8214) |
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```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.295     8.00     6.27
       + ID2= 2 (6442):  1174.32   4.116     9.75     9.77
         ================================================
         ID = 3 (8214):  1291.58   4.367     9.50     9.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 44084.05 138.247    14.00    17.64
       + ID2= 2 (8214):  1291.58   4.367     9.50     9.46
         ================================================
         ID = 3 (8196): 45375.62 141.048    13.75    17.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

    Unit Hyd Qpeak  (cms)=   3.656

    PEAK FLOW       (cms)=   0.953 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=   9.707
    TOTAL RAINFALL   (mm)=  54.400
    RUNOFF COEFFICIENT   =   0.178

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   0.953     7.50     9.71
       + ID2= 2 (8196): 45375.62 141.048    13.75    17.41
         ================================================
         ID = 3 (8216): 45597.28 141.314    13.75    17.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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================================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\1c422446-0837-4e2d-8849-fb8c271f1fda\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\1c422446-0837-4e2d-8849-fb8c271f1fda\Scenario.sum


DATE: 08/29/2012                          TIME: 01:56:49

USER:


COMMENTS: _____________________________________________________


----------------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              1c422446-0837-4e2d-8849-fb8c271f1fda\330170b9
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.57 |  3.25    2.51 |  6.25   11.29 |  9.25    2.19
                0.50    1.57 |  3.50    2.51 |  6.50   11.29 |  9.50    2.19
                0.75    1.57 |  3.75    2.51 |  6.75    5.02 |  9.75    2.19
                1.00    1.57 |  4.00    2.51 |  7.00    5.02 | 10.00    2.19
                1.25    1.57 |  4.25    3.76 |  7.25    3.76 | 10.25    1.25
                1.50    1.57 |  4.50    3.76 |  7.50    3.76 | 10.50    1.25
                1.75    1.57 |  4.75    5.02 |  7.75    3.76 | 10.75    1.25
                2.00    1.57 |  5.00    5.02 |  8.00    3.76 | 11.00    1.25
                2.25    1.88 |  5.25    7.52 |  8.25    2.19 | 11.25    1.25
                2.50    1.88 |  5.50    7.52 |  8.50    2.19 | 11.50    1.25
                2.75    1.88 |  5.75   30.10 |  8.75    2.19 | 11.75    1.25
                3.00    1.88 |  6.00   82.76 |  9.00    2.19 | 12.00    1.25

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| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76       109.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.26 (ii)   23.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.44         6.10        13.433 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        34.29          44.33
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.55           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        54.70
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.52 (ii)   30.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.84         9.79        15.047 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70        26.71          34.52
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.43           0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300     6.6504
                          0.4310     3.5677   |   9.1580     7.5825
                          1.6680     3.8178   |  10.9790     8.5125
                          3.5970     4.8509   |  11.3790     8.5225
                          5.3070     5.7381   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640     15.047      6.00      34.52
     OUTFLOW: ID= 1 (5166)    293.640      4.944      7.25      34.52

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.86
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.5605

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   141.06  13.433     6.00    44.33
        + ID2= 2 (5166):   293.64   4.944     7.25    34.52
          ================================================
          ID = 3 (8134):   434.70  13.685     6.00    37.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.48         93.87
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     895.73         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         22.52
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.64 (ii)    32.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.67          3.50          5.127 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         22.51          29.00
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.36           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1641) |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86         33.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     871.36         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         74.31
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.43 (ii)    24.48 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.89          3.15         12.914 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         29.70         46.13
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.47          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.4260      4.5513
                         0.3860     1.9228   |   9.2330      4.9251
                         3.3700     2.2339   |   9.9990      5.2982
                         4.5710     3.3613   |  10.3990      5.3082
                         5.7170     4.0568   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890     12.914      6.00      46.13
     OUTFLOW: ID= 1 (5164)    113.890      3.879      6.75      46.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.03
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.7508

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-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35   5.127     6.00    29.00
        + ID2= 2 (5164):   113.89   3.879     6.75    46.12
          ================================================
          ID = 3 (8132):   234.24   8.297     6.50    37.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   0.875 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.044
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1481) |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02         32.73
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     641.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76          8.22
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.35 (ii)    39.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.02          0.41          2.179 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70          6.03          15.32
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.10           0.24

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1310      1.6343
                         0.2090     0.7802   |   5.1870      1.8598
                         1.1960     0.9062   |   6.0380      2.0805
                         2.2280     1.1562   |   6.4380      2.0905
                         3.0910     1.3741   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750      2.179      6.00      15.32
     OUTFLOW: ID= 1 (5148)     61.750      0.170      8.50      15.31

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.81
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6354
```

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--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   0.791 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.365
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.086

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   0.791     7.75     5.36
       + ID2= 2 (5148):    61.75   0.170     8.50    15.31
         ================================================
         ID = 3 (9148):   417.89   0.959     8.00     6.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      32.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76         4.04
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       1.73 (ii)   40.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.006 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         3.94          12.34
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.06           0.20

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  16.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0110      0.0042
                         0.0010     0.0020   |   0.0140      0.0049
                         0.0030     0.0023   |   0.0160      0.0054
                         0.0060     0.0030   |   0.4160      0.0154
                         0.0080     0.0036   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1501)     0.160     0.006      6.00      12.34
     OUTFLOW: ID= 1 (5150)     0.160     0.001      7.50       9.27

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.89

                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0011

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.183 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   2.540
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.041

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.183     6.75     2.54
       + ID2= 2 (5150):     0.16   0.001     7.50     9.27
         ================================================
         ID = 3 (9150):   105.88   0.184     6.75     2.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   0.959     8.00     6.83
       + ID2= 2 (9150):   105.88   0.184     6.75     2.55
         ================================================
         ID = 3 (8116):   523.77   1.111     7.50     5.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1521.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0500
                 15.34         286.87        0.0500
                 46.03         284.84        0.0500
                 88.22         283.07        0.0500
                126.57         282.11        0.0500
                153.42         280.34        0.0500
                157.26         280.07        0.0500
                161.09         279.72        0.0500
                167.76         278.94    0.0500 /0.0300  Main Channel
                168.01         278.60        0.0300      Main Channel
                168.76         278.60        0.0300      Main Channel
                169.51         278.60        0.0300      Main Channel
                169.76         278.90    0.0300 /0.0500  Main Channel
                173.76         279.40        0.0500
                180.27         279.69        0.0500
                184.11         279.93        0.0500
                218.62         281.86        0.0500
                260.82         283.20        0.0500
                360.54         289.25        0.0500
                379.72         289.80        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.30   278.90    .114E+04         0.4          0.80       45.70
       0.87   279.47    .932E+04         4.2          0.98       37.22
       1.45   280.05    .353E+05        17.5          1.09       33.68
       2.02   280.62    .831E+05        47.8          1.26       29.01
       2.59   281.19    .155E+06       102.9          1.46       25.06
       3.17   281.77    .250E+06       189.3          1.66       22.03
       3.74   282.34    .375E+06       298.5          1.75       20.91
```

```
       4.32   282.92    .547E+06     456.5          1.83      19.98
       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     1.11    7.50   5.97      0.41      0.83
     OUTFLOW: ID= 1 (6152)  523.77     1.05    8.50   5.97      0.40      0.83


--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   0.875     7.25    14.04
       + ID2= 2 (6152):   523.77   1.046     8.50     5.97
         ================================================
         ID = 3 (8122):   648.14   1.849     8.00     7.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   1.287 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.959
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.488 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.855
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76         5.27
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       6.19 (ii)   40.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00

     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.69         0.03          1.700 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         6.55          44.45
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.10           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  31.3     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7460      0.3544
                         0.0380     0.1987   |   0.9370      0.3839
                         0.2160     0.2386   |   1.0900      0.4129
                         0.4020     0.2749   |   1.4900      0.4229
                         0.5580     0.3133   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      1.700      6.00      44.45
     OUTFLOW: ID= 1 (5154)     11.150      0.453      6.25      44.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.62
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2901

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-------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   0.644 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   7.264
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   0.644     7.25     7.26
       + ID2= 2 (5154):    11.15   0.453     6.25    44.34
         ================================================
         ID = 3 (9154):   200.32   0.988     6.50     9.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.488     6.75     8.86
       + ID2= 2 (9154):   200.32   0.988     6.50     9.33
         ================================================
         ID = 3 (8118):   283.81   1.469     6.50     9.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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--------------------
              <------ DATA FOR SECTION (1581.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0400
                 19.20         288.88        0.0400
                 48.00         288.26        0.0400
                119.99         283.68        0.0400
                167.99         282.07        0.0400
                196.79         281.32        0.0400
                210.79         280.90        0.0400
                219.79         280.38    0.0400 /0.0300  Main Channel
                220.04         279.65        0.0300      Main Channel
                220.79         279.65        0.0300      Main Channel
                221.54         279.65        0.0300      Main Channel
                221.79         280.39    0.0300 /0.0400  Main Channel
                225.79         280.59        0.0400
                235.19         280.88        0.0400
                254.39         281.50        0.0400
                273.58         282.56        0.0400
                302.38         283.42        0.0400
                359.98         284.03        0.0400
                436.77         289.37        0.0400
                475.17         290.37        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.37   280.01    .973E+03       0.5         0.86      31.78
      0.73   280.38    .210E+04       1.5         1.18      23.16
      1.30   280.95    .149E+05       8.6         0.95      28.91
      1.86   281.51    .579E+05      40.0         1.13      24.12
      2.43   282.08    .133E+06     118.5         1.46      18.75
      2.99   282.64    .236E+06     254.6         1.77      15.46
      3.56   283.21    .369E+06     450.3         2.00      13.67
      4.13   283.78    .542E+06     702.7         2.13      12.86
      4.69   284.34    .767E+06    1125.2         2.41      11.36
      5.26   284.91    .101E+07    1697.1         2.75       9.93
      5.82   285.47    .127E+07    2379.1         3.07       8.91
      6.39   286.04    .155E+07    3171.4         3.36       8.14
      6.95   286.60    .184E+07    4075.5         3.64       7.53
      7.52   287.17    .215E+07    5093.1         3.89       7.03
      8.09   287.74    .247E+07    6226.5         4.13       6.62
      8.65   288.30    .281E+07    7461.2         4.36       6.28
      9.22   288.87    .318E+07    8635.1         4.46       6.13
      9.78   289.43    .357E+07   10143.6         4.67       5.86
     10.35   290.00    .398E+07   11608.8         4.79       5.71

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     1.47    6.50   9.19      0.72      1.16
     OUTFLOW: ID= 1 (6158)  283.81     1.35    7.00   9.19      0.67      1.11


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--------------------
| ADD HYD   (8120) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0158):   178.59   1.287     7.25    14.96
       + ID2= 2 (6158):   283.81   1.352     7.00     9.19
         ==========================================
         ID = 3 (8120):   462.40   2.630     7.25    11.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8124) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8120):   462.40   2.630     7.25    11.42
       + ID2= 2 (8122):   648.14   1.849     8.00     7.52
         ==========================================
         ID = 3 (8124):  1110.54   4.376     7.50     9.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1601.0) ------>
              Distance      Elevation       Manning
                  0.00         261.02        0.0400
                 29.89         254.30        0.0400
                 40.75         252.58        0.0400
                 62.49         251.30        0.0400
                114.11         250.94        0.0400
                130.41         248.58        0.0400
                141.28         247.50        0.0400
                154.86         246.87        0.0400
                155.20         246.70        0.0400
                160.20         246.30    0.0400 /0.0300  Main Channel
                160.30         245.30        0.0300      Main Channel
                165.20         245.30        0.0300      Main Channel
                165.30         246.30    0.0300 /0.0400  Main Channel
                168.45         246.96        0.0400
                195.62         249.20        0.0400
                203.77         250.82        0.0400
                225.50         256.78        0.0400
                244.52         261.14        0.0400
                255.39         261.95        0.0400
                268.97         261.92        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   245.80    .120E+05       2.9         1.18      68.31
      1.00   246.30    .242E+05       8.5         1.70      47.47
      1.92   247.22    .825E+05      31.7         1.86      43.34
      2.84   248.14    .248E+06     102.5         2.00      40.39
      3.76   249.06    .506E+06     247.7         2.37      34.03
      4.68   249.98    .832E+06     486.8         2.83      28.49
      5.60   250.90    .121E+07     814.9         3.27      24.71
      6.52   251.82    .180E+07    1157.1         3.11      25.97
      7.44   252.74    .253E+07    1840.2         3.52      22.92
      8.36   253.66    .331E+07    2727.1         3.98      20.25
      9.29   254.59    .414E+07    3782.6         4.43      18.22
     10.21   255.51    .499E+07    5010.7         4.86      16.61
     11.13   256.43    .589E+07    6397.4         5.26      15.33
     12.05   257.35    .681E+07    7932.8         5.64      14.31
     12.97   258.27    .777E+07    9621.2         5.99      13.46
     13.89   259.19    .877E+07   11469.4         6.33      12.74
     14.81   260.11    .980E+07   13478.4         6.66      12.12
     15.73   261.03    .109E+08   15651.7         6.97      11.58
     16.65   261.95    .120E+08   17492.5         7.07      11.42

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     4.38    7.50   9.14      0.63      1.28
     OUTFLOW: ID= 1 (6160) 1110.54     3.79    8.75   9.14      0.58      1.24


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--------------------
| CALIB            |
| STANDHYD  (1601) |   Area    (ha)=  19.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  69.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        14.27          4.76
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=       356.18         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        82.76         17.45
               over (min)          15.00         30.00
     Storage Coeff.  (min)=         7.27 (ii)    28.78 (ii)
     Unit Hyd. Tpeak (min)=        15.00         30.00
     Unit Hyd. peak  (cms)=         0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.76          0.16      2.858 (iii)
     TIME TO PEAK    (hrs)=         6.00          6.25      6.00
     RUNOFF VOLUME    (mm)=        60.70         15.49     46.68
     TOTAL RAINFALL   (mm)=        62.70         62.70     62.70
     RUNOFF COEFFICIENT   =         0.97          0.25      0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  55.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5160) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2730	0.6034
	0.0640	0.3377	1.5980	0.6540
	0.3690	0.4055	1.8600	0.7037
	0.6870	0.4676	2.2600	0.7137
	0.9520	0.5332	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1601)	19.030	2.858	6.00	46.68
OUTFLOW: ID= 1 (5160)	19.030	0.787	6.25	46.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.54
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.4961

CALIB / NASHYD (1602) / ID= 1 DT=15.0 min			
	Area (ha)= 299.79	Curve Number (CN)= 60.3	
	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.42		

Unit Hyd Qpeak (cms)= 3.592

PEAK FLOW (cms)= 1.553 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 14.712
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.235

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9160) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1602):	299.79	1.553	8.00	14.71
+ ID2= 2 (5160):	19.03	0.787	6.25	46.61
ID = 3 (9160):	318.82	1.966	6.75	16.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8126) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6160):	1110.54	3.791	8.75	9.14
+ ID2= 2 (9160):	318.82	1.966	6.75	16.62
ID = 3 (8126):	1429.36	5.477	8.50	10.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (1621) / ID= 1 DT=15.0 min			
	Area (ha)= 46.07		
	Total Imp(%)= 45.00	Dir. Conn.(%)= 20.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.73	25.34
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	554.20	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	82.76	20.51
over (min)	15.00	30.00
Storage Coeff. (min)=	9.48 (ii)	29.64 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.09	0.04
		TOTALS
PEAK FLOW (cms)=	1.82	0.98	2.415 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	60.70	15.51	24.55
TOTAL RAINFALL (mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT =	0.97	0.25	0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5162) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0820	1.1997
	0.1560	0.5629	3.8700	1.3716
	0.8930	0.6512	4.5050	1.5398
	1.6620	0.8407	4.9050	1.5498
	2.3060	1.0035	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1621)	46.070	2.415	6.00	24.55
OUTFLOW: ID= 1 (5162)	46.070	0.644	7.00	24.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.68
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.6245

CALIB / STANDHYD (1622) / ID= 1 DT=15.0 min			
	Area (ha)= 144.07		
	Total Imp(%)= 26.00	Dir. Conn.(%)= 11.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	37.46	106.61
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	980.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	82.76	14.21
over (min)	15.00	45.00
Storage Coeff. (min)=	13.34 (ii)	36.69 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.08	0.03
		TOTALS
PEAK FLOW (cms)=	2.78	2.37	3.738 (iii)
TIME TO PEAK (hrs)=	6.00	6.50	6.00
RUNOFF VOLUME (mm)=	60.70	13.15	18.38
TOTAL RAINFALL (mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT =	0.97	0.21	0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9162) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1622):	144.07	3.738	6.00	18.38
+ ID2= 2 (5162):	46.07	0.644	7.00	24.53
ID = 3 (9162):	190.14	3.820	6.00	19.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8128)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8126):	1429.36	5.477	8.50	10.81
	+ ID2= 2 (9162):	190.14	3.820	6.00	19.87
	ID = 3 (8128):	1619.50	6.644	7.00	11.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8128):	1619.50	6.644	7.00	11.87
	+ ID2= 2 (8132):	234.24	8.297	6.50	37.32
	ID = 3 (8130):	1853.74	14.728	6.50	15.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6166) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1661.0) ------>

Distance	Elevation	Manning	
0.00	248.36	0.0500	
41.67	246.98	0.0500	
95.82	244.93	0.0500	
149.98	242.42	0.0500	
191.64	241.88	0.0500	
224.97	239.90	0.0500	
229.13	239.35	0.0500	
233.30	237.77	0.0500	
237.47	236.57	0.0500	
240.63	235.60	0.0500 /0.0300	Main Channel
241.63	234.10	0.0300	Main Channel
247.13	234.10	0.0300	Main Channel
247.53	235.60	0.0300 /0.0500	Main Channel
254.13	236.25	0.0500	
266.63	236.77	0.0500	
283.29	237.84	0.0500	
291.63	238.89	0.0500	
329.12	244.66	0.0500	
370.78	249.55	0.0500	
412.44	253.17	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	234.85	.130E+05	6.0	1.36	36.45
1.50	235.60	.276E+05	18.1	1.95	25.41
2.25	236.35	.544E+05	40.0	2.18	22.69
3.00	237.10	.117E+06	80.1	2.04	24.32
3.75	237.85	.213E+06	148.9	2.07	23.89
4.50	238.60	.334E+06	255.1	2.27	21.85
5.25	239.35	.473E+06	395.8	2.49	19.90
6.00	240.10	.631E+06	563.8	2.65	18.66
6.75	240.85	.824E+06	773.2	2.79	17.77
7.50	241.60	.106E+07	1037.9	2.92	16.97
8.26	242.36	.135E+07	1326.7	2.92	16.94
9.01	243.11	.173E+07	1758.5	3.01	16.44
9.76	243.86	.217E+07	2285.9	3.13	15.81
10.51	244.61	.265E+07	2909.5	3.26	15.17
11.26	245.36	.318E+07	3610.1	3.37	14.67
12.01	246.11	.377E+07	4417.4	3.48	14.21
12.76	246.86	.441E+07	5348.0	3.60	13.75
13.51	247.61	.512E+07	6394.0	3.71	13.34
14.26	248.36	.589E+07	7580.3	3.82	12.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8130)	1853.74	14.73	6.50	15.09	1.29	1.74
OUTFLOW: ID= 1 (6166)	1853.74	12.42	7.00	15.09	1.15	1.62

ADD HYD (8136)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6166):	1853.74	12.417	7.00	15.09
	+ ID2= 2 (8134):	434.70	13.685	6.00	37.70
	ID = 3 (8136):	2288.44	20.196	6.75	19.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (2021) | ID= 1 DT=15.0 min | Area (ha)= 107.32 | Total Imp(%)= 45.00 | Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.29	59.03
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	845.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	55.82
over (min)		15.00	30.00
Storage Coeff. (min)=		12.21 (ii)	25.72 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.26	4.11	7.863 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	27.22	36.26
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.43	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5202) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.1480	2.8069
0.3630	1.2717	6.4200	3.2412
1.5670	1.4796	7.4640	3.6910
2.7880	1.9296	7.8640	3.7010
3.8580	2.3404	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2021)		107.320	7.863	6.00	36.26
OUTFLOW: ID= 1 (5202)		107.320	2.681	6.75	36.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.10
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.8977

CALIB | STANDHYD (2022) | ID= 1 DT=15.0 min | Area (ha)= 361.21 | Total Imp(%)= 60.00 | Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	216.73	144.48
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1551.79	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	75.36

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            over (min)       15.00         30.00
     Storage Coeff.  (min)=      17.58 (ii)   29.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      20.28         12.71         28.387 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         30.46         41.35
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.49          0.66


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  28.387     6.00    41.35
       + ID2= 2 (5202):   107.32   2.681     6.75    36.25
         ================================================
         ID = 3 (8110):   468.53  28.661     6.00    40.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0102)  |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        12.80
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.98 (ii)   43.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.30         6.55          8.922 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        12.12         16.49
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.19          0.26

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0100)  |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   1.434 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.560
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   1.434     9.25     7.56
       + ID2= 2 (0102):   466.00   8.922     6.00    16.49
         ================================================
         ID = 3 (8000):  1159.84   9.798     6.50    11.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                  0.00         330.16        0.0450
                 50.03         328.36        0.0450
                 89.34         326.33        0.0450
                117.94         324.30        0.0450
                160.82         322.75        0.0450
                178.34         319.96        0.0450
                183.34         319.81        0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78        0.0300      Main Channel
                185.84         318.72        0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70        0.0450
                198.84         320.38        0.0450
                200.13         320.81        0.0450
                218.00         322.49        0.0450
                239.44         323.49        0.0450
                250.17         323.96        0.0450
                275.18         325.20        0.0450
                310.92         326.47        0.0450
                353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   319.02    .624E+03       0.1         0.45       73.00
      0.60   319.32    .181E+04       0.6         0.67       49.46
      1.23   319.95    .128E+05       4.9         0.77       43.38
      1.86   320.58    .396E+05      19.1         0.96       34.50
      2.48   321.20    .757E+05      43.5         1.15       28.98
      3.11   321.83    .125E+06      81.2         1.30       25.58
      3.74   322.46    .187E+06     135.9         1.45       22.92
      4.37   323.09    .269E+06     195.6         1.45       22.90
      5.00   323.72    .387E+06     287.8         1.48       22.44
      5.63   324.35    .545E+06     428.4         1.56       21.22
      6.25   324.97    .735E+06     630.5         1.71       19.42
      6.88   325.60    .952E+06     876.1         1.83       18.12
      7.51   326.23    .120E+07    1177.0         1.95       17.03
      8.14   326.86    .149E+07    1554.4         2.08       15.93
      8.77   327.49    .179E+07    2009.7         2.23       14.88
      9.40   328.12    .213E+07    2533.9         2.37       13.99
     10.02   328.74    .249E+07    3112.6         2.49       13.31
     10.65   329.37    .288E+07    3760.9         2.60       12.75
     11.28   330.00    .330E+07    4494.8         2.71       12.23

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84     9.80    6.50  11.15      1.44      0.82
     OUTFLOW: ID= 1 (6104) 1159.84     7.09    6.75  11.15      1.32      0.79


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| CALIB             |
| STANDHYD  (1041)  |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      66.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76         8.45
               over (min)        15.00        45.00
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     Storage Coeff.  (min)=       2.66 (ii)   31.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.00          0.109 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         8.03          44.87
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.13           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450      0.0213
                         0.0020     0.0120   |   0.0560      0.0231
                         0.0130     0.0144   |   0.0660      0.0248
                         0.0240     0.0165   |   0.4660      0.0348
                         0.0340     0.0189   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)    0.670      0.109      6.00      44.87
     OUTFLOW: ID= 1 (5104)    0.670      0.029      6.25      42.61

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.55
                    TIME SHIFT OF PEAK FLOW        (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0182

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-------------------
| CALIB            |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   1.594 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.269
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1042):   527.14   1.594     8.00     8.27
       + ID2= 2 (5104):     0.67   0.029     6.25    42.61
         ================================================
         ID = 3 (9104):   527.81   1.601     8.00     8.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6104):  1159.84   7.088     6.75    11.15
       + ID2= 2 (9104):   527.81   1.601     8.00     8.31
         ================================================
         ID = 3 (8002):  1687.65   8.543     7.00    10.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1061) |   Area    (ha)=  32.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------

                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         25.11
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.52 (ii)   27.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.34          0.53          3.664 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         18.38          39.96
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.29           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580      0.9744
                         0.1090     0.5252   |   2.7090      1.0694
                         0.6250     0.6260   |   3.1540      1.1625
                         1.1640     0.7386   |   3.5540      1.1725
                         1.6140     0.8505   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)    32.260     3.664      6.00      39.96
     OUTFLOW: ID= 1 (5106)    32.260     0.981      6.50      39.92

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.78
                    TIME SHIFT OF PEAK FLOW        (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7010

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   1.310 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.443
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.214

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1062):   227.27   1.310     7.50    13.44
       + ID2= 2 (5106):    32.26   0.981     6.50    39.92
         ================================================
         ID = 3 (9106):   259.53   2.124     6.75    16.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65   8.543     7.00    10.26
       + ID2= 2 (9106):   259.53   2.124     6.75    16.73
         ================================================
         ID = 3 (8004):  1947.18  10.589     7.00    11.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1081.0) ------>
               Distance      Elevation       Manning
                   0.00         326.06        0.0400
                  12.06         325.74        0.0400
                  30.15         324.28        0.0400
                  59.27         320.35        0.0400
                  72.37         317.60        0.0400
                  87.45         314.52        0.0400
                  93.48         313.91        0.0400
                 105.54         313.55        0.0400
                 106.17         313.40    0.0400 /0.0300  Main Channel
                 110.62         313.04        0.0300      Main Channel
                 110.82         312.97        0.0300      Main Channel
                 111.57         313.08        0.0300      Main Channel
                 111.67         313.48    0.0300 /0.0400  Main Channel
                 129.66         316.62        0.0400
                 150.77         318.95        0.0400
                 180.92         319.61        0.0400
                 205.04         321.23        0.0400
                 232.18         322.09        0.0400
                 268.37         322.31        0.0400
                 298.52         326.00        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.43  313.40    .244E+04        0.7        0.59      58.83
        1.09  314.06    .214E+05       10.4        1.01      34.24
        1.76  314.73    .600E+05       40.2        1.39      24.89
        2.42  315.39    .109E+06       92.1        1.75      19.80
        3.08  316.05    .169E+06      166.5        2.05      16.88
        3.75  316.72    .237E+06      264.4        2.31      14.97
        4.41  317.38    .318E+06      386.3        2.52      13.72
        5.07  318.04    .411E+06      539.3        2.72      12.71
        5.74  318.71    .517E+06      725.5        2.91      11.88
        6.40  319.37    .642E+06      909.2        2.94      11.77
        7.06  320.03    .806E+06     1179.3        3.04      11.38
        7.72  320.69    .989E+06     1515.9        3.18      10.87
        8.39  321.36    .119E+07     1895.5        3.30      10.49
        9.05  322.02    .143E+07     2310.2        3.36      10.30
        9.71  322.68    .172E+07     2763.2        3.33      10.39
       10.38  323.35    .205E+07     3477.6        3.53       9.81
       11.04  324.01    .238E+07     4284.3        3.73       9.27
       11.70  324.67    .274E+07     5154.0        3.91       8.85
       12.37  325.34    .311E+07     6104.0        4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8004) 1947.18    10.59    7.00  11.12      1.10      1.01
     OUTFLOW: ID= 1 (6108) 1947.18     9.55    7.50  11.12      1.03      0.95


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| CALIB            |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.61        10.20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     521.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76         5.02
               over (min)        15.00        45.00

     Storage Coeff.  (min)=       9.14 (ii)   44.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.69         0.09          5.727 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         6.25          44.37
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.10           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  30.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7300      1.2970
                          0.1380     0.7271   |   3.4270      1.4050
                          0.7910     0.8733   |   3.9900      1.5110
                          1.4720     1.0061   |   4.3900      1.5210
                          2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1081)     40.810     5.727      6.00      44.37
     OUTFLOW: ID= 1 (5108)     40.810     1.546      6.25      44.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.00
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0400

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.452 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.551
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.452     7.25     5.55
       + ID2= 2 (5108):    40.81   1.546     6.25    44.33
         ================================================
         ID = 3 (9108):   207.05   1.948     6.50    13.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18   9.554     7.50    11.12
       + ID2= 2 (9108):   207.05   1.948     6.50    13.20
         ================================================
         ID = 3 (8006):  2154.23  10.659     7.50    11.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1101) |   Area    (ha)=  60.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07         18.90
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     637.55         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         21.48
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.31 (ii)    30.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.45          0.70      6.738 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50      6.00
     RUNOFF VOLUME    (mm)=      60.70         16.23     40.69
     TOTAL RAINFALL   (mm)=      62.70         62.70     62.70
     RUNOFF COEFFICIENT   =       0.97          0.26      0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0780      1.8615
                         0.2060     1.0120   |   5.1210      2.0372
                         1.1810     1.2083   |   5.9610      2.2096
                         2.2000     1.4181   |   6.3610      2.2196
                         3.0510     1.6293   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970      6.738      6.00      40.69
     OUTFLOW: ID= 1 (5110)     60.970      1.806      6.50      40.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.80
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3477

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   1.257 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.609
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1102):   262.95   1.257     8.00    12.61
       + ID2= 2 (5110):    60.97   1.806     6.50    40.67
         ================================================
         ID = 3 (9110):   323.92   2.831     6.75    17.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8006):  2154.23  10.659     7.50    11.32
       + ID2= 2 (9110):   323.92   2.831     6.75    17.89
         ================================================
         ID = 3 (8008):  2478.15  13.072     7.25    12.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                   0.00         320.59        0.0400
                  13.48         317.93        0.0400
                  40.45         311.52        0.0400
                  64.04         307.68        0.0400
                  74.15         307.01        0.0400
                  91.00         307.22        0.0400
                 107.86         305.21        0.0400
                 111.23         304.86        0.0400
                 113.32         304.60    0.0400 /0.0300  Main Channel
                 117.77         304.24        0.0300      Main Channel
                 117.97         304.17        0.0300      Main Channel
                 118.72         304.28        0.0300      Main Channel
                 118.82         304.68    0.0300 /0.0400  Main Channel
                 124.71         304.76        0.0400
                 171.90         306.30        0.0400
                 205.60         307.24        0.0400
                 239.31         308.24        0.0400
                 262.90         310.64        0.0400
                 289.86         314.34        0.0400
                 333.68         317.66        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43    304.60    .372E+04       0.6         0.54      97.65
      1.12    305.29    .463E+05      12.5         0.85      61.89
      1.80    305.97    .149E+06      53.0         1.13      46.85
      2.49    306.66    .311E+06     134.2         1.37      38.62
      3.18    307.35    .554E+06     261.6         1.50      35.27
      3.87    308.04    .894E+06     490.7         1.74      30.37
      4.55    308.72    .129E+07     833.0         2.05      25.75
      5.24    309.41    .171E+07    1269.8         2.36      22.39
      5.93    310.10    .215E+07    1789.0         2.64      20.01
      6.62    310.79    .261E+07    2392.7         2.90      18.21
      7.30    311.47    .310E+07    3087.8         3.16      16.74
      7.99    312.16    .361E+07    3873.6         3.40      15.52
      8.68    312.85    .413E+07    4741.0         3.64      14.52
      9.37    313.54    .467E+07    5689.3         3.86      13.69
     10.05    314.22    .523E+07    6718.4         4.07      12.97
     10.74    314.91    .581E+07    7770.7         4.24      12.46
     11.43    315.60    .641E+07    8897.5         4.40      12.01
     12.12    316.29    .704E+07   10113.2         4.55      11.61
     12.80    316.97    .770E+07   11420.1         4.70      11.24

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15    13.07    7.25  12.18      1.13      0.86
     OUTFLOW: ID= 1 (6112) 2478.15    10.41    8.25  12.18      1.00      0.78

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-------------------
| CALIB             |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48          4.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     257.68         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         10.94
               over (min)        15.00         45.00
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     Storage Coeff.  (min)=       5.99 (ii)   31.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.54         0.08          0.575 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         7.49          20.79
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.12           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660     0.2787
                         0.0340     0.1406   |   0.8360     0.3122
                         0.1930     0.1653   |   0.9740     0.3450
                         0.3590     0.2034   |   1.3740     0.3550
                         0.4980     0.2383   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)    9.960     0.575      6.00      20.79
     OUTFLOW: ID= 1 (5112)    9.960     0.045      8.00      20.69

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.77
                    TIME SHIFT OF PEAK FLOW        (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1424

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-------------------
| CALIB             |
| NASHYD    (1122)  |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   0.600 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   5.345
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1122):   404.93   0.600     9.25     5.35
       + ID2= 2 (5112):     9.96   0.045     8.00    20.69
         ================================================
         ID = 3 (9112):   414.89   0.634     9.25     5.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6112):  2478.15  10.412     8.25    12.18
       + ID2= 2 (9112):   414.89   0.634     9.25     5.71
         ================================================
         ID = 3 (8010):  2893.04  11.042     8.25    11.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1141.0) ------>
                Distance      Elevation       Manning
                    0.00         312.27        0.0500
                   14.07         309.70        0.0500
                   28.14         306.51        0.0500
                   35.17         305.81        0.0500
                   42.20         304.95        0.0500
                   52.75         304.24        0.0500
                   77.37         303.61        0.0500
                   98.47         301.33        0.0500
                  131.76         300.40    0.0500 /0.0300  Main Channel
                  136.21         300.04        0.0300      Main Channel
                  136.41         299.97        0.0300      Main Channel
                  137.16         300.08        0.0300      Main Channel
                  137.26         300.48    0.0300 /0.0500  Main Channel
                  140.68         300.53        0.0500
                  179.36         302.20        0.0500
                  214.53         303.82        0.0500
                  242.66         305.27        0.0500
                  288.38         307.66        0.0500
                  316.52         311.76        0.0500
                  348.17         313.48        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43   300.40   .366E+04       0.7          0.59      88.31
      1.05   301.02   .505E+05      12.1          0.75      69.49
      1.68   301.65   .165E+06      52.7          0.99      52.28
      2.30   302.27   .324E+06     130.3          1.26      41.40
      2.93   302.90   .520E+06     247.1          1.48      35.08
      3.55   303.52   .754E+06     406.8          1.68      30.91
      4.18   304.15   .104E+07     586.1          1.76      29.55
      4.80   304.77   .138E+07     856.0          1.93      26.96
      5.43   305.40   .177E+07    1201.1          2.12      24.56
      6.05   306.02   .219E+07    1612.2          2.30      22.63
      6.68   306.65   .264E+07    2090.6          2.47      21.07
      7.30   307.27   .313E+07    2653.0          2.64      19.65
      7.93   307.90   .364E+07    3303.9          2.83      18.36
      8.55   308.52   .417E+07    4053.9          3.03      17.14
      9.18   309.15   .471E+07    4871.9          3.22      16.12
      9.80   309.77   .527E+07    5756.2          3.41      15.25
     10.43   310.40   .584E+07    6699.8          3.58      14.52
     11.05   311.02   .642E+07    7710.5          3.74      13.89
     11.68   311.65   .702E+07    8788.5          3.90      13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04    11.04    8.25  11.25      1.00      0.73
     OUTFLOW: ID= 1 (6114) 2893.04     9.40    9.75  11.25      0.90      0.70


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-------------------
| CALIB             |
| STANDHYD  (1141)  |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.75         10.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     360.09         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         17.93
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.32 (ii)   28.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.61          0.37          0.837 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         12.91          20.08
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.21           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 43.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5114)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.3010	0.5065
	0.0660	0.2376	1.6340	0.5791
	0.3770	0.2749	1.9020	0.6501
	0.7020	0.3549	2.3020	0.6601
	0.9730	0.4237	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1141)	19.450	0.837	6.00	20.08
OUTFLOW: ID= 1 (5114)	19.450	0.126	7.50	20.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.10
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.2449

CALIB			
NASHYD (1142)	Area (ha)= 268.19	Curve Number (CN)= 51.3	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.09		

Unit Hyd Qpeak (cms)= 4.197

PEAK FLOW (cms)= 1.262 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 11.041
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9114)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1142):	268.19	1.262	7.75	11.04
+ ID2= 2 (5114):	19.45	0.126	7.50	20.04
ID = 3 (9114):	287.64	1.388	7.50	11.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8012)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6114):	2893.04	9.402	9.75	11.25
+ ID2= 2 (9114):	287.64	1.388	7.50	11.65
ID = 3 (8012):	3180.68	10.477	9.75	11.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0116)	Area (ha)= 206.43	Curve Number (CN)= 64.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.80		

Unit Hyd Qpeak (cms)= 4.394

PEAK FLOW (cms)= 1.864 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 16.364
TOTAL RAINFALL (mm)= 62.700

RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8014)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0116):	206.43	1.864	7.00	16.36
+ ID2= 2 (8012):	3180.68	10.477	9.75	11.29
ID = 3 (8014):	3387.11	11.633	9.50	11.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6118)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1181.0) ------>

Distance	Elevation	Manning	
0.00	307.18	0.0450	
24.89	299.75	0.0450	
37.34	296.39	0.0450	
71.57	292.75	0.0450	
96.46	291.12	0.0450	
108.90	289.43	0.0450	
112.02	288.86	0.0450	
115.13	288.46	0.0450	
117.24	288.32	0.0450 /0.0350	Main Channel
117.49	288.15	0.0350	Main Channel
118.24	288.00	0.0350	Main Channel
118.99	288.20	0.0350	Main Channel
119.24	288.36	0.0350 /0.0450	Main Channel
121.35	288.40	0.0450	
149.35	289.36	0.0450	
171.14	290.47	0.0450	
208.47	293.14	0.0450	
236.48	295.17	0.0450	
280.04	299.48	0.0450	
308.04	307.00	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	288.32	.116E+04	0.2	0.62	81.92
1.30	289.30	.631E+05	22.2	1.07	47.43
2.29	290.29	.218E+06	117.5	1.64	30.95
3.27	291.27	.448E+06	314.6	2.15	23.72
4.25	292.25	.756E+06	625.6	2.53	20.13
5.24	293.24	.115E+07	1093.2	2.91	17.50
6.22	294.22	.161E+07	1731.6	3.28	15.50
7.20	295.20	.214E+07	2547.4	3.63	14.01
8.19	296.19	.274E+07	3584.9	4.00	12.72
9.17	297.17	.338E+07	4859.1	4.39	11.60
10.15	298.15	.407E+07	6341.5	4.76	10.70
11.13	299.13	.480E+07	8024.6	5.11	9.97
12.12	300.12	.556E+07	10006.6	5.49	9.27
13.10	301.10	.635E+07	12244.6	5.89	8.64
14.08	302.08	.716E+07	14681.7	6.26	8.13
15.07	303.07	.799E+07	17316.5	6.62	7.69
16.05	304.05	.884E+07	20148.1	6.96	7.31
17.03	305.03	.971E+07	23176.2	7.29	6.98
18.02	306.02	.106E+08	26400.8	7.61	6.69

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (8014)	3387.11	11.63	9.50	11.60	0.83	0.80
OUTFLOW: ID= 1 (6118)	3387.11	10.85	10.50	11.60	0.79	0.78

CALIB			
NASHYD (0118)	Area (ha)= 340.53	Curve Number (CN)= 45.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 5.200

```
     PEAK FLOW       (cms)=   1.273 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.143

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   1.273     7.75     8.97
       + ID2= 2 (6118):  3387.11  10.853    10.50    11.60
         ================================================
         ID = 3 (8016):  3727.64  11.774    10.50    11.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    259.80    .626E+04        2.5         1.23      41.35
       1.41    260.71    .462E+05       21.8         1.44      35.27
       2.31    261.61    .149E+06       79.6         1.63      31.19
       3.22    262.52    .340E+06      200.1         1.80      28.34
       4.12    263.42    .636E+06      446.8         2.15      23.71
       5.03    264.33    .995E+06      819.9         2.52      20.23
       5.93    265.23    .141E+07     1337.0         2.90      17.56
       6.84    266.14    .187E+07     1984.8         3.25      15.67
       7.74    267.04    .237E+07     2766.0         3.57      14.26
       8.65    267.95    .292E+07     3596.9         3.76      13.53
       9.55    268.85    .355E+07     4575.4         3.93      12.95
      10.46    269.76    .427E+07     5814.9         4.16      12.23
      11.36    270.66    .503E+07     7319.0         4.44      11.46
      12.27    271.57    .584E+07     9009.7         4.71      10.81
      13.17    272.47    .670E+07    10886.3         4.96      10.26
      14.08    273.38    .761E+07    12893.2         5.17       9.84
      14.98    274.28    .858E+07    15098.1         5.37       9.48
      15.89    275.19    .961E+07    17527.6         5.57       9.14
      16.79    276.09    .107E+08    20190.3         5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    11.77   10.50  11.36      0.93      1.32
     OUTFLOW: ID= 1 (6122) 3727.64    11.50   11.25  11.36      0.92      1.32


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| CALIB             |
| STANDHYD  (1221) |   Area    (ha)= 117.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88         66.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     886.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         13.18
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.56 (ii)    36.62 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.39          1.36          3.941 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70          9.92         18.05
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.16          0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8880      3.0390
                          0.3990     1.4100   |   9.9040      3.4850
                          2.2850     1.6269   |  11.5290      3.9214
                          4.2550     2.1164   |  11.9290      3.9314
                          5.9010     2.5338   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      3.941      6.00      18.05
     OUTFLOW: ID= 1 (5122)    117.910      0.397      8.75      18.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.08
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.4048

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-------------------
| CALIB             |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   0.878 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.605
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   246.95   0.878     7.75     8.61
       + ID2= 2 (5122):   117.91   0.397     8.75    18.04
         ================================================
         ID = 3 (8018):   364.86   1.268     8.00    11.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  11.502    11.25    11.36
       + ID2= 2 (8018):   364.86   1.268     8.00    11.65
         ================================================
         ID = 3 (8020):  4092.50  12.444    11.00    11.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.07        32.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     578.45        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        11.89
           over (min)      =      15.00        45.00
     Storage Coeff.  (min)=       9.72 (ii)   34.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.55         0.61          2.800 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        11.54         24.32
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.18          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  48.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   3.3570     1.2179
                         0.1700     0.5264   |   4.2160     1.4221
                         0.9720     0.5968   |   4.9080     1.6217
                         1.8110     0.8165   |   5.3080     1.6317
                         2.5120     0.9954   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.190      2.800      6.00      24.32
     OUTFLOW: ID= 1 (5126)     50.190      0.920      6.75      24.30

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.87
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5999

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| CALIB             |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.509

     PEAK FLOW       (cms)=   0.797 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.328
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   0.797     6.50    13.33
       + ID2= 2 (5126):    50.19   0.920     6.75    24.30
         ================================================
         ID = 3 (8024):   133.52   1.714     6.75    17.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   0.766 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.210
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   0.766     6.50     8.21
       + ID2= 2 (8024):   133.52   1.714     6.75    17.45
         ================================================
         ID = 3 (8026):   254.95   2.466     6.75    13.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (1281.0) ------>
               Distance      Elevation       Manning
                  0.00         270.58        0.0400
                  7.71         270.36        0.0400
                 15.43         269.48        0.0400
                 23.14         265.88        0.0400
                 42.43         261.83        0.0400
                 61.71         258.31        0.0400
                 75.21         256.62        0.0400
                 90.64         255.35        0.0400
                 92.49         255.00    0.0400 /0.0300  Main Channel
                 93.49         254.00        0.0300      Main Channel
                 94.49         253.90        0.0300      Main Channel
                 94.99         253.80        0.0300      Main Channel
                 95.49         253.70        0.0300      Main Channel
                 95.99         253.80        0.0300      Main Channel
                 98.49         255.00    0.0300 /0.0400  Main Channel
                100.28         255.44        0.0400
                134.99         257.45        0.0400
                148.49         259.67        0.0400
                167.77         263.42        0.0400
                190.92         270.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.65    254.35    .439E+04       2.0         1.24       36.10
      1.30    255.00    .131E+05       9.4         1.92       23.39
      2.18    255.88    .433E+05      37.0         2.30       19.54
      3.06    256.76    .131E+06     113.3         2.34       19.20
      3.95    257.65    .273E+06     273.8         2.70       16.64
      4.83    258.53    .453E+06     538.5         3.21       14.01
      5.71    259.41    .658E+06     902.9         3.70       12.14
      6.59    260.29    .886E+06    1368.4         4.16       10.79
      7.48    261.18    .114E+07    1936.3         4.59        9.79
      8.36    262.06    .141E+07    2610.9         4.99        9.01
      9.24    262.94    .171E+07    3398.7         5.37        8.36
     10.12    263.82    .202E+07    4309.6         5.75        7.81
     11.01    264.71    .235E+07    5347.5         6.13        7.33
```

```
      11.89   265.59    .270E+07    6501.0          6.48       6.93
      12.77   266.47    .307E+07    7808.6          6.86       6.55
      13.65   267.35    .345E+07    9250.5          7.23       6.21
      14.54   268.24    .384E+07   10808.3          7.59       5.92
      15.42   269.12    .424E+07   12482.5          7.94       5.66
      16.30   270.00    .466E+07   14127.4          8.18       5.49

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8026)  254.95     2.47    6.75  13.05      0.69      1.27
     OUTFLOW: ID= 1 (6128)  254.95     1.95    7.25  13.05      0.63      1.24


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.93        27.93
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     610.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        21.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.04 (ii)   29.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.14         1.12         3.829 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      60.70        16.55        29.36
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.97         0.26         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7380      1.5139
                          0.1890     0.7401   |   4.6930      1.7113
                          1.0830     0.8643   |   5.4630      1.9045
                          2.0160     1.0853   |   5.8630      1.9045
                          2.7960     1.2819   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1281)     55.870     3.829      6.00      29.36
     OUTFLOW: ID= 1 (5128)     55.870     1.115      6.75      29.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.13
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8772

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   5.093

     PEAK FLOW       (cms)=   1.901 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.278
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (9128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1282):   184.36   1.901     6.75    15.28
      + ID2= 2 (5128):    55.87   1.115     6.75    29.34
        ================================================
        ID = 3 (9128):   240.23   3.017     6.75    18.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6128):   254.95   1.949     7.25    13.05
      + ID2= 2 (9128):   240.23   3.017     6.75    18.55
        ================================================
        ID = 3 (8028):   495.18   4.758     7.00    15.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8020):  4092.50  12.444    11.00    11.38
      + ID2= 2 (8028):   495.18   4.758     7.00    15.72
        ================================================
        ID = 3 (8022):  4587.68  13.890    10.75    11.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.36        96.99
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1084.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        17.28
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.18 (ii)   35.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.65         2.65         7.732 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70        13.53        23.91
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.97         0.22         0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  11.7960      4.5929
                          0.5970     2.1554   |  14.8120      5.2509
                          3.4170     2.4937   |  17.2430      5.8948
                          6.3630     3.2187   |  17.6430      5.9048
                          8.8260     3.8422   |   0.0000      0.0000
```

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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)    176.350      7.732      6.00      23.91
     OUTFLOW: ID= 1 (5120)    176.350      2.126      7.25      23.91

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.49
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.3500

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39        40.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     686.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        16.94
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.78 (ii)   32.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.68         1.13          3.142 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70        13.41          22.87
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.21           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):    70.67   3.142     6.00     22.87
       + ID2= 2 (5120):   176.35   2.126     7.25     23.91
         ==================================================
         ID = 3 (8030):   247.02   3.428     6.00     23.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.68  13.890    10.75    11.85
       + ID2= 2 (8030):   247.02   3.428     6.00     23.61
         ==================================================
         ID = 3 (8032):  4834.70  14.633    10.75    12.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                   0.00         257.18        0.0350
                  62.45         254.70        0.0350
                 109.29         252.74        0.0350
                 150.92         251.55        0.0350
                 192.56         248.96        0.0350
                 239.39         247.16        0.0350
                 291.84         246.00        0.0350
                 296.84         245.00        0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60        0.0300      Main Channel
                 301.84         244.60        0.0300      Main Channel
                 303.44         244.60        0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00        0.0350
                 309.84         246.00        0.0350
                 317.46         247.22        0.0350
                 348.68         254.83        0.0350
                 359.09         256.70        0.0350
                 452.76         258.23        0.0350
                 515.22         258.33        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.40    245.00    .870E+04         1.2         0.64      124.12
       1.04    245.64    .468E+05         9.5         0.96       81.81
       1.68    246.28    .109E+06        25.6         1.11       70.86
       2.32    246.92    .257E+06        63.5         1.17       67.51
       2.96    247.56    .498E+06       142.7         1.36       58.18
       3.61    248.21    .800E+06       266.7         1.58       50.01
       4.25    248.85    .116E+07       437.4         1.78       44.24
       4.89    249.49    .157E+07       669.1         2.01       39.20
       5.53    250.13    .203E+07       954.9         2.23       35.36
       6.17    250.77    .252E+07      1294.4         2.43       32.42
       6.81    251.41    .305E+07      1689.6         2.62       30.07
       7.45    252.05    .363E+07      2090.7         2.73       28.93
       8.09    252.69    .429E+07      2553.1         2.82       27.98
       8.73    253.33    .501E+07      3138.4         2.96       26.60
       9.37    253.97    .579E+07      3803.8         3.11       25.36
      10.02    254.62    .662E+07      4549.3         3.25       24.25
      10.66    255.26    .751E+07      5364.9         3.38       23.32
      11.30    255.90    .845E+07      6265.7         3.51       22.49
      11.94    256.54    .946E+07      7260.1         3.63       21.72

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70    14.63   10.75  12.45      1.24      1.01
     OUTFLOW: ID= 1 (6130) 4834.70    13.90   11.75  12.45      1.22      1.00

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--------------------
| CALIB              |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93       115.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1461.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        69.23
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      16.96 (ii)   29.35 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      23.87         9.34         29.818 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        30.35          44.61
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.48           0.71

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  18.6040     9.7083
```

```
                        1.1320     5.3237   |  22.6740     10.8355
                        6.6360     6.1006   |  30.4650     12.2155
                       10.3780     7.2341   |  31.8650     12.2255
                       14.1960     8.4233   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    320.200     29.818      6.00      44.61
     OUTFLOW: ID= 1 (5130)    320.200     10.368      6.75      44.61

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.77
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  7.2529

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   1.139 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.988
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.430

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8036) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1302):    65.86   1.139     6.75    26.99
        + ID2= 2 (5130):   320.20  10.368     6.75    44.61
          ================================================
          ID = 3 (8036):   386.06  11.507     6.75    41.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8034) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6130):  4834.70  13.900    11.75    12.45
        + ID2= 2 (8036):   386.06  11.507     6.75    41.60
          ================================================
          ID = 3 (8034):  5220.76  15.884     7.25    14.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        22.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.35 (ii)   24.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.41         0.16          0.504 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        16.49          28.42
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.26           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4580     0.1865
                          0.0230     0.0917   |   0.5750     0.2106
                          0.1330     0.1071   |   0.6700     0.2341
                          0.2470     0.1341   |   1.0700     0.2441
                          0.3430     0.1582   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)     6.850     0.504      6.00      28.42
     OUTFLOW: ID= 1 (5186)     6.850     0.127      6.75      28.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.28
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1070

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--------------------
| CALIB            |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32        196.62
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1516.44         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         18.62
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.34 (ii)    38.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.45          5.57         14.728 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         15.19          25.66
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.24           0.41


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1862):   344.94  14.728     6.00    25.66
        + ID2= 2 (5186):     6.85   0.127     6.75    28.28
          ================================================
          ID = 3 (9186):   351.79  14.743     6.00    25.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      86.41        40.00
     Mannings n           =      0.013        0.250
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     Max.Eff.Inten.(mm/hr)=      82.76        85.25
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      3.11 (ii)   14.51 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.12         0.05        0.165 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00        6.00
     RUNOFF VOLUME    (mm)=     60.70        25.90       41.90
     TOTAL RAINFALL   (mm)=     62.70        62.70       62.70
     RUNOFF COEFFICIENT   =      0.97         0.41        0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750      0.0357
                          0.0040     0.0200   |   0.0940      0.0386
                          0.0220     0.0240   |   0.1100      0.0416
                          0.0410     0.0277   |   0.5100      0.0516
                          0.0560     0.0315   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)     1.120     0.165      6.00      41.90
     OUTFLOW: ID= 1 (5188)     1.120     0.036      6.50      40.78

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.86
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0269

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--------------------
| CALIB            |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.04       181.37
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1431.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        20.63
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     16.75 (ii)   36.86 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=     12.26         5.80       14.641 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     60.70        17.68       28.43
     TOTAL RAINFALL   (mm)=     62.70        62.70       62.70
     RUNOFF COEFFICIENT   =      0.97         0.28        0.45


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1882):   307.41  14.641     6.00    28.43
       + ID2= 2 (5188):     1.12   0.036     6.50    40.78
         ================================================
         ID = 3 (9188):   308.53  14.645     6.00    28.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9186):   351.79  14.743     6.00    25.71
       + ID2= 2 (9188):   308.53  14.645     6.00    28.48
         ================================================
         ID = 3 (8068):   660.32  29.388     6.00    27.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        19.18
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     12.37 (ii)   33.07 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.44         2.11        4.304 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50        6.00
     RUNOFF VOLUME    (mm)=     60.70        15.27       23.00
     TOTAL RAINFALL   (mm)=     62.70        62.70       62.70
     RUNOFF COEFFICIENT   =      0.97         0.24        0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7800      2.5656
                          0.3790     1.0207   |   7.3720      3.0829
                          1.6240     1.1939   |   8.7710      3.5956
                          3.0930     1.6631   |   9.1710      3.6056
                          4.3530     2.1032   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     4.304      6.00      23.00
     OUTFLOW: ID= 1 (5182)    111.800     1.685      7.00      22.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.16
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2149

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.325 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  13.159
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     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.325     7.00    13.16
       + ID2= 2 (5182):   111.80   1.685     7.00    22.99
         ================================================
         ID = 3 (8062):   156.20   2.010     7.00    20.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1841) |   Area    (ha)= 145.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.63         75.44
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         44.15
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.37 (ii)    28.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.84          3.93          7.269 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         18.81         26.77
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.30          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.9270     2.3472
                          0.2980     1.0088   |   7.4630     2.7585
                          1.6660     1.1775   |   8.7490     3.1642
                          3.1100     1.4809   |   9.1490     3.1742
                          4.4100     1.8897   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    145.070      7.269      6.00      26.77
     OUTFLOW: ID= 1 (5184)    145.070      3.431      6.75      26.76

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.20
                   TIME SHIFT OF PEAK FLOW          (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.6030

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| CALIB            |
| STANDHYD  (1842) |   Area    (ha)= 117.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.33         68.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     884.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         23.10
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.55 (ii)    31.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.59          2.63          4.681 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         17.59         24.92
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.28          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   117.45   4.681     6.00    24.92
       + ID2= 2 (5184):   145.07   3.431     6.75    26.76
         ================================================
         ID = 3 (8060):   262.52   6.899     6.50    25.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.52   6.899     6.50    25.94
       + ID2= 2 (8062):   156.20   2.010     7.00    20.20
         ================================================
         ID = 3 (8064):   418.72   7.927     6.50    23.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1781) |   Area    (ha)=  55.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.65         33.86
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     608.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         64.19
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.02 (ii)    22.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.40          2.88          3.374 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=      60.70         29.08         33.19
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.46          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  74.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.1870      0.7248
                          0.1880     0.3394   |   9.3670      0.8313
                          1.7260     0.4003   |  10.7440      0.9285
                          3.2000     0.4933   |  11.1440      0.9385
                          4.6710     0.6039   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     55.500      3.374      6.25      33.19
     OUTFLOW: ID= 1 (5178)     55.500      3.119      6.25      33.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.45
                    TIME SHIFT OF PEAK FLOW        (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4997

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--------------------
| CALIB            |
| NASHYD    (1782) |   Area    (ha)= 219.91   Curve Number   (CN)= 77.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   4.921

     PEAK FLOW       (cms)=   3.239 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.024
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.399

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1782):   219.91   3.239     7.00    25.02
        + ID2= 2 (5178):    55.50   3.119     6.25    33.19
          ================================================
          ID = 3 (8046):   275.41   5.988     6.50    26.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   1.576 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.982
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0180):   226.65   1.576     7.75    16.98
        + ID2= 2 (8046):   275.41   5.988     6.50    26.67
          ================================================
          ID = 3 (8050):   502.06   7.298     6.50    22.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         23.49
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.07 (ii)    29.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.96          1.63          2.967 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         20.06         27.37
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.32          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1370      1.3070
                          0.0580     0.5427   |   1.4280      1.5354
                          0.3290     0.6196   |   1.6620      1.7593
                          0.6130     0.8627   |   2.0620      1.7693
                          0.8510     1.0621   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300      2.967      6.00      27.37
     OUTFLOW: ID= 1 (5174)     56.300      0.624      7.25      27.33

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.03
                    TIME SHIFT OF PEAK FLOW        (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8732

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.057 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.256
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1742):    82.80   1.057     6.75    20.26
        + ID2= 2 (5174):    56.30   0.624     7.25    27.33
          ================================================
          ID = 3 (8044):   139.10   1.658     7.00    23.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   2.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.429
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.406

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   1.583 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.218
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   1.557 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.878
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   1.583     7.00    11.22
       + ID2= 2 (0170):   166.91   1.557     7.00    16.88
         ================================================
         ID = 3 (8040):   414.04   3.140     7.00    13.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   2.677     7.00    25.43
       + ID2= 2 (8040):   414.04   3.140     7.00    13.50
         ================================================
         ID = 3 (8042):   616.27   5.816     7.00    17.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1741.0) ------>
```

Distance	Elevation	Manning		
0.00	296.00	0.0450		
13.36	288.94	0.0450		
26.71	288.64	0.0450		
51.19	287.96	0.0450		
73.45	287.32	0.0450		
86.81	286.48	0.0450		
102.39	285.08	0.0450		
110.73	282.76	0.0450		
115.73	281.06	0.0450 /0.0350	Main Channel	
115.74	280.35	0.0350	Main Channel	
120.73	280.35	0.0350	Main Channel	
120.74	281.10	0.0350 /0.0450	Main Channel	
125.74	282.64	0.0450		
135.78	286.87	0.0450		
149.13	289.58	0.0450		
162.49	292.29	0.0450		
175.84	293.95	0.0450		
195.88	295.13	0.0450		
213.68	296.02	0.0450		
220.36	296.09	0.0450		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	281.06	.136E+05	6.0	1.69	37.89
1.50	281.85	.358E+05	22.5	2.42	26.43
2.28	282.63	.726E+05	53.8	2.85	22.47
3.07	283.42	.124E+06	104.1	3.24	19.79
3.86	284.21	.189E+06	176.7	3.60	17.81
4.64	284.99	.268E+06	274.9	3.94	16.26
5.43	285.78	.369E+06	390.8	4.07	15.73
6.21	286.56	.501E+06	551.6	4.23	15.15
7.00	287.35	.674E+06	750.5	4.28	14.97
7.79	288.14	.920E+06	993.3	4.15	15.44
8.57	288.92	.126E+07	1361.5	4.14	15.47
9.36	289.71	.167E+07	1986.0	4.56	14.04
10.15	290.50	.210E+07	2739.7	5.02	12.76
10.93	291.28	.254E+07	3615.0	5.47	11.70
11.72	292.07	.300E+07	4608.8	5.91	10.83
12.50	292.85	.347E+07	5693.3	6.30	10.16
13.29	293.64	.397E+07	6892.9	6.67	9.60
14.08	294.43	.450E+07	8150.4	6.97	9.19
14.86	295.21	.506E+07	9525.0	7.23	8.86

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8042)	616.27	5.82	7.00	17.41	0.69	1.69
OUTFLOW: ID= 1 (6174)	616.27	5.32	8.00	17.41	0.63	1.69

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--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   5.322     8.00    17.41
       + ID2= 2 (8044):   139.10   1.658     7.00    23.12
         ================================================
         ID = 3 (8048):   755.37   6.828     7.75    18.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37   6.828     7.75    18.46
       + ID2= 2 (8050):   502.06   7.298     6.50    22.30
         ================================================
         ID = 3 (8052):  1257.43  12.269     7.00    19.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
         ID1= 1 (8052):  1257.43  12.269     7.00    19.99
       + ID2= 2 (8064):   418.72   7.927     6.50    23.80
         ================================================
         ID = 3 (8058):  1676.15  20.133     6.75    20.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
--------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        18.35
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.82 (ii)   34.90 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.09         3.51          4.523 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70        16.69          21.53
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.27           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
--------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        49.51
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.64 (ii)   23.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.01         1.56          2.986 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        20.70          29.10
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.33           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640      1.3175
                         0.1650     0.6418   |   4.0090      1.4908
                         0.9450     0.7489   |   4.7720      1.6604
                         1.7610     0.9426   |   5.1720      1.6704
                         2.4420     1.1144   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      2.986      6.00      29.10
     OUTFLOW: ID= 1 (5176)     48.800      0.959      6.75      29.08

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.11
               TIME SHIFT OF PEAK FLOW       (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7540

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--------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00   4.523     6.00    21.53
       + ID2= 2 (5176):    48.80   0.959     6.75    29.08
         ================================================
         ID = 3 (8056):   210.80   5.052     6.50    23.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80   5.052     6.50    23.28
       + ID2= 2 (8058):  1676.15  20.133     6.75    20.94
         ================================================
         ID = 3 (8066):  1886.95  24.860     6.50    21.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8070) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.95  24.860     6.50    21.21
       + ID2= 2 (8068):   660.32  29.388     6.00    27.00
         ================================================
         ID = 3 (8070):  2547.27  44.691     6.50    22.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1901.0) ------>
               Distance      Elevation       Manning
                  0.00         261.34        0.0600
                 19.76         261.64        0.0600
                 59.28         261.29        0.0600
                 79.04         261.09        0.0600
                103.74         255.99        0.0600
                153.13         253.42        0.0600
                192.65         252.78        0.0600
                212.29         249.80        0.0600
                217.29         249.50    0.0600 /0.0350  Main Channel
                217.30         249.05        0.0350      Main Channel
                222.29         249.05        0.0350      Main Channel
                222.30         249.50    0.0350 /0.0600  Main Channel
                227.30         249.80        0.0600
                232.17         252.31        0.0600
                276.63         253.53        0.0600
                326.03         256.97        0.0600
                355.67         257.30        0.0600
                400.12         260.08        0.0600
                469.28         261.25        0.0600
                489.04         262.53        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.45    249.50   .436E+04        1.0         0.43      75.97
      1.07    250.12   .205E+05        5.4         0.51      62.96
```

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      1.70   250.75    .451E+05      14.8          0.64      50.78
      2.32   251.37    .762E+05      29.2          0.74      43.46
      2.94   251.99    .114E+06      49.1          0.84      38.61
      3.57   252.62    .161E+06      70.2          0.85      38.18
      4.19   253.24    .248E+06      93.4          0.73      44.29
      4.81   253.86    .398E+06     154.9          0.76      42.79
      5.44   254.49    .576E+06     246.1          0.83      38.99
      6.06   255.11    .779E+06     362.7          0.90      35.79
      6.68   255.73    .101E+07     506.5          0.98      33.15
      7.30   256.35    .126E+07     687.6          1.06      30.52
      7.93   256.98    .153E+07     902.8          1.15      28.18
      8.55   257.60    .183E+07    1114.3          1.18      27.39
      9.17   258.22    .216E+07    1407.8          1.26      25.55
      9.80   258.85    .250E+07    1735.4          1.35      24.03
     10.42   259.47    .286E+07    2097.5          1.42      22.73
     11.04   260.09    .324E+07    2492.3          1.49      21.63
     11.67   260.72    .364E+07    2837.8          1.51      21.39

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.27    44.69    6.50  22.71      2.80      0.81
     OUTFLOW: ID= 1 (6190) 2547.27    33.74    6.75  22.71      2.47      0.76


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--------------------
| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.82          5.67
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     299.89         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         72.42
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.56 (ii)    18.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.90          0.59          1.281 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         28.62         38.56
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.46          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.9030      0.3849
                          0.0460     0.1975   |  1.1330      0.4289
                          0.2610     0.2331   |  1.3190      0.4720
                          0.4870     0.2836   |  1.7190      0.4820
                          0.6750     0.3308   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1901)    13.490     1.281      6.00      38.56
     OUTFLOW: ID= 1 (5190)    13.490     0.403      6.75      38.48

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.45
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2688

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--------------------
| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
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                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     142.74        131.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1352.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         62.48
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      16.19 (ii)    29.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.45          9.64         18.530 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         27.06         36.48
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.43          0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1902):   274.50  18.530     6.00     36.48
       + ID2= 2 (5190):    13.49   0.403     6.75     38.48
         ================================================
         ID = 3 (9190):   287.99  18.566     6.00     36.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):  2547.27  33.743     6.75     22.71
       + ID2= 2 (9190):   287.99  18.566     6.00     36.58
         ================================================
         ID = 3 (8072):  2835.26  43.221     6.50     24.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                  0.00         264.40        0.0500
                  3.64         263.94        0.0500
                 14.54         261.05        0.0500
                 29.08         256.78        0.0500
                 36.36         254.96        0.0500
                 50.90         252.20        0.0500
                 65.44         249.78        0.0500
                 76.35         246.86        0.0500
                 77.24         245.90        0.0500
                 82.24         245.45    0.0500 /0.0350  Main Channel
                 82.25         244.90        0.0350      Main Channel
                 87.25         244.90        0.0350      Main Channel
                 87.26         245.45    0.0350 /0.0500  Main Channel
                 94.53         246.89        0.0500
                170.87         247.16        0.0500
                218.13         248.69        0.0500
                265.40         249.22        0.0500
                301.75         250.78        0.0500
                338.11         253.47        0.0500
                359.92         264.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
```

```
       0.55   245.45    .345E+04       2.0          0.71      29.20
       1.53   246.43    .174E+05      14.6          1.05      19.92
       2.50   247.40    .767E+05      52.8          0.86      24.20
       3.48   248.38    .224E+06     199.8          1.11      18.71
       4.46   249.36    .429E+06     441.2          1.29      16.19
       5.43   250.33    .691E+06     874.3          1.58      13.18
       6.41   251.31    .987E+06    1468.3          1.86      11.20
       7.38   252.28    .131E+07    2224.8          2.13       9.79
       8.36   253.26    .165E+07    3132.4          2.37       8.78
       9.34   254.24    .201E+07    4256.4          2.65       7.87
      10.31   255.21    .238E+07    5551.0          2.92       7.15
      11.29   256.19    .276E+07    6996.8          3.17       6.57
      12.27   257.17    .314E+07    8585.9          3.42       6.10
      13.24   258.14    .353E+07   10315.9          3.65       5.71
      14.22   259.12    .393E+07   12180.7          3.87       5.38
      15.19   260.09    .434E+07   14178.2          4.09       5.10
      16.17   261.07    .475E+07   16306.5          4.29       4.85
      17.15   262.05    .517E+07   18558.6          4.49       4.64
      18.12   263.02    .559E+07   20939.7          4.68       4.45

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8072) 2835.26    43.22    6.50  24.12      2.26      0.90
    OUTFLOW: ID= 1 (6192) 2835.26    38.42    7.00  24.12      2.14      0.92


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  72.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.35         41.92
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     694.12         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         22.90
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.85 (ii)    30.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.60          1.65          3.282 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         17.85          25.99
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.28           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1390      1.4346
                          0.2060     0.7072   |   3.8730      1.6637
                          0.9550     0.8170   |   4.8310      1.9184
                          1.7940     1.0081   |   5.2310      1.9284
                          2.4250     1.1871   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     72.270     3.282      6.00      25.99
     OUTFLOW: ID= 1 (5192)     72.270     1.272      7.00      25.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.76
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8925

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--------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 174.34
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      67.99        106.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1078.08         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         21.32
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.13 (ii)    33.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.39          3.67          6.901 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         17.31          25.12
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.28           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1922):   174.34   6.901     6.00    25.12
        + ID2= 2 (5192):    72.27   1.272     7.00    25.98
          ================================================
          ID = 3 (8074):   246.61   7.022     6.00    25.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6192):  2835.26  38.423     7.00    24.12
        + ID2= 2 (8074):   246.61   7.022     6.00    25.37
          ================================================
          ID = 3 (8076):  3081.87  42.737     6.75    24.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.088 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  18.348
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1941) |   Area    (ha)=   0.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       0.34         0.42
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      71.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        60.60
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.77 (ii)   15.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.04          0.051 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        25.58         30.83
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.41          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0510     0.0197
                          0.0030     0.0093   |   0.0640     0.0226
                          0.0150     0.0107   |   0.0740     0.0253
                          0.0270     0.0138   |   0.4740     0.0353
                          0.0380     0.0165   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)     0.760      0.051      6.00      30.83
     OUTFLOW: ID= 1 (5194)     0.760      0.019      6.75      29.82

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.31
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0119

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1942) |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   3.145 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  19.322
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1942):   255.33   3.145     6.75     19.32
       + ID2= 2 (5194):     0.76   0.019     6.75     29.82
         ================================================
         ID = 3 (9194):   256.09   3.164     6.75     19.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9196):    41.47   1.088     6.00     18.35
       + ID2= 2 (9194):   256.09   3.164     6.75     19.35
         ================================================
         ID = 3 (8078):   297.56   4.027     6.50     19.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation       Manning
                   0.00         267.15        0.0500
                  22.99         265.94        0.0500
                  51.73         261.39        0.0500
                  74.72         258.75        0.0500
                  94.83         257.79        0.0500
                 114.95         254.36        0.0500
                 126.44         254.06        0.0500
                 132.19         253.68        0.0500
                 135.06         253.35        0.0500
                 137.94         252.93    0.0500 /0.0300  Main Channel
                 140.81         252.41        0.0300      Main Channel
                 143.69         251.89        0.0300      Main Channel
                 146.56         252.51        0.0300      Main Channel
                 149.43         253.36    0.0300 /0.0500  Main Channel
                 158.05         255.89        0.0500
                 172.42         256.25        0.0500
                 204.03         259.15        0.0500
                 229.90         260.36        0.0500
                 252.89         260.46        0.0500
                 284.50         260.45        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35   252.24    .111E+04       0.6          0.97      31.07
       0.69   252.58    .442E+04       3.8          1.55      19.42
       1.04   252.93    .974E+04      11.1          2.06      14.65
       1.51   253.40    .203E+05      31.2          2.77      10.87
       1.98   253.87    .357E+05      65.0          3.30       9.14
       2.45   254.34    .596E+05     112.9          3.43       8.80
       2.92   254.81    .935E+05     186.8          3.62       8.34
       3.39   255.28    .131E+06     282.1          3.89       7.75
       3.86   255.75    .172E+06     398.2          4.18       7.22
       4.33   256.22    .221E+06     527.0          4.31       6.99
       4.80   256.69    .282E+06     697.3          4.47       6.75
       5.27   257.16    .350E+06     898.5          4.64       6.50
       5.74   257.63    .425E+06    1131.4          4.82       6.26
       6.21   258.10    .508E+06    1367.4          4.88       6.19
       6.68   258.57    .603E+06    1635.6          4.91       6.14
       7.15   259.04    .709E+06    1977.2          5.04       5.98
       7.62   259.51    .826E+06    2360.5          5.17       5.83
       8.09   259.98    .954E+06    2790.7          5.29       5.70
       8.56   260.45    .110E+07    3179.6          5.25       5.74

                                   <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     4.03    6.50  19.21      0.70      1.57
     OUTFLOW: ID= 1 (6198)  297.56     3.88    6.75  19.21      0.70      1.56

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1981) |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       65.98         83.97
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      999.83         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76         24.74
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       13.50 (ii)    32.21 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.08          0.03
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                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.98         3.45          6.416 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70        18.57          26.57
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.30           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.9910      3.4957
                          0.4390     1.7800   |  13.3530      3.9512
                          2.6180     2.0449   |  15.3540      4.3979
                          5.1680     2.5932   |  15.7540      4.4079
                          7.9230     3.0040   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950      6.416      6.00      26.57
     OUTFLOW: ID= 1 (5198)    149.950      2.581      7.00      26.56

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.24
                    TIME SHIFT OF PEAK FLOW       (min)= 60.00
                    MAXIMUM  STORAGE   USED      (ha.m.)=  2.0427

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12       192.49
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1266.52        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        15.71
                 over (min)      15.00        45.00
     Storage Coeff.  (min)=      15.56 (ii)   37.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.57         4.63          5.725 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      60.70        15.22          19.31
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.24           0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   240.61   5.725     6.50    19.31
        + ID2= 2 (5198):   149.95   2.581     7.00    26.56
          ================================================
          ID = 3 (8080):   390.56   6.499     6.75    22.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   3.878     6.75    19.21
        + ID2= 2 (8080):   390.56   6.499     6.75    22.10
          ================================================
          ID = 3 (8082):   688.12  10.377     6.75    20.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.87  42.737     6.75    24.22
        + ID2= 2 (8082):   688.12  10.377     6.75    20.85
          ================================================
          ID = 3 (8084):  3769.99  53.114     6.75    23.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2001.0) ------>
               Distance      Elevation       Manning
                  0.00         252.47        0.0500
                 10.38         252.29        0.0500
                 20.76         252.28        0.0500
                 41.52         247.66        0.0500
                 62.28         247.47        0.0500
                 80.45         247.34        0.0500
                 90.83         246.85        0.0500
                103.81         245.51        0.0500
                106.00         244.50        0.0500
                108.99         244.05    0.0500 /0.0300  Main Channel
                109.00         243.50        0.0300      Main Channel
                114.00         243.50        0.0300      Main Channel
                114.01         244.05    0.0300 /0.0500  Main Channel
                118.99         244.50        0.0500
                132.36         245.09        0.0500
                150.52         245.83        0.0500
                199.83         249.24        0.0500
                207.62         250.16        0.0500
                236.16         253.11        0.0500
                256.92         253.83        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.28    243.77    .365E+04        0.7         0.54      81.42
      0.55    244.05    .730E+04        2.2         0.81      54.59
      1.05    244.55    .197E+05        7.2         0.97      45.51
      1.54    245.04    .463E+05       17.2         0.99      44.76
      2.04    245.54    .895E+05       34.8         1.03      42.81
      2.53    246.03    .152E+06       62.8         1.09      40.43
      3.03    246.53    .232E+06      104.7         1.20      36.91
      3.52    247.02    .328E+06      159.7         1.29      34.19
      4.02    247.52    .450E+06      223.4         1.32      33.56
      4.51    248.01    .627E+06      326.9         1.38      31.99
      5.01    248.51    .820E+06      463.0         1.50      29.52
      5.50    249.00    .103E+07      626.0         1.62      27.30
      6.00    249.50    .124E+07      820.1         1.75      25.24
      6.49    249.99    .147E+07     1044.4         1.89      23.42
      6.99    250.49    .170E+07     1292.6         2.01      21.95
      7.48    250.98    .195E+07     1565.6         2.13      20.71
      7.98    251.48    .220E+07     1864.5         2.25      19.65
      8.47    251.97    .246E+07     2189.4         2.36      18.73
      8.97    252.47    .274E+07     2427.5         2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    53.11    6.75  23.60      2.36      1.07
     OUTFLOW: ID= 1 (6200) 3769.99    44.46    7.50  23.60      2.21      1.05
```

```
--------------------
| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54        22.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        62.83
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.25 (ii)   22.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.60         1.94          2.838 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        27.21         33.57
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.43          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7210      1.0525
                          0.1450     0.4892   |   3.4130      1.1947
                          0.7930     0.5722   |   4.0030      1.3346
                          1.4410     0.7540   |   4.4030      1.3446
                          2.0370     0.8927   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480     2.838      6.00      33.57
     OUTFLOW: ID= 1 (5200)     42.480     1.147      6.75      33.55

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.40
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6746

--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56        50.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     696.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        46.98
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.87 (ii)   25.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.79         2.96          3.641 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        24.26         28.99
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.39          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   3.641     6.00    28.99
        + ID2= 2 (5200):    42.48   1.147     6.75    33.55
          ================================================
          ID = 3 (8086):   115.27   4.161     6.25    30.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  44.464     7.50    23.60
        + ID2= 2 (8086):   115.27   4.161     6.25    30.67
          ================================================
          ID = 3 (8088):  3885.26  46.028     7.50    23.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76  15.884     7.25    14.61
        + ID2= 2 (8088):  3885.26  46.028     7.50    23.81
          ================================================
          ID = 3 (8038):  9106.02  61.724     7.50    18.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1362.0) ------>
              Distance      Elevation       Manning
                  0.00         252.00        0.0400
                  2.35         244.60        0.0400
                 39.94         243.14        0.0400
                 58.74         242.65        0.0400
                 91.63         242.03        0.0400
                101.03         241.69        0.0400
                103.38         241.66        0.0400
                105.73         240.76        0.0400
                105.93         240.59        0.0400
                109.18         240.28    0.0400 /0.0300  Main Channel
                110.43         239.81        0.0300      Main Channel
                111.68         239.81        0.0300      Main Channel
                113.43         240.09    0.0300 /0.0400  Main Channel
                118.43         240.50        0.0400
                138.62         241.68        0.0400
                152.72         241.60        0.0400
                166.82         242.68        0.0400
                185.62         249.09        0.0400
                197.36         251.00        0.0400
                232.61         252.28        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28   240.09    .118E+04       0.1         0.20     142.09
      0.91   240.72    .114E+05       2.4         0.35      79.92
      1.53   241.34    .352E+05       9.4         0.45      62.17
      2.16   241.97    .831E+05      22.8         0.46      60.69
      2.79   242.60    .172E+06      54.2         0.53      52.74
      3.41   243.22    .297E+06     111.4         0.63      44.49
```

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       4.04   243.85    .445E+06     194.1          0.74      38.22
       4.67   244.48    .612E+06     301.1          0.83      33.88
       5.29   245.10    .793E+06     443.0          0.94      29.82
       5.92   245.73    .976E+06     611.3          1.06      26.60
       6.55   246.36    .116E+07     802.0          1.17      24.12
       7.18   246.99    .135E+07    1014.0          1.27      22.16
       7.80   247.61    .154E+07    1246.2          1.37      20.56
       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02    61.72    7.50  18.54      2.87      0.55
     OUTFLOW: ID= 1 (1365) 9106.02    51.32    8.25  18.54      2.73      0.53


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96        68.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1180.11        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        60.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.92 (ii)   27.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      16.13         5.00        19.270 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        24.33         41.06
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.39          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.9970     7.9437
                         0.9210     5.2645   |  12.4650     8.5839
                         3.2690     5.3433   |  16.9060     9.2236
                         6.3980     5.6925   |  17.3060     9.2336
                         7.1860     6.8155   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1321)    208.900     19.270      6.00      41.06
     OUTFLOW: ID= 1 (5132)    208.900      4.081      7.00      41.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.18
                TIME SHIFT OF PEAK FLOW          (min)= 60.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  5.4449

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1322) |   Area    (ha)=  81.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        51.62
     Dep. Storage     (mm)=       2.00         5.00
```

```
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     739.10        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        21.24
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.27 (ii)   31.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.83         1.85          4.593 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        19.28         29.64
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.31          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1322):    81.94   4.593     6.00    29.64
        + ID2= 2 (5132):   208.90   4.081     7.00    41.05
          ================================================
          ID = 3 (8090):   290.84   5.530     7.00    37.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84        57.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     804.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        16.44
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      11.86 (ii)   33.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.99         1.53          5.617 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        14.87         27.70
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.24          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64        41.15
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     626.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        14.47
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```
            over (min)       15.00        45.00
     Storage Coeff.  (min)=      10.20 (ii)   33.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.27         0.98          2.664 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70        14.03         23.37
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.22          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1250      1.0755
                         0.1070     0.6119   |   1.7570      1.1641
                         0.4130     0.6225   |   2.3860      1.2526
                         0.8380     0.7018   |   2.7860      1.2626
                         0.9790     0.8884   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790      2.664      6.00      23.37
     OUTFLOW: ID= 1 (5134)     58.790      0.832      7.00      23.34

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.23
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7019

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-------------------
| ADD HYD   (9134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1342):    97.16   5.617     6.00    27.70
       + ID2= 2 (5134):    58.79   0.832     7.00    23.34
         ================================================
         ID = 3 (9134):   155.95   5.678     6.00    26.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8090):   290.84   5.530     7.00    37.84
       + ID2= 2 (9134):   155.95   5.678     6.00    26.06
         ================================================
         ID = 3 (8092):   446.79  10.732     6.00    33.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1361.0) ------>
              Distance      Elevation       Manning
                  0.00         262.81        0.0400
                 37.23         260.54        0.0400
                 79.12         256.98        0.0400
                111.70         254.74        0.0400
                172.20         252.76        0.0400
                251.32         248.82        0.0400
                255.97         248.75        0.0400
                260.43         248.76        0.0400
                265.43         248.49        0.0400
                268.68         248.18    0.0400 /0.0300  Main Channel
                269.93         247.71        0.0300      Main Channel
                271.18         247.71        0.0300      Main Channel
                272.93         247.99        0.0300      Main Channel
                277.93         248.40    0.0300 /0.0400  Main Channel
                283.90         248.88        0.0400
                307.17         249.60        0.0400
                321.13         251.59        0.0400
                363.01         257.08        0.0400
                400.25         257.58        0.0400
                460.75         261.91        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.47    248.18    .881E+04       1.3         0.76      114.66
       1.19    248.90    .742E+05      17.3         1.22       71.44
       1.92    249.63    .278E+06      78.3         1.48       59.26
       2.64    250.35    .589E+06     210.3         1.87       46.69
       3.36    251.07    .974E+06     414.3         2.23       39.19
       4.08    251.79    .143E+07     696.2         2.55       34.32
       4.81    252.52    .197E+07    1063.0         2.83       30.86
       5.53    253.24    .259E+07    1505.7         3.06       28.62
       6.25    253.96    .331E+07    2051.3         3.26       26.85
       6.97    254.68    .413E+07    2720.9         3.46       25.30
       7.70    255.41    .504E+07    3584.5         3.73       23.43
       8.42    256.13    .601E+07    4580.9         4.00       21.87
       9.14    256.85    .704E+07    5707.9         4.25       20.57
       9.86    257.57    .818E+07    6636.1         4.26       20.53
      10.59    258.30    .945E+07    8115.0         4.50       19.42
      11.31    259.02    .108E+08    9759.2         4.74       18.45
      12.03    259.74    .122E+08   11569.5         4.96       17.61
      12.75    260.46    .137E+08   13550.6         5.18       16.87
      13.48    261.19    .153E+08   15636.4         5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79    10.73    6.00  33.73      0.90      0.98
     OUTFLOW: ID= 1 (1366)  446.79     4.89    7.50  33.73      0.63      0.83

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67        275.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1574.36         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         20.83
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.73 (ii)    37.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.06          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       8.08          8.76          11.686 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         19.37          25.15
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.31           0.40

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.34         63.28
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     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     968.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        58.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.25 (ii)   26.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.18         4.54      10.034 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=      60.70        24.24        34.81
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.97         0.39         0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.3486
                         0.3100     2.4365   |   5.9200      5.0324
                         1.7670     2.5993   |   7.0820      5.7151
                         3.4020     2.8510   |   7.4820      5.7251
                         4.0310     3.5962   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620     10.034      6.00      34.81
     OUTFLOW: ID= 1 (5136)    140.620      2.935      7.00      34.80

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.25
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.8002

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| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1362):   371.79  11.686     6.00    25.15
        + ID2= 2 (5136):   140.62   2.935     7.00    34.80
          ================================================
          ID = 3 (8096):   512.41  13.253     6.50    27.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1366):   446.79   4.895     7.50    33.73
        + ID2= 2 (8096):   512.41  13.253     6.50    27.80
          ================================================
          ID = 3 (8094):   959.20  16.512     6.50    30.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1365):  9106.02  51.320     8.25    18.54
        + ID2= 2 (8094):   959.20  16.512     6.50    30.56
          ================================================
          ID = 3 (8098): 10065.22  60.285     8.00    19.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.78         39.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     801.00         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         10.83
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.82 (ii)    37.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                       *TOTALS*
     PEAK FLOW       (cms)=       6.01          0.66       6.278 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70          7.67        25.70
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.12         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.4380      2.7648
                         0.3260     1.4281   |   8.0830      3.0750
                         1.8650     1.6876   |   9.4100      3.3790
                         3.4730     2.0447   |   9.8100      3.3890
                         4.8170     2.3809   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)    96.240      6.278      6.00      25.70
     OUTFLOW: ID= 1 (5138)    96.240      1.013      7.00      25.69

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.14
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5452

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-------------------
| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   0.778 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.801
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1382):   318.55   0.778     7.75     5.80
        + ID2= 2 (5138):    96.24   1.013     7.00    25.69
          ================================================
          ID = 3 (9138):   414.79   1.761     7.00    10.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (1402) |   Area    (ha)= 131.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.05         93.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     935.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76          7.60
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.97 (ii)    42.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.89          1.02          5.294 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70          7.81          18.92
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.12           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1401) |   Area    (ha)=  27.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.32         15.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     427.16         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76          9.15
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       8.11 (ii)    35.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.85          0.22          1.942 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70          8.55          25.76
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.14           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5140) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8310     0.7127
                          0.0930     0.3344   |   2.2990     0.8148
                          0.5300     0.3869   |   2.6760     0.9148
                          0.9880     0.4994   |   3.0760     0.9248
                          1.3700     0.5962   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1401)     27.370     1.942      6.00      25.76
     OUTFLOW: ID= 1 (5140)     27.370     0.451      6.50      25.72

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.22
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3814

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--------------------
| ADD HYD   (9140) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1402):    131.22   5.294     6.00    18.92
        + ID2= 2 (5140):     27.37   0.451     6.50    25.72
          ================================================
          ID = 3 (9140):    158.59   5.364     6.00    20.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9138):    414.79   1.761     7.00    10.41
        + ID2= 2 (9140):    158.59   5.364     6.00    20.09
          ================================================
          ID = 3 (8102):    573.38   5.963     6.00    13.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                  0.00         295.50        0.0400
                  7.25         295.36        0.0400
                 14.50         295.22        0.0400
                 21.75         295.22        0.0400
                 29.00         294.23        0.0400
                 52.56         286.45        0.0400
                 67.06         281.44        0.0400
                 77.94         278.28        0.0400
                 82.81         277.20    0.0400 /0.0300  Main Channel
                 83.21         276.80        0.0300      Main Channel
                 88.81         276.80        0.0300      Main Channel
                 96.41         276.80        0.0300      Main Channel
                 96.81         277.20    0.0300 /0.0400  Main Channel
                103.31         278.96        0.0400
                108.75         280.16        0.0400
                117.81         282.73        0.0400
                135.94         290.30        0.0400
                159.50         292.14        0.0400
                174.00         293.07        0.0400
                179.44         293.37        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.40    277.20    .238E+05        6.9          1.27       57.28
      1.25    278.05    .889E+05       50.9          2.50       29.13
      2.10    278.90    .179E+06      133.4          3.26       22.36
      2.95    279.75    .293E+06      256.7          3.83       19.03
      3.80    280.60    .432E+06      426.0          4.31       16.90
      4.66    281.46    .593E+06      644.3          4.75       15.35
      5.51    282.31    .776E+06      915.3          5.16       14.12
      6.36    283.16    .978E+06     1242.2          5.55       13.12
      7.21    284.01    .120E+07     1626.2          5.94       12.27
      8.06    284.86    .143E+07     2065.6          6.30       11.57
      8.91    285.71    .169E+07     2562.4          6.64       10.97
      9.76    286.56    .196E+07     3118.0          6.97       10.46
     10.61    287.41    .224E+07     3733.3          7.28       10.02
     11.46    288.26    .255E+07     4411.9          7.57        9.62
     12.31    289.11    .287E+07     5155.6          7.86        9.27
     13.17    289.97    .321E+07     5966.6          8.14        8.96
     14.02    290.82    .357E+07     6705.0          8.22        8.87
     14.87    291.67    .398E+07     7494.3          8.24        8.85
     15.72    292.52    .444E+07     8405.3          8.28        8.80

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
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     INFLOW : ID= 2 (8102)  573.38     5.96    6.00  13.09      0.34      1.27
     OUTFLOW: ID= 1 (6142)  573.38     3.05    7.25  13.09      0.18      1.27


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--------------------
| CALIB            |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.40        38.37
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     682.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        47.61
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.73 (ii)   25.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.99         2.30          3.417 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        20.36          26.41
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.32           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6670      1.8169
                          0.2360     0.8525   |   5.8600      2.0773
                          1.3520     0.9863   |   6.8220      2.3321
                          2.5180     1.2732   |   7.2220      2.3421
                          3.4920     1.5199   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770     3.417      6.00      26.41
     OUTFLOW: ID= 1 (5142)     69.770     1.206      7.00      26.40

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.29
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9769

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--------------------
| CALIB            |
| NASHYD    (1422) |   Area    (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   1.973 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.103
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1422):   326.77   1.973    8.00    15.10
        + ID2= 2 (5142):    69.77   1.206    7.00    26.40
          ================================================
          ID = 3 (9142):   396.54   3.074    7.00    17.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6142):   573.38   3.050    7.25    13.09
        + ID2= 2 (9142):   396.54   3.074    7.00    17.09
          ================================================
          ID = 3 (8104):   969.92   6.092    7.00    14.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83         3.46
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     204.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        64.02
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.22 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.33          0.419 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        26.94          32.00
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.43           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4210      0.1639
                          0.0210     0.0769   |   0.5290      0.1874
                          0.1220     0.0890   |   0.6150      0.2104
                          0.2270     0.1148   |   1.0150      0.2204
                          0.3150     0.1371   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)     6.290     0.419      6.00      32.00
     OUTFLOW: ID= 1 (5144)     6.290     0.166      6.75      31.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.62
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1006

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1442) |   Area    (ha)= 129.40   Curve Number   (CN)= 74.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.147
```

```
     PEAK FLOW       (cms)=   1.855 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  22.910
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.365

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9144) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1442):   129.40   1.855     6.75    22.91
       + ID2= 2 (5144):     6.29   0.166     6.75    31.86
         ================================================
         ID = 3 (9144):   135.69   2.021     6.75    23.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8104):   969.92   6.092     7.00    14.73
       + ID2= 2 (9144):   135.69   2.021     6.75    23.32
         ================================================
         ID = 3 (8106):  1105.61   8.086     7.00    15.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                   0.00         262.00        0.0350
                  39.58         257.13        0.0350
                 123.69         257.51        0.0350
                 183.07         256.83        0.0350
                 202.86         255.73        0.0350
                 212.75         254.73        0.0350
                 222.65         252.86        0.0350
                 232.44         250.70    0.0350 /0.0300  Main Channel
                 236.44         250.20        0.0300      Main Channel
                 236.84         249.80        0.0300      Main Channel
                 242.44         249.80        0.0300      Main Channel
                 250.04         249.80        0.0300      Main Channel
                 250.44         250.20        0.0300      Main Channel
                 252.33         250.57    0.0300 /0.0350  Main Channel
                 286.97         253.52        0.0350
                 331.50         255.80        0.0350
                 380.98         255.55        0.0350
                 445.30         258.40        0.0350
                 455.19         259.82        0.0350
                 489.83         262.22        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.39    250.19    .169E+05       5.4          1.04      52.00
      0.77    250.57    .373E+05      16.6          1.44      37.46
      1.44    251.24    .911E+05      60.3          2.14      25.19
      2.11    251.91    .169E+06     136.3          2.61      20.64
      2.79    252.59    .270E+06     249.7          2.99      18.05
      3.46    253.26    .396E+06     405.4          3.31      16.28
      4.13    253.93    .549E+06     603.3          3.56      15.15
      4.80    254.60    .737E+06     857.8          3.77      14.31
      5.48    255.28    .963E+06    1174.6          3.95      13.67
      6.15    255.95    .128E+07    1449.5          3.66      14.74
      6.82    256.62    .173E+07    2046.4          3.83      14.07
      7.49    257.29    .227E+07    2665.2          3.81      14.17
      8.17    257.97    .310E+07    3705.2          3.87      13.93
      8.84    258.64    .400E+07    5127.4          4.15      12.99
      9.51    259.31    .492E+07    6858.6          4.51      11.95
     10.18    259.98    .587E+07    8815.5          4.86      11.09
     10.86    260.66    .684E+07   10954.6          5.18      10.41
     11.53    261.33    .785E+07   13324.3          5.49       9.82
     12.20    262.00    .890E+07   15923.2          5.79       9.31
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61     8.09    7.00  15.78      0.48      1.11
     OUTFLOW: ID= 1 (6146) 1105.61     6.78    8.00  15.78      0.43      1.07


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--------------------
| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.91         76.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     864.95         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         51.44
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.38 (ii)    26.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.64          4.83          5.937 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70         26.07          30.57
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.42           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.65         51.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     745.16         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         56.57
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.32 (ii)    24.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.49          3.72          4.840 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         27.06          32.44
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.43           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   8.9200      2.5813
                        0.2820     0.8782   |  11.0570      3.0328
                        2.5360     1.0372   |  12.9860      3.4993
                        4.7880     1.7148   |  13.3860      3.5093
                        6.7570     2.1134   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     83.290      4.840      6.00      32.44
     OUTFLOW: ID= 1 (5146)     83.290      2.789      6.50      32.43

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.63
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.1321

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-------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   112.22   5.937     6.25    30.57
        + ID2= 2 (5146):    83.29   2.789     6.50    32.43
          ============================================
          ID = 3 (8099):   195.51   6.967     6.50    31.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.61   6.779     8.00    15.78
        + ID2= 2 (8099):   195.51   6.967     6.50    31.36
          ============================================
          ID = 3 (8108):  1301.12  10.027     6.50    18.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.22  60.285     8.00    19.68
        + ID2= 2 (8108):  1301.12  10.027     6.50    18.12
          ============================================
          ID = 3 (8100): 11366.34  68.784     8.00    19.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                  0.00         245.48        0.0400
                 29.68         242.80        0.0400
                 74.20         240.39        0.0400
                155.81         237.12        0.0400
                200.33         234.48        0.0400
                244.85         234.67        0.0400
                259.69         233.96        0.0400
                274.53         233.84        0.0400
                281.68         233.40        0.0400
                285.78         232.40    0.0400 /0.0300  Main Channel
                286.78         231.40        0.0300      Main Channel
                296.78         231.40        0.0300      Main Channel
                299.78         232.40    0.0300 /0.0400  Main Channel
                311.62         233.74        0.0400
                333.88         234.34        0.0400
                497.11         235.32        0.0400
                571.31         237.32        0.0400
                675.18         239.10        0.0400
                704.86         242.71        0.0400
                734.54         242.62        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

```
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   231.90    .221E+05       4.7         0.85      78.67
        1.00   232.40    .482E+05      15.3         1.28      52.40
        1.60   233.00    .913E+05      38.3         1.68      39.77
        2.20   233.60    .154E+06      72.9         1.90      35.24
        2.80   234.20    .278E+06     124.2         1.79      37.30
        3.40   234.80    .599E+06     214.3         1.44      46.59
        4.01   235.41    .125E+07     445.0         1.43      46.90
        4.61   236.01    .205E+07     838.4         1.64      40.81
        5.21   236.61    .293E+07    1361.6         1.86      35.89
        5.81   237.21    .389E+07    2011.2         2.08      32.23
        6.41   237.81    .494E+07    2753.5         2.24      29.91
        7.01   238.41    .612E+07    3635.0         2.39      28.04
        7.61   239.01    .741E+07    4672.5         2.53      26.43
        8.21   239.61    .880E+07    5999.3         2.74      24.44
        8.82   240.22    .102E+08    7510.0         2.94      22.72
        9.42   240.82    .117E+08    9201.9         3.15      21.23
       10.02   241.42    .132E+08   11059.7         3.35      19.95
       10.62   242.02    .148E+08   13073.4         3.54      18.87
       11.22   242.62    .164E+08   15242.1         3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8100) *******    68.78    8.00  19.50      2.13      1.87
     OUTFLOW: ID= 1 (6202) *******    66.05    8.50  19.50      2.08      1.85

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-------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.34  66.051     8.50    19.50
        + ID2= 2 (8110):   468.53  28.661     6.00    40.18
          ============================================
          ID = 3 (8112): 11834.87  70.195     8.25    20.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)   ********     70.195      8.25      20.32
     OUTFLOW: ID= 1 (5555)   ********     68.507      8.75      20.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.60
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 10.5349

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-------------------
| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.87  68.507     8.75    20.32
        + ID2= 2 (8136):  2288.44  20.196     6.75    19.38
          ============================================
          ID = 3 (8114): 14123.31  81.779     8.50    20.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  49.84
```

```
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88         11.96
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     576.43         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76        116.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.70 (ii)   19.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.88          2.00          6.207 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         36.25          48.48
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.58           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.5640      2.4459
                         0.1690     0.8986   |   4.2460      2.7624
                         1.3810     1.2959   |   4.8070      3.0770
                         2.2440     1.6904   |   5.2070      3.0870
                         2.8510     2.0623   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840      6.207      6.00      48.48
     OUTFLOW: ID= 1 (5206)     49.840      1.540      6.75      48.45

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.80
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3782

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-------------------
| CALIB             |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1226.65         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         79.66
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.27 (ii)   26.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      15.75          7.94         20.865 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70         31.91          44.00
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.51           0.70


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  20.865     6.00    44.00
        + ID2= 2 (5206):    49.84   1.540     6.75    48.45
          ================================================
          ID = 3 (8144):   275.54  21.017     6.00    44.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66        132.24
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1182.93         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         21.15
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.94 (ii)   34.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.39          4.46          9.234 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         18.31          27.22
     TOTAL RAINFALL   (mm)=      62.70         62.70          62.70
     RUNOFF COEFFICIENT   =       0.97          0.29           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.0280      5.1901
                         0.5340     2.0405   |  16.1840      5.6427
                         3.0020     2.3552   |  19.0840      6.7700
                         5.5440     3.8411   |  19.4840      6.7800
                         8.4130     4.5335   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900      9.234      6.00      27.22
     OUTFLOW: ID= 1 (5204)    209.900      3.521      7.00      27.21

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.13
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.6669

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86         44.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     873.77         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         58.99
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.46 (ii)   25.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
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     PEAK FLOW       (cms)=       7.02         3.28          9.083 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        22.92          35.77
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.37           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   114.52   9.083     6.00    35.77
       + ID2= 2 (5204):   209.90   3.521     7.00    27.21
         ================================================
         ID = 3 (8140):   324.42   9.404     6.00    30.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2061.0) ------>
              Distance      Elevation       Manning
                 0.00         253.07        0.0350
                13.98         252.89        0.0350
                27.95         251.99        0.0350
                34.94         252.18        0.0350
                41.93         252.02        0.0350
                73.38         250.35        0.0350
                94.34         247.09        0.0350
               111.81         244.79        0.0350
               115.31         244.24        0.0350
               117.55         244.20    0.0350 /0.0300  Main Channel
               118.80         243.60        0.0300      Main Channel
               122.30         243.60        0.0300      Main Channel
               122.55         244.60    0.0300 /0.0350  Main Channel
               146.76         244.74        0.0350
               164.23         247.26        0.0350
               213.15         248.92        0.0350
               241.10         249.51        0.0350
               272.55         250.87        0.0350
               300.50         252.26        0.0350
               345.93         253.67        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.30   243.90    .310E+04       1.4         1.23       36.25
      0.60   244.20    .676E+04       4.6         1.81       24.64
      1.12   244.72    .221E+05      17.1         2.07       21.60
      1.64   245.24    .754E+05      64.1         2.28       19.60
      2.17   245.77    .139E+06     149.8         2.88       15.50
      2.69   246.29    .214E+06     273.3         3.43       13.04
      3.21   246.81    .299E+06     436.1         3.91       11.43
      3.73   247.33    .395E+06     632.6         4.30       10.40
      4.25   247.85    .511E+06     836.4         4.39       10.18
      4.77   248.37    .653E+06    1114.9         4.58        9.76
      5.30   248.90    .822E+06    1472.1         4.81        9.30
      5.82   249.42    .102E+07    1872.2         4.91        9.10
      6.34   249.94    .126E+07    2444.6         5.22        8.56
      6.86   250.46    .151E+07    3113.1         5.52        8.09
      7.38   250.98    .180E+07    3843.5         5.74        7.79
      7.90   251.50    .211E+07    4717.8         6.00        7.45
      8.43   252.03    .245E+07    5701.4         6.24        7.16
      8.95   252.55    .284E+07    6727.5         6.36        7.03
      9.47   253.07    .326E+07    7885.3         6.48        6.90

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.42     9.40    6.00  30.23      0.80      1.91
     OUTFLOW: ID= 1 (6206)  324.42     6.67    6.50  30.23      0.69      1.85
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| ADD HYD   (8142) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.42   6.670     6.50    30.23
       + ID2= 2 (8144):   275.54  21.017     6.00    44.81
         ================================================
         ID = 3 (8142):   599.96  24.557     6.00    36.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8138) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.31  81.779     8.50    20.17
       + ID2= 2 (8142):   599.96  24.557     6.00    36.92
         ================================================
         ID = 3 (8138): 14723.27  87.616     8.25    20.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2081.0) ------>
              Distance      Elevation       Manning
                 0.00         249.19        0.1000
                73.11         244.13        0.1000
               121.86         243.39        0.1000
               243.71         240.01        0.1000
               353.38         238.75        0.1000
               450.87         235.40        0.1000
               499.61         231.40        0.1000
               511.80         230.96        0.1000
               523.98         230.12        0.1000
               534.50         227.80    0.1000 /0.0500  Main Channel
               536.50         226.70        0.0500      Main Channel
               546.50         226.70        0.0500      Main Channel
               548.50         227.80    0.0500 /0.1000  Main Channel
               572.72         230.25        0.1000
               682.40         230.50        0.1000
               804.25         233.95        0.1000
               926.11         235.83        0.1000
              1047.96         240.70        0.1000
              1145.45         243.26        0.1000
              1206.38         247.03        0.1000

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.55   227.25    .111E+05       2.0         0.33       92.44
      1.10   227.80    .242E+05       6.5         0.50       61.56
      2.23   228.93    .700E+05      26.0         0.68       44.91
      3.36   230.06    .150E+06      60.8         0.74       41.04
      4.49   231.19    .446E+06     130.8         0.54       56.83
      5.62   232.32    .925E+06     287.4         0.57       53.66
      6.76   233.46    .152E+07     522.9         0.63       48.32
      7.89   234.59    .223E+07     827.2         0.68       44.91
      9.02   235.72    .312E+07    1219.5         0.72       42.61
     10.15   236.85    .418E+07    1780.6         0.78       39.11
     11.28   237.98    .537E+07    2479.2         0.85       36.07
     12.41   239.11    .669E+07    3282.9         0.90       33.95
     13.54   240.24    .824E+07    4228.6         0.94       32.47
     14.67   241.37    .997E+07    5384.6         0.99       30.87
     15.81   242.51    .119E+08    6698.4         1.03       29.56
     16.94   243.64    .140E+08    8235.2         1.08       28.25
     18.07   244.77    .162E+08   10104.2         1.14       26.73
     19.20   245.90    .185E+08   12251.5         1.21       25.21
     20.33   247.03    .209E+08   14597.0         1.28       23.89

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******    87.62    8.25  20.85      3.80      0.65
     OUTFLOW: ID= 1 (6208) *******    81.12    9.00  20.85      3.70      0.67
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--------------------
| CALIB            |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        79.07
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.48 (ii)   30.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      24.03        12.80        29.657 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70        29.34         40.94
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.47          0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.39       136.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        44.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.93 (ii)   29.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.04         6.91         11.324 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        23.38         30.84
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.37          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.00        14.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        61.33
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.05 (ii)   23.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.60         1.14          8.332 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        32.63         52.28
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.52          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8000      1.5745
                          0.1900     0.9984   |   3.7500      1.7809
                          1.0900     1.1991   |   4.7100      1.9291
                          2.0200     1.3813   |   5.4800      2.0745

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000      8.332      6.00      52.28
     OUTFLOW: ID= 1 (9289)     56.000      2.663      6.50      52.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.96
                TIME SHIFT OF PEAK FLOW        (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.5558

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--------------------
| ADD HYD   (9262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2081):   209.70  11.324     6.00    30.84
        + ID2= 2 (9289):    56.00   2.663     6.50    52.26
          ================================================
          ID = 3 (9262):   265.70  12.804     6.25    35.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      8.3371
                          0.8360     4.7353   |  21.1630      9.3975
                          4.7810     5.1070   |  25.1140     10.4406
                          8.9050     6.2484   |  25.5140     10.4506
                         12.6070     7.1796   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700     12.804      6.25      35.35
     OUTFLOW: ID= 1 (5208)    265.700      3.927      7.50      35.35

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.67
                TIME SHIFT OF PEAK FLOW        (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.0449

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--------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2082):   426.60  29.657     6.00    40.94
        + ID2= 2 (5208):   265.70   3.927     7.50    35.35
          ================================================
          ID = 3 (8148):   692.30  29.922     6.00    38.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8146) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.27  81.117     9.00    20.85
       + ID2= 2 (8148):   692.30  29.922     6.00    38.80
         ================================================
         ID = 3 (8146): 15415.57  85.264     9.00    21.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2101.0) ------>
              Distance      Elevation       Manning
                 0.00         241.81        0.0800
                28.43         241.78        0.0800
                85.30         237.04        0.0800
               149.27         231.32        0.0800
               170.60         230.10        0.0800
               255.89         229.37        0.0800
               277.22         228.68        0.0800
               284.33         228.42        0.0800
               291.43         228.16        0.0800
               297.76         227.00    0.0800 /0.0350  Main Channel
               298.76         225.00        0.0350      Main Channel
               312.76         225.00        0.0350      Main Channel
               313.76         227.00    0.0350 /0.0800  Main Channel
               326.97         229.50        0.0800
               348.30         230.29        0.0800
               376.73         229.76        0.0800
               490.46         235.75        0.0800
               568.65         236.24        0.0800
               661.06         241.85        0.0800
               703.71         246.04        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.67   225.67    .141E+05       6.6         0.69      35.86
      1.33   226.33    .289E+05      20.4         1.04      23.65
      2.00   227.00    .443E+05      39.3         1.31      18.81
      2.93   227.93    .730E+05      77.8         1.57      15.64
      3.85   228.85    .123E+06     131.1         1.57      15.65
      4.78   229.78    .228E+06     205.6         1.33      18.51
      5.70   230.70    .503E+06     356.7         1.05      23.49
      6.63   231.63    .846E+06     608.7         1.06      23.17
      7.55   232.55    .123E+07     946.4         1.14      21.65
      8.48   233.48    .165E+07    1367.0         1.22      20.13
      9.41   234.41    .211E+07    1871.8         1.31      18.80
     10.33   235.33    .261E+07    2463.2         1.40      17.65
     11.26   236.26    .317E+07    2999.4         1.40      17.63
     12.18   237.18    .384E+07    3848.3         1.48      16.63
     13.11   238.11    .454E+07    4806.0         1.56      15.75
     14.03   239.03    .528E+07    5876.9         1.64      14.97
     14.96   239.96    .605E+07    7062.7         1.72      14.29
     15.88   240.88    .687E+07    8365.0         1.80      13.68
     16.81   241.81    .771E+07    9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******    85.26    9.00  21.66      3.06      1.57
     OUTFLOW: ID= 1 (6210) *******    84.88    9.00  21.66      3.05      1.57


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--------------------
| CALIB            |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     140.67        52.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1133.43        40.00
     Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      82.76        58.29
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.83 (ii)   20.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      24.08         4.22        26.804 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      61.70        31.45        52.02
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.98         0.50         0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2104)    192.700     26.804      6.00      52.02
     OUTFLOW: ID= 1 (9283)    192.700      1.870      8.00      52.01

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.98
                TIME SHIFT OF PEAK FLOW          (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.2057

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--------------------
| CALIB            |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.33         7.77
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     272.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        72.32
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.02 (ii)   13.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.25         1.16         1.410 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00         6.00
     RUNOFF VOLUME    (mm)=      61.70        35.86        38.45
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.98         0.57         0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9284) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5600      0.2067
                          0.0400     0.1045   |   0.7400      0.2572
                          0.2200     0.1166   |   0.9300      0.3046
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                        0.4000     0.1670   |   1.0900      0.3510

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2103)     11.100      1.410      6.00      38.45
     OUTFLOW: ID= 1 (9284)     11.100      0.461      6.50      38.39

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.72
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1862

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| ADD HYD   (9258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9283):   192.70   1.870     8.00    52.01
       + ID2= 2 (9284):    11.10   0.461     6.50    38.39
         ================================================
         ID = 3 (9258):   203.80   2.142     7.00    51.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0060      0.0024
                         0.0020     0.0013   |   0.0080      0.0027
                         0.0030     0.0017   |   0.0090      0.0031
                         0.0050     0.0020   |   0.4090      0.0131

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      2.142      7.00      51.27
     OUTFLOW: ID= 1 (5210)    203.800      2.140      7.00      51.27

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.91
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0565

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-------------------
| CALIB             |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.175 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.218
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2102):    14.38   0.175     7.50    27.22
       + ID2= 2 (5210):   203.80   2.140     7.00    51.27
         ================================================
         ID = 3 (9210):   218.18   2.313     7.00    49.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6210): 15415.57  84.876     9.00    21.66
       + ID2= 2 (9210):   218.18   2.313     7.00    49.68
         ================================================
         ID = 3 (8150): 15633.75  86.880     9.00    22.05
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       51.77          5.12
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      615.85         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76        164.47
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       10.10 (ii)    18.86 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        8.15          1.23          8.971 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       60.70         37.07         54.56
     TOTAL RAINFALL   (mm)=       62.70         62.70         62.70
     RUNOFF COEFFICIENT   =        0.97          0.59          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.30          1.10
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      171.27         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76         25.11
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        4.69 (ii)    23.28 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.69          0.06          0.726 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       60.70         22.30         49.18
     TOTAL RAINFALL   (mm)=       62.70         62.70         62.70
     RUNOFF COEFFICIENT   =        0.97          0.36          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2200      0.1226
                         0.0100     0.0778   |   0.2900      0.1387
                         0.0800     0.0934   |   0.3700      0.1503
                         0.1600     0.1076   |   0.4300      0.1616

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)      4.400      0.726      6.00      49.18
     OUTFLOW: ID= 1 (9290)      4.400      0.210      6.25      48.73
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.92
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1215

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-------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89   8.971     6.00     54.56
       + ID2= 2 (9290):     4.40   0.210     6.25     48.73
         ================================================
         ID = 3 (9264):    61.29   9.046     6.00     54.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1000      2.1402
                         0.2080     1.2793   |   5.1480      2.2661
                         1.1880     1.5546   |   5.9930      2.3900
                         2.2120     1.7255   |   6.3930      2.4000
                         3.0680     1.9336   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9264)     61.290     9.046      6.00      54.14
    OUTFLOW: ID= 1 (5212)     61.290     2.576      6.50      54.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.48
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.8158

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-------------------
| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      77.46       189.64
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=    1334.42        40.00
    Mannings n           =       0.013        0.250

    Max.Eff.Inten.(mm/hr)=      82.76        22.61
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      16.06 (ii)   35.45 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=      10.42         6.75        13.224 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      60.70        22.47         31.65
    TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
    RUNOFF COEFFICIENT   =       0.97         0.36          0.50


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  72.1    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3600      4.9180
                         0.9100     2.4658   |  17.8700      6.1368
                         5.1800     2.7404   |  22.4400      7.2882
                         9.6400     3.9605   |  26.1200      8.4139

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)

    INFLOW : ID= 2 (2122)    267.100     13.224      6.00      31.65
    OUTFLOW: ID= 1 (9312)    267.100      7.083      6.75      31.64

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.56
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.2695

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5212):    61.29   2.576     6.50     54.11
       + ID2= 2 (9312):   267.10   7.083     6.75     31.64
         ================================================
         ID = 3 (8152):   328.39   9.497     6.75     35.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2141.0) ------>
               Distance      Elevation       Manning
                   0.00         259.29        0.0500
                  15.33         258.91        0.0500
                  38.33         258.57        0.0500
                  65.16         257.93        0.0500
                  95.82         253.44        0.0500
                 111.15         251.21        0.0500
                 130.32         249.67        0.0500
                 149.48         248.51        0.0500
                 150.66         248.50    0.0500 /0.0370  Main Channel
                 150.81         247.50        0.0370      Main Channel
                 154.66         247.50        0.0370      Main Channel
                 155.66         248.50    0.0370 /0.0500  Main Channel
                 160.98         248.50        0.0500
                 187.81         249.78        0.0500
                 199.31         252.13        0.0500
                 245.30         254.04        0.0500
                 264.46         253.99        0.0500
                 298.96         255.23        0.0500
                 329.62         257.02        0.0500
                 379.45         258.82        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.50   248.00    .648E+04        2.1          1.00       52.30
       1.00   248.50    .139E+05        6.4          1.44       36.35
       1.61   249.11    .570E+05       22.6          1.24       42.01
       2.21   249.71    .143E+06       63.6          1.39       37.61
       2.82   250.32    .263E+06      142.9          1.70       30.69
       3.43   250.93    .403E+06      257.2          2.00       26.11
       4.04   251.54    .562E+06      410.4          2.29       22.82
       4.64   252.14    .735E+06      601.3          2.56       20.37
       5.25   252.75    .933E+06      791.0          2.66       19.67
       5.86   253.36    .117E+07     1038.0          2.79       18.74
       6.46   253.96    .144E+07     1344.4          2.93       17.82
       7.07   254.57    .178E+07     1664.1          2.93       17.83
       7.68   255.18    .217E+07     2140.2          3.10       16.87
       8.28   255.78    .259E+07     2722.9          3.30       15.83
       8.89   256.39    .304E+07     3387.1          3.50       14.94
       9.50   257.00    .351E+07     4132.7          3.69       14.16
      10.11   257.61    .402E+07     4913.0          3.83       13.64
      10.71   258.21    .458E+07     5648.3          3.87       13.50
      11.32   258.82    .521E+07     6343.1          3.82       13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8152)  328.39     9.50    6.75  35.84      1.12      1.39
    OUTFLOW: ID= 1 (6214)  328.39     7.50    7.25  35.84      1.04      1.42

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-------------------
| CALIB            |
| STANDHYD  (2144) |   Area    (ha)=  93.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.82         23.27
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     787.82         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         25.92
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.70 (ii)    30.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      12.02          1.03        12.451 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70         22.96        49.38
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.37         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9285) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6500      2.6150
                          0.3200     1.6583   |   6.2300      2.9579
                          1.8100     1.9916   |   7.8200      3.2041
                          3.3600     2.2943   |   9.1000      3.4456

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2144)     93.100     12.451      6.00      49.38
     OUTFLOW: ID= 1 (9285)     93.100      3.878      6.50      49.36

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.14
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.4246

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--------------------
| CALIB            |
| STANDHYD  (2143) |   Area    (ha)= 158.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=   9.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.16        117.14
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1027.29         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         46.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.73 (ii)    28.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.47          6.50         7.623 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      60.70         24.74        27.98
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.39         0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9200      2.8224
                          0.5400     1.3792   |  10.5900      3.5534
                          3.0700     1.5175   |  13.3000      4.2519
                          5.7200     2.2534   |  15.4900      4.9349

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2143)    158.300      7.623      6.25      27.98
     OUTFLOW: ID= 1 (9286)    158.300      4.044      6.75      27.97

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.05
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.7891

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--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9285):    93.10   3.878     6.50    49.36
       + ID2= 2 (9286):   158.30   4.044     6.75    27.97
         ================================================
         ID = 3 (9260):   251.40   7.663     6.75    35.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5370      0.9877
                          0.1280     0.4635   |   3.1860      1.1293
                          0.5900     0.5362   |   3.7090      1.2678
                          1.3690     0.6921   |   3.9980      1.2778
                          1.8980     0.8262   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9260)    251.400      7.663      6.75      35.89
     OUTFLOW: ID= 1 (5214)    251.400      7.627      7.00      35.89

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.54
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.4343

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--------------------
| CALIB            |
| STANDHYD  (2142) |   Area    (ha)=  65.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  10.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.70         47.84
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     661.01         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         14.87
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      10.54 (ii)    33.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.25          1.17         1.724 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70         13.40        18.13
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.21         0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2142):		65.54	1.724	6.00	18.13
+ ID2= 2 (5214):		251.40	7.627	7.00	35.89
ID = 3 (9214):		316.94	8.476	7.00	32.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8154)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6214):		328.39	7.497	7.25	35.84
+ ID2= 2 (9214):		316.94	8.476	7.00	32.22
ID = 3 (8154):		645.33	15.262	7.00	34.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2163)	Area (ha)=	69.70	
ID= 1 DT=15.0 min	Total Imp(%)=	27.00	Dir. Conn.(%)= 9.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.82	50.88
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	681.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	57.51
over (min)		15.00	30.00
Storage Coeff. (min)=		10.73 (ii)	24.08 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.04

					TOTALS
PEAK FLOW	(cms)=	1.19	3.78		4.223 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25		6.25
RUNOFF VOLUME	(mm)=	60.70	29.65		32.45
TOTAL RAINFALL	(mm)=	62.70	62.70		62.70
RUNOFF COEFFICIENT	=	0.97	0.47		0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9271)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	3.4900	1.2605	
	0.2400	0.6230	4.6600	1.5808	
	1.3500	0.6885	5.8600	1.8854	
	2.5200	1.0102	6.8200	2.1832	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2163)	69.700	4.223	6.25	32.45
OUTFLOW: ID= 1 (9271)	69.700	2.105	6.75	32.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.85
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.8994

CALIB			
STANDHYD (2169)	Area (ha)=	3.50	
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.05	2.45
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	152.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	46.17
over (min)		15.00	30.00
Storage Coeff. (min)=		4.37 (ii)	18.95 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.05

				TOTALS
PEAK FLOW	(cms)=	0.08	0.16	0.181 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	23.44	27.16
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.37	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9272)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1800	0.0659	
	0.0100	0.0333	0.2400	0.0820	
	0.0700	0.0372	0.3000	0.0971	
	0.1300	0.0532	0.3500	0.1119	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2169)	3.500	0.181	6.00	27.16
OUTFLOW: ID= 1 (9272)	3.500	0.090	6.75	26.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.72
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0433

ADD HYD (9251)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (9271):		69.70	2.105	6.75	32.44
+ ID2= 2 (9272):		3.50	0.090	6.75	26.93
ID = 3 (9251):		73.20	2.196	6.75	32.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5216)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	3.7400	2.4559	
	0.1890	1.6831	4.6960	2.6646	
	1.0830	1.7903	5.4670	2.8688	
	2.0170	2.0202	5.8670	2.8788	
	2.7980	2.2179	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9251)	73.200	2.196	6.75	32.17
OUTFLOW: ID= 1 (5216)	73.200	0.165	15.25	32.14

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                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.52
                TIME SHIFT OF PEAK FLOW         (min)=510.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.4703

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| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51        58.06
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        23.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.86 (ii)   29.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.96         2.58          2.940 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70        21.85          24.57
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.35           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570     2.940      6.25      24.57
     OUTFLOW: ID= 1 (9316)     72.570     2.523      6.50      24.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.83
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1670

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5216):    73.20   0.165    15.25    32.14
        + ID2= 2 (9316):    72.57   2.523     6.50    24.57
          ================================================
          ID = 3 (9216):   145.77   2.550     6.50    28.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8156) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8154):   645.33  15.262     7.00    34.06
        + ID2= 2 (9216):   145.77   2.550     6.50    28.37
          ================================================
          ID = 3 (8156):   791.10  16.877     7.00    33.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2181.0) ------>
               Distance      Elevation       Manning
                  0.00         256.38        0.0450
                  7.70         254.85        0.0450
                 15.40         253.20        0.0450
                 19.25         252.29        0.0450
                 23.10         251.17        0.0450
                 78.94         236.16        0.0450
                 80.87         235.80        0.0450
                 82.79         235.45        0.0450
                 84.57         234.60    0.0450 /0.0300  Main Channel
                 85.07         233.60        0.0300      Main Channel
                 88.57         233.60        0.0300      Main Channel
                 93.57         233.60        0.0300      Main Channel
                 94.07         234.60    0.0300 /0.0450  Main Channel
                 96.27         235.13        0.0450
                 98.19         235.20        0.0450
                100.12         235.32        0.0450
                138.63         239.95        0.0450
                180.98         244.80        0.0450
                188.69         245.00        0.0450
                190.61         256.00        0.0450

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      1.00    234.60    .181E+05        6.0        0.66      50.64
      2.13    235.73    .518E+05       23.8        0.93      36.27
      3.25    236.85    .119E+06       60.0        1.02      33.03
      4.38    237.98    .217E+06      120.6        1.12      29.99
      5.51    239.11    .346E+06      210.5        1.23      27.39
      6.63    240.23    .506E+06      334.1        1.33      25.22
      7.76    241.36    .697E+06      495.6        1.43      23.44
      8.88    242.48    .920E+06      699.8        1.53      21.91
     10.01    243.61    .117E+07      950.8        1.63      20.59
     11.14    244.74    .146E+07     1252.5        1.73      19.45
     12.26    245.86    .178E+07     1619.6        1.83      18.37
     13.39    246.99    .212E+07     2078.5        1.97      17.01
     14.52    248.12    .247E+07     2589.0        2.11      15.88
     15.64    249.24    .282E+07     3149.7        2.25      14.94
     16.77    250.37    .319E+07     3759.8        2.37      14.14
     17.89    251.49    .356E+07     4419.5        2.50      13.44
     19.02    252.62    .395E+07     5126.4        2.61      12.84
     20.15    253.75    .435E+07     5871.6        2.72      12.34
     21.27    254.87    .476E+07     6663.2        2.82      11.89

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10    16.88    7.00  33.01      1.69      0.80
     OUTFLOW: ID= 1 (6218)  791.10    11.90    7.50  33.01      1.38      0.73


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| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25        54.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     679.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        57.01
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.71 (ii)   24.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.92         3.98          4.324 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70        30.63          32.73
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.49           0.52
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5000      3.5000
                          0.8000     0.1000   |   6.0000      4.0000
                          1.1000     2.0000   |   6.5000      4.5000
                          2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2183)     69.300      4.324      6.25      32.73
     OUTFLOW: ID= 1 (9282)     69.300      0.939      7.50      32.73

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.71
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.9852

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--------------------
| RESERVOIR (5218) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5090      1.7553
                          0.2280     0.8236   |   5.6620      2.0069
                          1.3060     0.9528   |   6.5910      2.2530
                          2.4320     1.2300   |   6.9910      2.2630

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9282)     69.300      0.939      7.50      32.73
     OUTFLOW: ID= 1 (5218)     69.300      0.884      9.75      32.72

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.18
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.9023

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--------------------
| CALIB            |
| NASHYD    (2182) |   Area    (ha)=  82.95   Curve Number   (CN)= 67.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   1.786

     PEAK FLOW       (cms)=   0.852 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.344
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9218) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2182):    82.95   0.852     7.00    18.34
       + ID2= 2 (5218):    69.30   0.884     9.75    32.72
         ================================================
         ID = 3 (9218):   152.25   1.429     9.25    24.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6218):   791.10  11.904     7.50    33.01
       + ID2= 2 (9218):   152.25   1.429     9.25    24.89
         ================================================
         ID = 3 (8158):   943.35  12.889     7.50    31.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.75  86.880     9.00    22.05
       + ID2= 2 (8158):   943.35  12.889     7.50    31.70
         ================================================
         ID = 3 (8151): 16577.10  96.597     8.75    22.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  33.0100      0.6700
                          2.6400     0.0500   |  37.4800      0.7800
                          4.8300     0.0900   |  47.5400      1.0100
                          7.4100     0.1300   |  60.2300      1.2800
                         10.3300     0.1900   |  71.9530      1.5258
                         13.5300     0.2500   |  *******      3.0529
                         16.9900     0.3200   |  *******      5.3299
                         20.6800     0.3900   |  *******      8.4148
                         24.6000     0.4800   |  *******     11.7637
                         28.7100     0.5700   |  *******     11.7737

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********     96.597      8.75      22.60
     OUTFLOW: ID= 1 (5504)   ********     96.554      8.75      22.60

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.96
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0497

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--------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2201.0) ------>
               Distance      Elevation       Manning
                   0.00         245.59        0.0600
                   5.76         245.45        0.0600
                  23.03         242.27        0.0600
                  57.58         232.35        0.0600
                  86.37         226.18        0.0600
                 109.41         224.31        0.0600
                 115.17         223.86        0.0600
                 120.92         222.78        0.0600
                 126.68         221.93        0.0600
                 128.06         221.50    0.0600 /0.0300  Main Channel
                 129.56         220.00        0.0300      Main Channel
                 141.56         220.00        0.0300      Main Channel
                 143.06         221.50    0.0300 /0.0600  Main Channel
                 149.72         223.77        0.0600
                 155.47         225.09        0.0600
                 253.36         229.21        0.0600
                 333.98         227.50        0.0600
                 454.90         229.25        0.0600
                 500.97         233.11        0.0600
                 570.07         237.42        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.75   220.75    .262E+05       5.5          0.57      79.44
       1.50   221.50    .555E+05      17.5          0.86      52.89
       2.44   222.44    .103E+06      42.7          1.14      40.03
       3.37   223.37    .171E+06      79.4          1.27      35.98
       4.31   224.31    .263E+06     128.1          1.33      34.22
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       5.25   225.25    .393E+06     191.7          1.34      34.19
       6.18   226.18    .594E+06     276.7          1.28      35.77
       7.12   227.12    .872E+06     399.9          1.26      36.33
       8.06   228.06    .127E+07     542.7          1.17      38.92
       8.99   228.99    .199E+07     770.0          1.06      43.01
       9.93   229.93    .297E+07    1151.8          1.06      42.95
      10.86   230.86    .400E+07    1652.9          1.13      40.33
      11.80   231.80    .507E+07    2251.8          1.22      37.53
      12.74   232.74    .618E+07    2946.5          1.31      34.97
      13.67   233.67    .733E+07    3726.8          1.39      32.79
      14.61   234.61    .853E+07    4591.0          1.48      30.96
      15.55   235.55    .977E+07    5544.1          1.55      29.37
      16.48   236.48    .111E+08    6586.7          1.63      27.99
      17.42   237.42    .124E+08    7719.2          1.71      26.77

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******    96.55    8.75  22.60      3.70      1.29
     OUTFLOW: ID= 1 (6220) *******    93.55    9.25  22.60      3.65      1.29


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--------------------
| CALIB              |
| STANDHYD  (2207) |   Area    (ha)=  57.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   8.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.14         45.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     620.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         58.56
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.15 (ii)    23.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.89          3.51        3.827 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      60.70         32.10        34.38
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.51         0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9278) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000      2.5000
                          0.2000     0.3000   |   0.6000      3.5000
                          0.3000     0.9000   |   0.7000      4.5000
                          0.4000     2.0000   |   0.8000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2207)     57.800      3.827      6.25      34.38
     OUTFLOW: ID= 1 (9278)     57.800      0.339      8.75      34.38

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.86
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3300

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--------------------
| CALIB              |
| STANDHYD  (2204) |   Area    (ha)=  13.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=       9.98          3.33
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     297.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         55.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.53 (ii)    20.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.00          0.26         2.165 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      60.70         29.84        51.44
     TOTAL RAINFALL   (mm)=      62.70         62.70        62.70
     RUNOFF COEFFICIENT   =       0.97          0.48         0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9279) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6700      0.3747
                          0.0500     0.2376   |   0.8900      0.4238
                          0.2600     0.2854   |   1.1200      0.4591
                          0.4800     0.3287   |   1.3000      0.4937

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2204)     13.300      2.165      6.00      51.44
     OUTFLOW: ID= 1 (9279)     13.300      0.628      6.25      51.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.98
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3688

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--------------------
| ADD HYD   (9255) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9278):    57.80   0.339     8.75    34.38
       + ID2= 2 (9279):    13.30   0.628     6.25    51.35
         ================================================
         ID = 3 (9255):    71.10   0.914     6.50    37.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5220) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6050      1.0142
                          0.1320     0.4759   |   3.2710      1.1595
                          0.7550     0.5505   |   3.8080      1.3018
                          1.4050     0.7107   |   4.2080      1.3118
                          1.9490     0.8484   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9255)     71.100      0.914      6.50      37.55
     OUTFLOW: ID= 1 (5220)     71.100      0.471      8.50      37.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.51
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5168

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| CALIB              |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
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|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   0.764 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  22.745
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.363

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2202):    98.00   0.764     8.00    22.74
        + ID2= 2 (5220):    71.10   0.471     8.50    37.54
          ================================================
          ID = 3 (9220):   169.10   1.230     8.50    28.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6220): 16577.10  93.553     9.25    22.60
        + ID2= 2 (9220):   169.10   1.230     8.50    28.97
          ================================================
          ID = 3 (8160): 16746.20  94.729     9.25    22.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2221) |   Area    (ha)= 110.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  20.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.94         69.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     858.84         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         54.60
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.33 (ii)    25.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.01          4.73      6.997 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70         27.76       34.35
     TOTAL RAINFALL   (mm)=      62.70         62.70       62.70
     RUNOFF COEFFICIENT   =       0.97          0.44        0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2224) |   Area    (ha)=  43.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  66.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.10         12.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     536.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         56.88
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.30 (ii)    22.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.65          0.91      6.239 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70         30.06       50.28
     TOTAL RAINFALL   (mm)=      62.70         62.70       62.70
     RUNOFF COEFFICIENT   =       0.97          0.48        0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9288) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1600      1.1836
                         0.1500     0.7428   |   2.8900      1.3455
                         0.8400     0.8895   |   3.6300      1.4651
                         1.5600     1.0342   |   4.2300      1.5823

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2224)     43.200      6.239      6.00      50.28
     OUTFLOW: ID= 1 (9288)     43.200      1.968      6.50      50.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.55
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1476

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| ADD HYD   (9261) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2221):   110.64   6.997     6.00    34.35
        + ID2= 2 (9288):    43.20   1.968     6.50    50.25
          ================================================
          ID = 3 (9261):   153.84   8.254     6.25    38.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2210      4.0213
                         0.4910     2.1348   |   9.0080      4.5380
                         2.1830     2.4433   |  15.0420      4.9977
                         3.9370     2.9883   |  15.4420      5.0077
                         5.4550     3.4692   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9261)    153.840      8.254      6.25      38.82
     OUTFLOW: ID= 1 (5222)    153.840      3.002      7.25      38.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.36
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.7086

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-------------------
| CALIB             |
| STANDHYD  (2222) |   Area    (ha)=  65.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  45.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=      55.18        10.51
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     661.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76       229.98
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.54 (ii)   18.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       5.65         3.61          8.134 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        43.88         51.45
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.70          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69   8.134     6.00    51.45
       + ID2= 2 (5222):   153.84   3.002     7.25    38.81
         ================================================
         ID = 3 (8164):   219.53   8.341     6.00    42.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99        33.76
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     593.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        51.44
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.87 (ii)   23.83 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.78         2.25          4.207 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        28.94         37.52
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.46          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39        26.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     764.63        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        55.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.50 (ii)   25.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.42         1.86         11.602 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        29.84         49.59
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.48          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.3900      2.3776
                         0.3000     1.4858   |   5.8700      2.7087
                         1.7000     1.7770   |   7.3700      2.9557
                         3.1700     2.0741   |   8.5800      3.1980

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700     11.602      6.00      49.59
     OUTFLOW: ID= 1 (9287)     87.700      3.889      6.50      49.58

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.52
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.2606

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-------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4470      0.1810
                         0.0230     0.0884   |   0.5620      0.2047
                         0.1300     0.1032   |   0.6540      0.2278
                         0.2410     0.1297   |   1.0540      0.2378
                         0.3350     0.1532   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      3.889      6.50      49.58
     OUTFLOW: ID= 1 (5224)     87.700      4.466      6.50      49.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=114.83
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3547

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

-------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   4.207     6.00    37.52
       + ID2= 2 (5224):    87.70   4.466     6.50    49.57
         ================================================
         ID = 3 (9224):   140.45   6.595     6.50    45.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8164):   219.53   8.341     6.00    42.59
```

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        + ID2= 2 (9224):   140.45   6.595     6.50    45.04
          ================================================
          ID = 3 (8166):   359.98  12.653     6.00    43.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2261.0) ------>
               Distance      Elevation       Manning
                   0.00         245.35        0.0600
                   8.27         242.72        0.0600
                  16.54         240.01        0.0600
                  31.02         235.31        0.0600
                  41.36         233.14        0.0600
                  90.99         227.73        0.0600
                  93.06         227.50        0.0600
                  95.13         227.27        0.0600
                  95.83         227.00        0.0600
                 100.83         226.50    0.0600 /0.0350  Main Channel
                 101.33         225.50       0.0350       Main Channel
                 101.83         226.50    0.0350 /0.0600  Main Channel
                 105.83         227.00        0.0600
                 107.54         227.39        0.0600
                 109.60         227.62        0.0600
                 111.67         227.86        0.0600
                 146.83         231.76        0.0600
                 173.71         234.77        0.0600
                 186.12         238.23        0.0600
                 202.67         238.35        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   226.00    .403E+03       0.0          0.16     330.59
        1.00   226.50    .161E+04       0.1          0.26     208.26
        1.70   227.20    .173E+05       1.5          0.27     195.72
        2.39   227.89    .541E+05       5.9          0.35     152.27
        3.09   228.59    .119E+06      16.0          0.43     124.08
        3.79   229.29    .212E+06      33.8          0.51     104.65
        4.49   229.99    .334E+06      61.2          0.59      90.97
        5.18   230.68    .484E+06      99.7          0.66      80.88
        5.88   231.38    .663E+06     151.0          0.73      73.13
        6.58   232.08    .870E+06     216.5          0.80      66.95
        7.27   232.77    .111E+07     297.5          0.87      61.91
        7.97   233.47    .137E+07     398.1          0.94      57.29
        8.67   234.17    .165E+07     518.9          1.01      53.12
        9.36   234.86    .196E+07     658.9          1.08      49.59
       10.06   235.56    .228E+07     827.0          1.17      46.02
       10.76   236.26    .262E+07    1015.4          1.25      42.96
       11.46   236.96    .296E+07    1221.2          1.33      40.41
       12.15   237.65    .332E+07    1444.6          1.40      38.26
       12.85   238.35    .368E+07    1598.2          1.40      38.42

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.98    12.65    6.00  43.55      2.86      0.40
     OUTFLOW: ID= 1 (6226)  359.98     4.85    7.50  43.54      2.23      0.33


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-------------------
| CALIB           |
| NASHYD    (2267) |   Area    (ha)=  10.50   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.47

     Unit Hyd Qpeak  (cms)=   0.383

     PEAK FLOW       (cms)=   0.266 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  28.426
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.453

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9276) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5300      0.1297
                         0.0400     0.0402   |   0.7100      0.1837
                         0.2000     0.0341   |   0.8900      0.2402
                         0.3800     0.0910   |   1.0300      0.2954

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2267)     10.500      0.266      6.50      28.43
     OUTFLOW: ID= 1 (9276)     10.500      0.248      6.75      28.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 93.55
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0496

     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (2264) |   Area    (ha)= 117.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       88.35         29.45
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      886.19         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76         55.82
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       12.56 (ii)    26.07 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       14.82          2.04      16.122 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=       60.70         29.84       51.44
     TOTAL RAINFALL   (mm)=       62.70         62.70       62.70
     RUNOFF COEFFICIENT   =        0.97          0.48        0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9277) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.5000      8.0000
                         0.3000     2.0000   |   3.5000     10.0000
                         0.9000     5.0000   |   4.5000     13.0000
                         2.0000     7.5000   |   5.5000     14.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2264)    117.800     16.122      6.00      51.44
     OUTFLOW: ID= 1 (9277)    117.800      0.814      8.50      51.43

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.05
                    TIME SHIFT OF PEAK FLOW         (min)=150.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.5720

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-------------------
| ADD HYD   (9253) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9276):    10.50   0.248     6.75     28.40
        + ID2= 2 (9277):   117.80   0.814     8.50     51.43
          ================================================
          ID = 3 (9253):   128.30   1.024     8.50     49.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.7530      0.6823
                         0.0890     0.3202   |   2.2010      0.7801
                         0.5080     0.3704   |   2.5620      0.8758
                         0.9450     0.4782   |   2.9620      0.8858
                         1.3110     0.5708   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300      1.024      8.50      49.54
     OUTFLOW: ID= 1 (5226)    128.300      0.924      9.25      49.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.25
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4834

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-------------------
| CALIB           |
| NASHYD    (2262) |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.934

     PEAK FLOW       (cms)=   1.339 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.769
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2262):   119.28   1.339     7.50    24.77
       + ID2= 2 (5226):   128.30   0.924     9.25    49.54
         ================================================
         ID = 3 (9226):   247.58   2.200     8.00    37.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6226):   359.98   4.854     7.50    43.54
       + ID2= 2 (9226):   247.58   2.200     8.00    37.60
         ================================================
         ID = 3 (8168):   607.56   6.977     7.75    41.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.20  94.729     9.25    22.66
       + ID2= 2 (8168):   607.56   6.977     7.75    41.12
         ================================================
         ID = 3 (8162): 17353.76 100.392     9.25    23.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2281.0) ------>
              Distance      Elevation       Manning
                0.00        245.00        0.0600
               18.60        244.74        0.0600
               37.20        242.47        0.0600
               93.01        233.71        0.0600
              125.57        226.95        0.0600
              213.93        221.63        0.0600
              218.58        221.15        0.0600
              223.23        220.45        0.0600
              225.03        220.55    0.0600 /0.0300  Main Channel
              225.53        218.05        0.0300      Main Channel
              232.53        218.05        0.0300      Main Channel
              240.03        218.05        0.0300      Main Channel
              241.03        220.55    0.0300 /0.0600  Main Channel
              246.48        221.00        0.0600
              251.13        221.27        0.0600
              255.78        221.22        0.0600
              325.54        225.25        0.0600
              367.40        228.91        0.0600
              404.60        231.75        0.0600
              460.41        245.00        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       1.25   219.30    .338E+05      16.0          0.86      35.15
       2.50   220.55    .696E+05      48.3          1.26      24.02
       3.94   221.99    .168E+06     116.0          1.26      24.14
       5.38   223.43    .392E+06     247.5          1.15      26.37
       6.81   224.86    .743E+06     472.6          1.16      26.20
       8.25   226.30    .122E+07     821.6          1.23      24.67
       9.69   227.74    .179E+07    1320.1          1.34      22.59
      11.13   229.18    .243E+07    1965.7          1.47      20.58
      12.57   230.62    .313E+07    2744.2          1.59      19.02
      14.01   232.06    .390E+07    3683.4          1.72      17.66
      15.44   233.49    .472E+07    4824.1          1.86      16.30
      16.88   234.93    .557E+07    6092.4          1.99      15.23
      18.32   236.37    .646E+07    7503.3          2.11      14.35
      19.76   237.81    .739E+07    9061.2          2.23      13.59
      21.20   239.25    .836E+07   10767.6          2.34      12.94
      22.64   240.69    .937E+07   12624.8          2.45      12.37
      24.07   242.12    .104E+08   14634.9          2.56      11.87
      25.51   243.56    .115E+08   16762.8          2.65      11.45
      26.95   245.00    .127E+08   18699.9          2.69      11.28

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   100.39    9.25  23.31      3.61      1.26
     OUTFLOW: ID= 1 (6228) *******    98.38   10.00  23.31      3.57      1.26


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| CALIB           |
| STANDHYD  (2287) |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       30.01         100.48
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      932.74          40.00
     Mannings n            =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=       82.76          18.52
               over (min)         15.00          45.00
     Storage Coeff.  (min)=      12.95 (ii)     33.95 (ii)
     Unit Hyd. Tpeak (min)=       15.00          45.00
     Unit Hyd. peak  (cms)=        0.08           0.03

                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.32           3.02       3.613 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.50        6.50
     RUNOFF VOLUME    (mm)=       60.70          17.29       21.63
     TOTAL RAINFALL   (mm)=       62.70          62.70       62.70
     RUNOFF COEFFICIENT   =        0.97           0.28        0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9275)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	4.5000	3.5000	
	0.8000	0.1000	6.0000	4.0000	
	1.5000	2.0000	6.5000	4.5000	
	2.5000	3.0000	7.0000	5.5000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2287)	130.500	3.613	6.50	21.63
OUTFLOW: ID= 1 (9275)	130.500	1.161	7.75	21.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.14
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.0832

RESERVOIR (5228)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	6.7260	2.6184	
	0.3410	1.2286	8.4460	2.9937	
	1.9480	1.4214	9.8320	3.3609	
	3.6280	1.8348	10.2320	3.3709	
	5.0330	2.1904	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9275)	130.500	1.161	7.75	21.63
OUTFLOW: ID= 1 (5228)	130.500	1.006	10.25	21.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.60
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 1.3084

CALIB				
NASHYD (2282)	Area (ha)= 180.03	Curve Number (CN)= 61.9		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 1.12			

Unit Hyd Qpeak (cms)= 2.754

PEAK FLOW (cms)= 1.175 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 15.420
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.246

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9228)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2282):	180.03	1.175	7.75	15.42
	+ ID2= 2 (5228):	130.50	1.006	10.25	21.63
	ID = 3 (9228):	310.53	1.906	10.00	18.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8170)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6228):	17353.76	98.377	10.00	23.31
	+ ID2= 2 (9228):	310.53	1.906	10.00	18.03
	ID = 3 (8170):	17664.29	100.283	10.00	23.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2302)	Area (ha)= 30.47		
ID= 1 DT=15.0 min	Total Imp(%)= 29.00	Dir. Conn.(%)= 11.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.84	21.63	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	0.50	0.50	
Length (m)=	450.70	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	82.76	25.18	
over (min)	15.00	30.00	
Storage Coeff. (min)=	8.37 (ii)	26.94 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.09	0.04	
			TOTALS
PEAK FLOW (cms)=	0.68	1.08	1.350 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	60.70	21.50	25.81
TOTAL RAINFALL (mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT =	0.97	0.34	0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2307)	Area (ha)= 175.00		
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 9.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	43.75	131.25	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	0.50	0.50	
Length (m)=	1080.12	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	82.76	50.19	
over (min)	15.00	30.00	
Storage Coeff. (min)=	14.14 (ii)	28.24 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.07	0.04	
			TOTALS
PEAK FLOW (cms)=	2.70	7.81	9.074 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.25
RUNOFF VOLUME (mm)=	60.70	26.73	29.79
TOTAL RAINFALL (mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT =	0.97	0.43	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9280)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	8.7500	3.0604	
	0.5900	1.4722	11.7100	3.8736	
	3.3900	1.6096	14.7000	4.6556	
	6.3200	2.4308	17.1100	5.4201	

	AREA	QPEAK	TPEAK	R.V.

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                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2307)    175.000      9.074      6.25      29.79
     OUTFLOW: ID= 1 (9280)    175.000      4.908      6.75      29.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.09
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0380

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--------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   8.6830      2.7782
                           0.4700     1.3193   |  10.7480      3.1570
                           2.5870     1.5374   |  12.3570      3.5304
                           5.1590     1.9534   |  12.7570      3.5404
                           6.7830     2.3333   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9280)    175.000      4.908      6.75      29.79
     OUTFLOW: ID= 1 (5230)    175.000      3.126      7.75      29.78

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 63.70
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.6414

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| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   1.350     6.00     25.81
       + ID2= 2 (5230):   175.00   3.126     7.75     29.78
         ============================================
         ID = 3 (8172):   205.47   3.372     7.75     29.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.22

     Unit Hyd Qpeak  (cms)=   0.143

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  17.517
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.279

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.0900      0.0300
                           0.0100     0.0136   |   0.1200      0.0386
                           0.0400     0.0146   |   0.1500      0.0471
                           0.0700     0.0234   |   0.1800      0.0554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2329)      1.800      0.050      6.00      17.52
     OUTFLOW: ID= 1 (9269)      1.800      0.025      7.00      17.34

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.78
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0142

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--------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
--------------------
                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          44.16         139.84
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=        1107.55          40.00
     Mannings n          =           0.013          0.250

     Max.Eff.Inten.(mm/hr)=          82.76          23.19
               over (min)            15.00          45.00
     Storage Coeff.  (min)=          14.36 (ii)     33.55 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.07           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=           2.51           5.26          5.978 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.50
     RUNOFF VOLUME    (mm)=          60.70          20.58          23.79
     TOTAL RAINFALL   (mm)=          62.70          62.70          62.70
     RUNOFF COEFFICIENT   =           0.97           0.33           0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.0000      4.0000
                           1.1000     0.3000   |   3.5000      4.5000
                           1.8000     1.8000   |   4.5000      6.0000
                           2.0000     2.5000   |   5.5000      8.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2327)    184.000      5.978      6.50      23.79
     OUTFLOW: ID= 1 (9270)    184.000      1.804      7.75      23.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.18
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.8147

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--------------------
| ADD HYD   (9249) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.025     7.00    17.34
       + ID2= 2 (9270):   184.00   1.804     7.75    23.79
         ============================================
         ID = 3 (9249):   185.80   1.817     7.75    23.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  11.1130      4.3262
                           0.5630     2.0299   |  13.9540      4.9462
                           3.2190     2.3484   |  16.2450      5.5530
                           5.9950     3.0315   |  16.6450      5.5630
                           8.3150     3.6189   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800      1.817      7.75      23.73
     OUTFLOW: ID= 1 (5232)    185.800      1.455     10.75      23.72

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 80.12
                   TIME SHIFT OF PEAK FLOW         (min)=180.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.1374
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--------------------
| CALIB            |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   0.811 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.680
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   129.00   0.811    7.25    13.68
       + ID2= 2 (5232):   185.80   1.455   10.75    23.72
         ================================================
         ID = 3 (9232):   314.80   1.965   10.50    19.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8172):   205.47   3.372    7.75    29.19
       + ID2= 2 (9232):   314.80   1.965   10.50    19.61
         ================================================
         ID = 3 (8173):   520.27   4.489    7.75    23.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17664.29 100.283    10.00    23.22
       + ID2= 2 (8173):   520.27   4.489     7.75    23.39
         ================================================
         ID = 3 (8174): 18184.56 102.956    10.00    23.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                   0.00         228.00        0.0550
                  42.86         223.21        0.0550
                  85.72         219.56        0.0550
                 107.15         219.42        0.0550
                 128.58         219.39        0.0550
                 214.30         219.30        0.0550
                 225.02         219.26        0.0550
                 235.73         219.24        0.0550
                 255.16         219.20    0.0550 /0.0350  Main Channel
                 257.16         217.20        0.0350      Main Channel
                 303.16         217.20        0.0350      Main Channel
                 305.16         219.20    0.0350 /0.0550  Main Channel
                 310.74         219.28        0.0550
                 321.45         219.27        0.0550
                 332.17         219.26        0.0550
                 396.46         219.29        0.0550
                 782.20         222.91        0.0550
                 878.64         227.43        0.0550
                 964.36         227.80        0.0550
                1060.79         228.00        0.0550
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      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   217.70    .887E+05       7.2          0.31     206.54
        1.00   218.20    .179E+06      22.7          0.48     131.74
        1.50   218.70    .272E+06      44.5          0.62     101.75
        2.00   219.20    .366E+06      71.8          0.75      84.97
        2.59   219.79    .993E+06     136.1          0.52     121.59
        3.17   220.37    .189E+07     258.6          0.52     121.80
        3.76   220.96    .294E+07     434.7          0.56     112.82
        4.35   221.55    .415E+07     665.9          0.61     103.88
        4.93   222.13    .551E+07     955.0          0.66      96.22
        5.52   222.72    .703E+07    1305.1          0.71      89.80
        6.11   223.31    .868E+07    1744.9          0.77      82.91
        6.69   223.89    .104E+08    2261.4          0.83      76.46
        7.28   224.48    .121E+08    2838.0          0.89      71.12
        7.87   225.07    .139E+08    3472.9          0.95      66.63
        8.45   225.65    .157E+08    4165.0          1.01      62.82
        9.04   226.24    .176E+08    4913.5          1.07      59.54
        9.63   226.83    .194E+08    5717.7          1.12      56.68
       10.21   227.41    .214E+08    6577.1          1.17      54.18
       10.80   228.00    .235E+08    6919.5          1.12      56.61

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   102.96   10.00  23.22      2.28      0.62
     OUTFLOW: ID= 1 (6234) *******    91.03   12.00  23.22      2.18      0.66
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--------------------
| CALIB            |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   0.926 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.894
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.3100      4.0635
                          0.9000     1.7152   |  17.8000      5.3537
                          5.1600     1.7685   |  22.3500      6.6446
                          9.6100     3.0976   |  26.0300      7.9060

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100      0.926      9.25      12.89
     OUTFLOW: ID= 1 (9281)    266.100      0.618     14.00      12.89

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.77
               TIME SHIFT OF PEAK FLOW         (min)=285.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.1784

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--------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5630      0.1745
                          0.1300     0.0819   |   0.6550      0.1995
                          0.2420     0.0947   |   0.7760      0.2240
                          0.3350     0.1223   |   1.0550      0.2340
                          0.4480     0.1460   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      0.618     14.00      12.89
     OUTFLOW: ID= 1 (5234)    266.100      0.613     14.75      12.89
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                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.10
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1880

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--------------------
| CALIB            |
| STANDHYD  (2342) |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.23         0.83
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76         9.10
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.48 (ii)   20.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.030 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      61.70         8.77          12.99
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.98         0.14           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2342):     1.06   0.030     6.00    12.99
       + ID2= 2 (5234):   266.10   0.613    14.75    12.89
         ================================================
         ID = 3 (9234):   267.16   0.613    14.75    12.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6234): 18184.56  91.030    12.00    23.22
       + ID2= 2 (9234):   267.16   0.613    14.75    12.89
         ================================================
         ID = 3 (8176): 18451.72  91.572    12.00    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2369) |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.64       340.26
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1716.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        24.91
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.68 (ii)   37.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.36        12.99         14.951 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      60.70        22.23         25.31
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.35          0.40

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9266) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3000      8.0000
                          0.2000     2.0000   |   3.5000     10.0000
                          1.9000     7.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900     14.951     6.50      25.31
     OUTFLOW: ID= 1 (9266)    441.900      2.047     9.25      25.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.69
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.5793

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5236) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1380      1.5897
                          1.0220     0.7542   |   3.7950      2.0204
                          1.7530     0.8200   |   4.4970      2.4373
                          2.3290     1.2567   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      2.047     9.25      25.30
     OUTFLOW: ID= 1 (5236)    441.900      1.937    11.50      25.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.62
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9597

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2362) |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.288 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.978
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.223

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.288     8.00    13.98
       + ID2= 2 (5236):   441.90   1.937    11.50    25.30
         ================================================
         ID = 3 (9236):   494.49   2.137    10.50    24.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                 0.00         241.54        0.0380
               602.55         227.00        0.0380
              1702.00         224.50        0.0380
              1721.25         223.00        0.0380
              1725.10         222.60        0.0380
              1780.94         222.50        0.0380
              1782.87         222.45        0.0380
              1784.79         222.40    0.0380 /0.0300  Main Channel
              1786.57         221.75        0.0300      Main Channel
              1787.07         220.75        0.0300      Main Channel
              1787.57         220.75        0.0300      Main Channel
              1791.57         220.75        0.0300      Main Channel
              1794.07         221.75        0.0300      Main Channel
              1798.27         222.00        0.0300      Main Channel
              1800.19         222.35    0.0300 /0.0380  Main Channel
              1802.12         222.47        0.0380
              1840.63         223.00        0.0380
              1900.00         225.00        0.0380
              1950.00         226.00        0.0380
              2242.61         240.00        0.0380

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.80   221.55    .101E+05       5.2          1.14      32.36
       1.60   222.35    .296E+05      18.7          1.40      26.36
       2.64   223.39    .249E+06     151.8          1.35      27.33
       3.68   224.43    .613E+06     512.2          1.85      19.94
       4.71   225.46    .152E+07    1066.8          1.55      23.80
       5.75   226.50    .359E+07    2824.9          1.75      21.16
       6.79   227.54    .663E+07    6528.0          2.18      16.93
       7.83   228.58    .994E+07   12158.6          2.71      13.62
       8.87   229.62    .134E+08   19268.8          3.19      11.58
       9.91   230.66    .170E+08   27785.3          3.63      10.19
      10.94   231.69    .207E+08   37667.1          4.03       9.18
      11.98   232.73    .246E+08   48891.7          4.40       8.40
      13.02   233.77    .287E+08   61448.0          4.75       7.78
      14.06   234.81    .329E+08   75332.7          5.08       7.28
      15.10   235.85    .372E+08   90547.8          5.39       6.85
      16.14   236.89    .417E+08   *******          5.69       6.49
      17.17   237.92    .464E+08   *******          5.98       6.18
      18.21   238.96    .512E+08   *******          6.25       5.91
      19.25   240.00    .561E+08   *******          6.52       5.67

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9236)  494.49     2.14   10.50  24.10      0.33      1.14
     OUTFLOW: ID= 1 (6238)  494.49     2.13   11.50  24.10      0.33      1.14


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| CALIB            |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.99         3.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     177.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        24.25
           over (min)      =      15.00        30.00
     Storage Coeff.  (min)=       4.78 (ii)   23.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.19          0.203 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70        21.99          24.69
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.35           0.39
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300      0.0785
                          0.0200     0.0364   |   0.3100      0.1005
                          0.0900     0.0393   |   0.3900      0.1220
                          0.1700     0.0616   |   0.4600      0.1429

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)      4.700      0.203      6.25      24.69
     OUTFLOW: ID= 1 (9267)      4.700      0.114      6.75      24.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.33
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0467

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--------------------
| CALIB            |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   0.556 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.992
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100      1.3564
                          0.3100     0.5624   |   6.0400      1.7959
                          1.7500     0.5748   |   7.5800      2.2374
                          3.2600     1.0285   |   8.8300      2.6688

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)     90.200      0.556      7.00      11.99
     OUTFLOW: ID= 1 (9268)     90.200      0.269     11.00      11.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.32
                TIME SHIFT OF PEAK FLOW         (min)=240.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4874

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--------------------
| ADD HYD   (9247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9267):     4.70    0.114     6.75    24.60
        + ID2= 2 (9268):    90.20    0.269    11.00    11.99
          ================================================
          ID = 3 (9247):    94.90    0.287    11.00    12.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
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| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.8780      1.5095
                         0.1960     0.7083   |   4.8600      1.7258
                         1.1230     0.8194   |   5.6680      1.9375
                         2.0920     1.0578   |   6.0680      1.9475
                         2.9010     1.2627   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9247)     94.900      0.287     11.00      12.61
    OUTFLOW: ID= 1 (5238)     94.900      0.151     17.00      12.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.68
                TIME SHIFT OF PEAK FLOW         (min)=360.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5469

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-------------------
| CALIB           |
| NASHYD    (2382) |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   0.934 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  13.201
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2382):   216.80   0.934     8.25    13.20
       + ID2= 2 (5238):    94.90   0.151    17.00    12.60
         ================================================
         ID = 3 (9238):   311.70   0.974     8.50    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6238):   494.49   2.125    11.50    24.10
       + ID2= 2 (9238):   311.70   0.974     8.50    13.02
         ================================================
         ID = 3 (8180):   806.19   3.009    10.50    19.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18451.72  91.572    12.00    23.07
       + ID2= 2 (8180):   806.19   3.009    10.50    19.81
         ================================================
         ID = 3 (8178): 19257.91  94.494    12.00    22.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                   0.00         222.00        0.0450
                  11.46         221.00        0.0450
                 208.98         221.00        0.0450
                 404.04         220.97        0.0450
                 808.08         220.83        0.0450
                 905.60         220.17        0.0450
                 919.53         219.43        0.0450
                 933.47         219.22        0.0450
                 945.26         219.21    0.0450 /0.0300  Main Channel
                 946.26         217.81        0.0300      Main Channel
                 975.26         217.81        0.0300      Main Channel
                1003.26         217.81        0.0300      Main Channel
                1005.26         219.21    0.0300 /0.0450  Main Channel
                1017.06         219.28        0.0450
                1030.99         219.26        0.0450
                1044.92         219.23        0.0450
                1058.86         219.23        0.0450
                1253.91         219.22        0.0450
                1323.57         221.05        0.0450
                1379.30         222.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20    218.01    .307E+05       2.2          0.20     227.52
       0.40    218.21    .617E+05       7.1          0.31     143.95
       0.60    218.41    .928E+05      14.0          0.41     110.33
       0.80    218.61    .124E+06      22.6          0.49      91.46
       1.00    218.81    .156E+06      32.8          0.57      79.15
       1.20    219.01    .188E+06      44.5          0.64      70.38
       1.40    219.21    .220E+06      57.5          0.70      63.77
       1.63    219.44    .413E+06      82.5          0.54      83.52
       1.87    219.68    .632E+06     120.9          0.51      87.03
       2.10    219.91    .858E+06     170.0          0.53      84.11
       2.33    220.14    .109E+07     228.7          0.56      79.62
       2.56    220.37    .134E+07     294.4          0.59      76.03
       2.80    220.61    .162E+07     371.1          0.61      72.75
       3.03    220.84    .192E+07     456.8          0.64      70.18
       3.26    221.07    .251E+07     552.1          0.59      75.74
       3.49    221.30    .333E+07     711.8          0.57      78.07
       3.73    221.54    .417E+07     907.0          0.58      76.62
       3.96    221.77    .502E+07    1134.1          0.61      73.70
       4.19    222.00    .587E+07    1390.9          0.64      70.34

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8178) *******    94.49   12.00  22.94      1.71      0.53
    OUTFLOW: ID= 1 (6240) *******    86.93   13.50  22.94      1.66      0.53

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-------------------
| CALIB           |
| NASHYD    (0240) |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   0.554 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=   9.341
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.149

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2407) |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       17.78          71.12
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      769.85          40.00
     Mannings n             =     0.013          0.250

     Max.Eff.Inten.(mm/hr)=       82.76          20.84
               over (min)         15.00          45.00
     Storage Coeff.  (min)=       11.54 (ii)     31.57 (ii)
     Unit Hyd. Tpeak (min)=       15.00          45.00
     Unit Hyd. peak  (cms)=        0.08           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=        1.15           2.48          2.750 (iii)
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     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      60.70        19.37         22.26
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.31          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9273) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.4500      5.4723
                         0.3000     4.6746   |   5.9500      5.8930
                         1.7300     4.7225   |   7.4700      6.3047
                         3.2100     5.1511   |   8.7000      6.7071

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2407)     88.900      2.750      6.50      22.26
     OUTFLOW: ID= 1 (9273)     88.900      0.111     12.50      22.22

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.05
                   TIME SHIFT OF PEAK FLOW         (min)=360.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.7372

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-------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0240):   345.47   0.554    12.00     9.34
        + ID2= 2 (9273):    88.90   0.111    12.50    22.22
          ================================================
          ID = 3 (9252):   434.37   0.665    12.00    11.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6240): 19257.91  86.928    13.50    22.94
        + ID2= 2 (9252):   434.37   0.665    12.00    11.98
          ================================================
          ID = 3 (8182): 19692.28  87.562    13.50    22.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2427) |   Area    (ha)=   5.40   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.249

     PEAK FLOW       (cms)=   0.119 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.658
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9274) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2700      0.0857
                         0.0200     0.0379   |   0.3600      0.1115
                         0.1000     0.0399   |   0.4500      0.1369
                         0.1900     0.0663   |   0.5300      0.1618

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2427)     5.400      0.119      6.50      21.66
     OUTFLOW: ID= 1 (9274)     5.400      0.102      7.00      21.57

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.82
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0409

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-------------------
| RESERVOIR (5242) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0480      1.0185
                         0.0020     1.0087   |   0.0600      1.0212
                         0.0140     1.0101   |   0.0700      1.0238
                         0.0260     1.0130   |   0.4700      1.0338
                         0.0360     1.0155   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9274)     5.400      0.102      7.00      21.57
     OUTFLOW: ID= 1 (5242)     5.400      0.000     35.50       0.37

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.22
                   TIME SHIFT OF PEAK FLOW         (min)=******
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1145

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-------------------
| CALIB            |
| NASHYD    (2422) |   Area    (ha)= 652.48   Curve Number   (CN)= 51.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.073

     PEAK FLOW       (cms)=   0.889 (i)
     TIME TO PEAK    (hrs)=  13.000
     RUNOFF VOLUME    (mm)=  11.240
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2422):   652.48   0.889    13.00    11.24
        + ID2= 2 (5242):     5.40   0.000    35.50     0.37
          ================================================
          ID = 3 (9242):   657.88   0.889    13.00    11.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8182): 19692.28  87.562    13.50    22.69
        + ID2= 2 (9242):   657.88   0.889    13.00    11.15
          ================================================
          ID = 3 (8184): 20350.16  88.449    13.50    22.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2441.0) ------>
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Distance	Elevation	Manning	
0.00	225.00	0.0450	
2.50	220.10	0.0450	
3.00	220.06	0.0450	
3.64	220.07	0.0450	
7.28	220.08	0.0450	
10.91	220.09	0.0450	
14.55	219.81	0.0450	
18.19	219.29	0.0450	
24.13	219.21	0.0450 /0.0300	Main Channel
24.63	217.81	0.0300	Main Channel
69.13	217.81	0.0300	Main Channel
114.13	217.81	0.0300	Main Channel
115.13	219.21	0.0300 /0.0450	Main Channel
120.06	219.25	0.0450	
123.70	219.32	0.0450	
127.34	219.77	0.0450	
130.98	219.88	0.0450	
134.61	219.99	0.0450	
350.00	220.18	0.0450	
360.18	225.00	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	218.16	.108E+06	9.0	0.29	200.52
0.70	218.51	.216E+06	28.4	0.45	126.89
1.05	218.86	.325E+06	55.7	0.59	97.27
1.40	219.21	.434E+06	89.7	0.71	80.65
1.79	219.60	.574E+06	135.9	0.81	70.36
2.17	219.98	.726E+06	190.8	0.90	63.38
2.56	220.37	.111E+07	264.3	0.82	69.82
2.94	220.75	.157E+07	371.7	0.81	70.36
3.33	221.14	.203E+07	503.4	0.85	67.30
3.72	221.53	.250E+07	656.6	0.90	63.40
4.10	221.91	.296E+07	829.6	0.96	59.54
4.49	222.30	.343E+07	1021.1	1.02	56.00
4.87	222.68	.390E+07	1230.2	1.08	52.83
5.26	223.07	.437E+07	1456.2	1.14	50.01
5.65	223.46	.484E+07	1698.4	1.20	47.51
6.03	223.84	.531E+07	1956.3	1.26	45.28
6.42	224.23	.579E+07	2229.3	1.32	43.28
6.80	224.61	.626E+07	2517.0	1.38	41.48
7.19	225.00	.674E+07	2819.2	1.44	39.85

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8184) *******	88.45	13.50	22.32	1.39		0.70
OUTFLOW:	ID= 1 (6244) *******	84.54	14.00	22.32	1.35		0.69

CALIB			
STANDHYD (2441)	Area (ha)= 91.52		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 15.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	41.18	50.34	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	781.11	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		82.76	50.26	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.65 (ii)	25.73 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	2.54	3.14	4.498 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	21.43	27.32
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.34	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2449)	Area (ha)= 143.20		
ID= 1 DT=15.0 min	Total Imp(%)= 34.00	Dir. Conn.(%)= 17.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	48.69	94.51	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	977.07	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		82.76	44.43	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.32 (ii)	28.12 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	4.28	4.98	7.374 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	23.07	29.47
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.37	0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9265)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.1600	2.7857
	0.4900	1.4537	9.5800	3.4259
	2.7800	1.6401	12.0300	4.0179
	5.1700	2.2743	14.0100	4.5968

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2449)	143.200	7.374	6.00	29.47
OUTFLOW:	ID= 1 (9265)	143.200	3.637	6.75	29.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.32
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.8761

ADD HYD (9245)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2441):	91.52	4.498	6.00	27.32
+ ID2= 2 (9265):	143.20	3.637	6.75	29.46
ID = 3 (9245):	234.72	6.303	6.50	28.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5244)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	15.7000	11.1120
	0.7950	7.8678	19.7140	11.9879
	4.5470	8.3178	22.9500	12.8451
	8.4690	9.2829	23.3500	12.8551
	11.7470	10.1128	0.0000	0.0000

AREA QPEAK TPEAK R.V.

```
                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9245)    234.720      6.303      6.50      28.63
     OUTFLOW: ID= 1 (5244)    234.720      0.451     13.00      28.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.15
                  TIME SHIFT OF PEAK FLOW         (min)=390.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.4633

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--------------------
| CALIB            |
| NASHYD    (2442) |   Area    (ha)=1674.00   Curve Number   (CN)= 62.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  12.991

     PEAK FLOW       (cms)=   6.571 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  15.602
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2442):  1674.00   6.571     9.75    15.60
       + ID2= 2 (5244):   234.72   0.451    13.00    28.62
         ================================================
         ID = 3 (9244):  1908.72   6.991     9.75    17.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6244): 20350.16  84.545    14.00    22.32
       + ID2= 2 (9244):  1908.72   6.991     9.75    17.20
         ================================================
         ID = 3 (8186): 22258.88  89.642    14.00    21.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  12.00
--------------------   VOLUME     (mm)=  18.96
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
  Comments:

          HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
          ACTUAL PEAK FLOW: PEAK (  117.41) + BASE (    0.00) =  117.41  (cms).
  TIME     FLOW |  TIME     FLOW |  TIME     FLOW |'  TIME     FLOW |  TIME     FLOW
   hrs      cms |   hrs      cms |   hrs      cms |'    hrs      cms |   hrs      cms
  0.00    0.000 | 62.25    1.637 |124.50    0.265 |186.75    0.042 |249.00    0.006
  0.25    0.000 | 62.50    1.624 |124.75    0.263 |187.00    0.042 |249.25    0.006
  0.50    0.000 | 62.75    1.611 |125.00    0.261 |187.25    0.041 |249.50    0.006
  0.75    0.000 | 63.00    1.599 |125.25    0.260 |187.50    0.041 |249.75    0.006
  1.00    0.000 | 63.25    1.586 |125.50    0.258 |187.75    0.041 |250.00    0.006
  1.25    0.000 | 63.50    1.574 |125.75    0.256 |188.00    0.041 |250.25    0.006
  1.50    0.245 | 63.75    1.561 |126.00    0.254 |188.25    0.040 |250.50    0.006
  1.75    0.412 | 64.00    1.549 |126.25    0.252 |188.50    0.040 |250.75    0.006
  2.00    0.526 | 64.25    1.537 |126.50    0.250 |188.75    0.040 |251.00    0.006
  2.25    0.669 | 64.50    1.525 |126.75    0.248 |189.00    0.039 |251.25    0.006
  2.50    0.773 | 64.75    1.513 |127.00    0.247 |189.25    0.039 |251.50    0.006
  2.75    0.857 | 65.00    1.502 |127.25    0.245 |189.50    0.039 |251.75    0.006
  3.00    0.931 | 65.25    1.490 |127.50    0.243 |189.75    0.039 |252.00    0.006
  3.25    1.111 | 65.50    1.479 |127.75    0.241 |190.00    0.038 |252.25    0.006
  3.50    1.246 | 65.75    1.467 |128.00    0.240 |190.25    0.038 |252.50    0.006
  3.75    1.370 | 66.00    1.456 |128.25    0.238 |190.50    0.038 |252.75    0.006
  4.00    1.496 | 66.25    1.445 |128.50    0.236 |190.75    0.037 |253.00    0.006
  4.25    1.859 | 66.50    1.434 |128.75    0.235 |191.00    0.037 |253.25    0.006
  4.50    2.157 | 66.75    1.423 |129.00    0.233 |191.25    0.037 |253.50    0.006
  4.75    2.692 | 67.00    1.412 |129.25    0.231 |191.50    0.037 |253.75    0.006
  5.00    3.181 | 67.25    1.401 |129.50    0.229 |191.75    0.036 |254.00    0.006
  5.25    4.185 | 67.50    1.390 |129.75    0.228 |192.00    0.036 |254.25    0.005
  5.50    5.128 | 67.75    1.380 |130.00    0.226 |192.25    0.036 |254.50    0.005
  5.75   10.813 | 68.00    1.369 |130.25    0.225 |192.50    0.035 |254.75    0.005
  6.00   28.599 | 68.25    1.359 |130.50    0.223 |192.75    0.035 |255.00    0.005
  6.25   31.521 | 68.50    1.349 |130.75    0.221 |193.00    0.035 |255.25    0.005
  6.50   41.175 | 68.75    1.339 |131.00    0.220 |193.25    0.035 |255.50    0.005
  6.75   48.040 | 69.00    1.329 |131.25    0.218 |193.50    0.034 |255.75    0.005
  7.00   54.740 | 69.25    1.319 |131.50    0.217 |193.75    0.034 |256.00    0.005
  7.25   60.911 | 69.50    1.309 |131.75    0.215 |194.00    0.034 |256.25    0.005
  7.50   66.708 | 69.75    1.299 |132.00    0.213 |194.25    0.034 |256.50    0.005
  7.75   72.218 | 70.00    1.289 |132.25    0.212 |194.50    0.033 |256.75    0.005
  8.00   77.533 | 70.25    1.280 |132.50    0.210 |194.75    0.033 |257.00    0.005
  8.25   82.244 | 70.50    1.270 |132.75    0.209 |195.00    0.033 |257.25    0.005
  8.50   86.722 | 70.75    1.261 |133.00    0.207 |195.25    0.033 |257.50    0.005
  8.75   90.910 | 71.00    1.251 |133.25    0.206 |195.50    0.032 |257.75    0.005
  9.00   94.856 | 71.25    1.242 |133.50    0.204 |195.75    0.032 |258.00    0.005
  9.25   98.556 | 71.50    1.233 |133.75    0.203 |196.00    0.032 |258.25    0.005
  9.50  102.003 | 71.75    1.224 |134.00    0.201 |196.25    0.032 |258.50    0.005
  9.75  105.194 | 72.00    1.215 |134.25    0.200 |196.50    0.031 |258.75    0.005
 10.00  108.134 | 72.25    1.206 |134.50    0.198 |196.75    0.031 |259.00    0.005
 10.25  110.547 | 72.50    1.197 |134.75    0.197 |197.00    0.031 |259.25    0.005
 10.50  112.649 | 72.75    1.188 |135.00    0.196 |197.25    0.031 |259.50    0.005
 10.75  114.397 | 73.00    1.179 |135.25    0.194 |197.50    0.031 |259.75    0.005
 11.00  115.478 | 73.25    1.171 |135.50    0.193 |197.75    0.030 |260.00    0.005
 11.25  116.086 | 73.50    1.162 |135.75    0.191 |198.00    0.030 |260.25    0.005
 11.50  116.622 | 73.75    1.154 |136.00    0.190 |198.25    0.030 |260.50    0.005
 11.75  117.071 | 74.00    1.145 |136.25    0.189 |198.50    0.030 |260.75    0.005
 12.00  117.409 | 74.25    1.137 |136.50    0.187 |198.75    0.029 |261.00    0.004
 12.25  117.312 | 74.50    1.129 |136.75    0.186 |199.00    0.029 |261.25    0.004
 12.50  117.082 | 74.75    1.120 |137.00    0.185 |199.25    0.029 |261.50    0.004
 12.75  116.631 | 75.00    1.112 |137.25    0.183 |199.50    0.029 |261.75    0.004
 13.00  115.992 | 75.25    1.104 |137.50    0.182 |199.75    0.029 |262.00    0.004
 13.25  115.151 | 75.50    1.096 |137.75    0.181 |200.00    0.028 |262.25    0.004
 13.50  114.112 | 75.75    1.088 |138.00    0.179 |200.25    0.028 |262.50    0.004
 13.75  112.890 | 76.00    1.080 |138.25    0.178 |200.50    0.028 |262.75    0.004
 14.00  111.508 | 76.25    1.072 |138.50    0.177 |200.75    0.028 |263.00    0.004
 14.25  109.989 | 76.50    1.064 |138.75    0.175 |201.00    0.028 |263.25    0.004
 14.50  108.350 | 76.75    1.057 |139.00    0.174 |201.25    0.027 |263.50    0.004
 14.75  106.605 | 77.00    1.049 |139.25    0.173 |201.50    0.027 |263.75    0.004
 15.00  104.765 | 77.25    1.041 |139.50    0.172 |201.75    0.027 |264.00    0.004
 15.25  102.842 | 77.50    1.034 |139.75    0.170 |202.00    0.027 |264.25    0.004
 15.50  100.848 | 77.75    1.026 |140.00    0.169 |202.25    0.027 |264.50    0.004
 15.75   98.366 | 78.00    1.019 |140.25    0.168 |202.50    0.026 |264.75    0.004
 16.00   95.492 | 78.25    1.011 |140.50    0.167 |202.75    0.026 |265.00    0.004
 16.25   92.737 | 78.50    1.004 |140.75    0.165 |203.00    0.026 |265.25    0.004
 16.50   90.060 | 78.75    0.997 |141.00    0.164 |203.25    0.026 |265.50    0.004
 16.75   87.414 | 79.00    0.990 |141.25    0.163 |203.50    0.026 |265.75    0.004
 17.00   84.769 | 79.25    0.982 |141.50    0.162 |203.75    0.025 |266.00    0.004
 17.25   82.131 | 79.50    0.975 |141.75    0.161 |204.00    0.025 |266.25    0.004
 17.50   79.518 | 79.75    0.968 |142.00    0.159 |204.25    0.025 |266.50    0.004
 17.75   76.948 | 80.00    0.961 |142.25    0.158 |204.50    0.025 |266.75    0.004
 18.00   74.431 | 80.25    0.954 |142.50    0.157 |204.75    0.025 |267.00    0.004
 18.25   71.971 | 80.50    0.947 |142.75    0.156 |205.00    0.024 |267.25    0.004
 18.50   69.566 | 80.75    0.940 |143.00    0.155 |205.25    0.024 |267.50    0.004
 18.75   67.212 | 81.00    0.933 |143.25    0.154 |205.50    0.024 |267.75    0.004
 19.00   64.911 | 81.25    0.927 |143.50    0.153 |205.75    0.024 |268.00    0.004
 19.25   62.666 | 81.50    0.920 |143.75    0.152 |206.00    0.024 |268.25    0.004
 19.50   60.480 | 81.75    0.913 |144.00    0.150 |206.25    0.024 |268.50    0.004
 19.75   58.354 | 82.00    0.906 |144.25    0.149 |206.50    0.023 |268.75    0.004
 20.00   56.290 | 82.25    0.900 |144.50    0.148 |206.75    0.023 |269.00    0.004
 20.25   54.288 | 82.50    0.893 |144.75    0.147 |207.00    0.023 |269.25    0.003
 20.50   52.348 | 82.75    0.887 |145.00    0.146 |207.25    0.023 |269.50    0.003
 20.75   50.470 | 83.00    0.880 |145.25    0.145 |207.50    0.023 |269.75    0.003
 21.00   48.652 | 83.25    0.874 |145.50    0.144 |207.75    0.022 |270.00    0.003
 21.25   46.894 | 83.50    0.868 |145.75    0.143 |208.00    0.022 |270.25    0.003
 21.50   45.195 | 83.75    0.862 |146.00    0.142 |208.25    0.022 |270.50    0.003
 21.75   43.552 | 84.00    0.855 |146.25    0.141 |208.50    0.022 |270.75    0.003
 22.00   41.964 | 84.25    0.849 |146.50    0.140 |208.75    0.022 |271.00    0.003
 22.25   40.431 | 84.50    0.843 |146.75    0.139 |209.00    0.022 |271.25    0.003
 22.50   38.951 | 84.75    0.837 |147.00    0.138 |209.25    0.021 |271.50    0.003
 22.75   37.525 | 85.00    0.831 |147.25    0.137 |209.50    0.021 |271.75    0.003
 23.00   36.150 | 85.25    0.825 |147.50    0.136 |209.75    0.021 |272.00    0.003
 23.25   34.826 | 85.50    0.819 |147.75    0.135 |210.00    0.021 |272.25    0.003
 23.50   33.550 | 85.75    0.813 |148.00    0.134 |210.25    0.021 |272.50    0.003
 23.75   32.323 | 86.00    0.807 |148.25    0.133 |210.50    0.021 |272.75    0.003
 24.00   31.141 | 86.25    0.802 |148.50    0.132 |210.75    0.021 |273.00    0.003
 24.25   30.004 | 86.50    0.796 |148.75    0.131 |211.00    0.020 |273.25    0.003
 24.50   28.911 | 86.75    0.790 |149.00    0.130 |211.25    0.020 |273.50    0.003
 24.75   27.861 | 87.00    0.784 |149.25    0.129 |211.50    0.020 |273.75    0.003
 25.00   26.854 | 87.25    0.779 |149.50    0.128 |211.75    0.020 |274.00    0.003
 25.25   25.890 | 87.50    0.773 |149.75    0.127 |212.00    0.020 |274.25    0.003
 25.50   24.967 | 87.75    0.768 |150.00    0.126 |212.25    0.020 |274.50    0.003
 25.75   24.083 | 88.00    0.762 |150.25    0.125 |212.50    0.019 |274.75    0.003
 26.00   23.234 | 88.25    0.757 |150.50    0.124 |212.75    0.019 |275.00    0.003
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26.25	22.420	88.50	0.751	150.75	0.123	213.00	0.019	275.25	0.003
26.50	21.638	88.75	0.746	151.00	0.123	213.25	0.019	275.50	0.003
26.75	20.887	89.00	0.740	151.25	0.122	213.50	0.019	275.75	0.003
27.00	20.165	89.25	0.735	151.50	0.121	213.75	0.019	276.00	0.003
27.25	19.472	89.50	0.730	151.75	0.120	214.00	0.019	276.25	0.003
27.50	18.805	89.75	0.725	152.00	0.119	214.25	0.018	276.50	0.003
27.75	18.165	90.00	0.719	152.25	0.118	214.50	0.018	276.75	0.003
28.00	17.551	90.25	0.714	152.50	0.117	214.75	0.018	277.00	0.003
28.25	16.960	90.50	0.709	152.75	0.116	215.00	0.018	277.25	0.003
28.50	16.392	90.75	0.704	153.00	0.116	215.25	0.018	277.50	0.003
28.75	15.847	91.00	0.699	153.25	0.115	215.50	0.018	277.75	0.003
29.00	15.323	91.25	0.694	153.50	0.114	215.75	0.018	278.00	0.003
29.25	14.820	91.50	0.689	153.75	0.113	216.00	0.018	278.25	0.003
29.50	14.337	91.75	0.684	154.00	0.112	216.25	0.017	278.50	0.003
29.75	13.872	92.00	0.679	154.25	0.111	216.50	0.017	278.75	0.003
30.00	13.426	92.25	0.674	154.50	0.111	216.75	0.017	279.00	0.003
30.25	12.997	92.50	0.670	154.75	0.110	217.00	0.017	279.25	0.003
30.50	12.584	92.75	0.665	155.00	0.109	217.25	0.017	279.50	0.003
30.75	12.188	93.00	0.660	155.25	0.108	217.50	0.017	279.75	0.003
31.00	11.807	93.25	0.655	155.50	0.107	217.75	0.017	280.00	0.002
31.25	11.441	93.50	0.651	155.75	0.107	218.00	0.017	280.25	0.002
31.50	11.090	93.75	0.646	156.00	0.106	218.25	0.016	280.50	0.002
31.75	10.752	94.00	0.641	156.25	0.105	218.50	0.016	280.75	0.002
32.00	10.427	94.25	0.637	156.50	0.104	218.75	0.016	281.00	0.002
32.25	10.116	94.50	0.632	156.75	0.103	219.00	0.016	281.25	0.002
32.50	9.816	94.75	0.628	157.00	0.103	219.25	0.016	281.50	0.002
32.75	9.529	95.00	0.623	157.25	0.102	219.50	0.016	281.75	0.002
33.00	9.252	95.25	0.619	157.50	0.101	219.75	0.016	282.00	0.002
33.25	8.987	95.50	0.614	157.75	0.100	220.00	0.016	282.25	0.002
33.50	8.732	95.75	0.610	158.00	0.099	220.25	0.015	282.50	0.002
33.75	8.488	96.00	0.605	158.25	0.099	220.50	0.015	282.75	0.002
34.00	8.253	96.25	0.601	158.50	0.098	220.75	0.015	283.00	0.002
34.25	8.027	96.50	0.597	158.75	0.097	221.00	0.015	283.25	0.002
34.50	7.810	96.75	0.592	159.00	0.096	221.25	0.015	283.50	0.002
34.75	7.602	97.00	0.588	159.25	0.096	221.50	0.015	283.75	0.002
35.00	7.403	97.25	0.584	159.50	0.095	221.75	0.015	284.00	0.002
35.25	7.211	97.50	0.580	159.75	0.094	222.00	0.015	284.25	0.002
35.50	7.026	97.75	0.576	160.00	0.093	222.25	0.015	284.50	0.002
35.75	6.849	98.00	0.572	160.25	0.093	222.50	0.014	284.75	0.002
36.00	6.678	98.25	0.567	160.50	0.092	222.75	0.014	285.00	0.002
36.25	6.514	98.50	0.563	160.75	0.091	223.00	0.014	285.25	0.002
36.50	6.356	98.75	0.559	161.00	0.091	223.25	0.014	285.50	0.002
36.75	6.205	99.00	0.555	161.25	0.090	223.50	0.014	285.75	0.002
37.00	6.058	99.25	0.551	161.50	0.089	223.75	0.014	286.00	0.002
37.25	5.918	99.50	0.547	161.75	0.089	224.00	0.014	286.25	0.002
37.50	5.782	99.75	0.543	162.00	0.088	224.25	0.014	286.50	0.002
37.75	5.652	100.00	0.540	162.25	0.087	224.50	0.014	286.75	0.002
38.00	5.526	100.25	0.536	162.50	0.087	224.75	0.013	287.00	0.002
38.25	5.405	100.50	0.532	162.75	0.086	225.00	0.013	287.25	0.002
38.50	5.288	100.75	0.528	163.00	0.086	225.25	0.013	287.50	0.002
38.75	5.176	101.00	0.524	163.25	0.085	225.50	0.013	287.75	0.002
39.00	5.067	101.25	0.520	163.50	0.084	225.75	0.013	288.00	0.002
39.25	4.963	101.50	0.517	163.75	0.084	226.00	0.013	288.25	0.002
39.50	4.862	101.75	0.513	164.00	0.083	226.25	0.013	288.50	0.002
39.75	4.764	102.00	0.509	164.25	0.082	226.50	0.013	288.75	0.002
40.00	4.670	102.25	0.506	164.50	0.082	226.75	0.013	289.00	0.002
40.25	4.579	102.50	0.502	164.75	0.081	227.00	0.013	289.25	0.002
40.50	4.491	102.75	0.498	165.00	0.081	227.25	0.012	289.50	0.002
40.75	4.406	103.00	0.495	165.25	0.080	227.50	0.012	289.75	0.002
41.00	4.324	103.25	0.491	165.50	0.079	227.75	0.012	290.00	0.002
41.25	4.245	103.50	0.488	165.75	0.079	228.00	0.012	290.25	0.002
41.50	4.168	103.75	0.484	166.00	0.078	228.25	0.012	290.50	0.002
41.75	4.094	104.00	0.481	166.25	0.078	228.50	0.012	290.75	0.002
42.00	4.023	104.25	0.477	166.50	0.077	228.75	0.012	291.00	0.002
42.25	3.953	104.50	0.474	166.75	0.077	229.00	0.012	291.25	0.002
42.50	3.886	104.75	0.470	167.00	0.076	229.25	0.012	291.50	0.002
42.75	3.821	105.00	0.467	167.25	0.075	229.50	0.012	291.75	0.002
43.00	3.758	105.25	0.463	167.50	0.075	229.75	0.012	292.00	0.002
43.25	3.697	105.50	0.460	167.75	0.074	230.00	0.011	292.25	0.002
43.50	3.638	105.75	0.457	168.00	0.074	230.25	0.011	292.50	0.002
43.75	3.581	106.00	0.453	168.25	0.073	230.50	0.011	292.75	0.002
44.00	3.525	106.25	0.450	168.50	0.073	230.75	0.011	293.00	0.002
44.25	3.471	106.50	0.447	168.75	0.072	231.00	0.011	293.25	0.002
44.50	3.419	106.75	0.444	169.00	0.072	231.25	0.011	293.50	0.002
44.75	3.368	107.00	0.440	169.25	0.071	231.50	0.011	293.75	0.002
45.00	3.319	107.25	0.437	169.50	0.071	231.75	0.011	294.00	0.002
45.25	3.271	107.50	0.434	169.75	0.070	232.00	0.011	294.25	0.002
45.50	3.224	107.75	0.431	170.00	0.070	232.25	0.011	294.50	0.002
45.75	3.179	108.00	0.428	170.25	0.069	232.50	0.011	294.75	0.002
46.00	3.135	108.25	0.425	170.50	0.069	232.75	0.011	295.00	0.002
46.25	3.093	108.50	0.422	170.75	0.068	233.00	0.010	295.25	0.002
46.50	3.051	108.75	0.419	171.00	0.068	233.25	0.010	295.50	0.002
46.75	3.011	109.00	0.416	171.25	0.067	233.50	0.010	295.75	0.002
47.00	2.971	109.25	0.413	171.50	0.067	233.75	0.010	296.00	0.002
47.25	2.933	109.50	0.410	171.75	0.066	234.00	0.010	296.25	0.002
47.50	2.896	109.75	0.407	172.00	0.066	234.25	0.010	296.50	0.002
47.75	2.860	110.00	0.404	172.25	0.065	234.50	0.010	296.75	0.001
48.00	2.824	110.25	0.401	172.50	0.065	234.75	0.010	297.00	0.001
48.25	2.790	110.50	0.398	172.75	0.064	235.00	0.010	297.25	0.001
48.50	2.756	110.75	0.395	173.00	0.064	235.25	0.010	297.50	0.001
48.75	2.723	111.00	0.392	173.25	0.063	235.50	0.010	297.75	0.001
49.00	2.691	111.25	0.390	173.50	0.063	235.75	0.010	298.00	0.001
49.25	2.660	111.50	0.387	173.75	0.062	236.00	0.010	298.25	0.001
49.50	2.629	111.75	0.384	174.00	0.062	236.25	0.010	298.50	0.001
49.75	2.599	112.00	0.381	174.25	0.061	236.50	0.009	298.75	0.001
50.00	2.570	112.25	0.378	174.50	0.061	236.75	0.009	299.00	0.001
50.25	2.542	112.50	0.376	174.75	0.060	237.00	0.009	299.25	0.001
50.50	2.514	112.75	0.373	175.00	0.060	237.25	0.009	299.50	0.001
50.75	2.486	113.00	0.370	175.25	0.060	237.50	0.009	299.75	0.001
51.00	2.460	113.25	0.368	175.50	0.059	237.75	0.009	300.00	0.001
51.25	2.434	113.50	0.365	175.75	0.059	238.00	0.009	300.25	0.001
51.50	2.408	113.75	0.362	176.00	0.058	238.25	0.009	300.50	0.001
51.75	2.383	114.00	0.360	176.25	0.058	238.50	0.009	300.75	0.001
52.00	2.358	114.25	0.357	176.50	0.057	238.75	0.009	301.00	0.001
52.25	2.334	114.50	0.355	176.75	0.057	239.00	0.009	301.25	0.001
52.50	2.311	114.75	0.352	177.00	0.056	239.25	0.009	301.50	0.001
52.75	2.288	115.00	0.350	177.25	0.056	239.50	0.009	301.75	0.001
53.00	2.265	115.25	0.347	177.50	0.055	239.75	0.009	302.00	0.001
53.25	2.243	115.50	0.345	177.75	0.055	240.00	0.008	302.25	0.001
53.50	2.221	115.75	0.342	178.00	0.055	240.25	0.008	302.50	0.001
53.75	2.199	116.00	0.340	178.25	0.054	240.50	0.008	302.75	0.001
54.00	2.178	116.25	0.337	178.50	0.054	240.75	0.008	303.00	0.001
54.25	2.158	116.50	0.335	178.75	0.053	241.00	0.008	303.25	0.001
54.50	2.137	116.75	0.332	179.00	0.053	241.25	0.008	303.50	0.001
54.75	2.117	117.00	0.330	179.25	0.053	241.50	0.008	303.75	0.001
55.00	2.098	117.25	0.328	179.50	0.052	241.75	0.008	304.00	0.001
55.25	2.078	117.50	0.325	179.75	0.052	242.00	0.008	304.25	0.001
55.50	2.059	117.75	0.323	180.00	0.051	242.25	0.008	304.50	0.001
55.75	2.040	118.00	0.321	180.25	0.051	242.50	0.008	304.75	0.001
56.00	2.022	118.25	0.318	180.50	0.051	242.75	0.008	305.00	0.001
56.25	2.004	118.50	0.316	180.75	0.050	243.00	0.008	305.25	0.001
56.50	1.986	118.75	0.314	181.00	0.050	243.25	0.008	305.50	0.001
56.75	1.969	119.00	0.311	181.25	0.050	243.50	0.008	305.75	0.001
57.00	1.951	119.25	0.309	181.50	0.049	243.75	0.008	306.00	0.001
57.25	1.934	119.50	0.307	181.75	0.049	244.00	0.008	306.25	0.001
57.50	1.917	119.75	0.305	182.00	0.048	244.25	0.007	306.50	0.001
57.75	1.901	120.00	0.302	182.25	0.048	244.50	0.007	306.75	0.001
58.00	1.884	120.25	0.300	182.50	0.048	244.75	0.007	307.00	0.001
58.25	1.868	120.50	0.298	182.75	0.047	245.00	0.007	307.25	0.001
58.50	1.853	120.75	0.296	183.00	0.047	245.25	0.007	307.50	0.001
58.75	1.837	121.00	0.294	183.25	0.047	245.50	0.007	307.75	0.001
59.00	1.821	121.25	0.292	183.50	0.046	245.75	0.007	308.00	0.001
59.25	1.806	121.50	0.290	183.75	0.046	246.00	0.007	308.25	0.001
59.50	1.791	121.75	0.287	184.00	0.046	246.25	0.007	308.50	0.001
59.75	1.776	122.00	0.285	184.25	0.045	246.50	0.007	308.75	0.001
60.00	1.762	122.25	0.283	184.50	0.045	246.75	0.007	309.00	0.001
60.25	1.747	122.50	0.281	184.75	0.045	247.00	0.007	309.25	0.001
60.50	1.733	122.75	0.279	185.00	0.044	247.25	0.007	309.50	0.001
60.75	1.719	123.00	0.277	185.25	0.044	247.50	0.007	309.75	0.001
61.00	1.705	123.25	0.275	185.50	0.044	247.75	0.007		
61.25	1.691	123.50	0.273	185.75	0.043	248.00	0.007		
61.50	1.677	123.75	0.271	186.00	0.043	248.25	0.007		
61.75	1.664	124.00	0.269	186.25	0.043	248.50	0.007		
62.00	1.651	124.25	0.267	186.50	0.042	248.75	0.006		

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| ADD HYD   (8188) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22258.88  89.642    14.00    21.88
       + ID2= 2 (8190): 20350.16  84.545    14.00    22.32
         ================================================
         ID = 3 (8188): 42609.04 174.186    14.00    22.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   2.928 (i)
     TIME TO PEAK    (hrs)=  12.000
```

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     RUNOFF VOLUME    (mm)=  15.061
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    110.98       125.14
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1254.64        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        51.44
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     15.47 (ii)   29.43 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      6.63         7.45        11.263 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     60.70        21.64         28.28
     TOTAL RAINFALL   (mm)=     62.70        62.70         62.70
     RUNOFF COEFFICIENT   =      0.97         0.35          0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.1800      6.2621
                         0.8000     2.9957   |  12.5050      7.1218
                         3.0350     3.4813   |  14.4090      7.9633
                         5.6510     4.4353   |  14.8090      7.9733
                         7.7470     5.2683   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    236.120     11.263      6.00      28.28
     OUTFLOW: ID= 1 (5446)    236.120      3.433      7.25      28.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.48
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.6454

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-------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1238.89   2.928    12.00    15.06
       + ID2= 2 (5446):   236.12   3.433     7.25    28.28
         ================================================
         ID = 3 (8192):  1475.01   5.226     7.25    17.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 42609.04 174.186    14.00    22.09
       + ID2= 2 (8192):  1475.01   5.226     7.25    17.18
         ================================================
         ID = 3 (8194): 44084.05 177.611    14.00    21.93
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.395 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.373
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.134

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   1.396 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  14.536
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   0.963 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  10.792
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   1.356 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.334
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.394 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   9.103
     TOTAL RAINFALL   (mm)=  62.700
```

RUNOFF COEFFICIENT = 0.145

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8206)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0434):		56.64	0.394	6.50	9.10
+ ID2= 2 (0436):		187.51	1.356	7.00	12.33
ID = 3 (8206):		244.15	1.736	6.75	11.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6438)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4381.0) ------>

Distance	Elevation	Manning	
0.00	256.00	0.0600	
9.23	255.50	0.0600	
27.69	255.00	0.0600	
50.77	254.90	0.0600	
64.62	254.85	0.0600	
78.47	252.26	0.0600	
96.93	249.44	0.0600	
129.24	245.94	0.0600	
145.40	245.76	0.0600	
146.20	245.80	0.0600 /0.0350	Main Channel
146.70	245.30	0.0350	Main Channel
147.70	245.30	0.0350	Main Channel
148.20	245.80	0.0350 /0.0600	Main Channel
150.01	245.78	0.0600	
152.32	245.79	0.0600	
163.86	246.72	0.0600	
175.40	249.07	0.0600	
186.94	253.15	0.0600	
196.17	255.38	0.0600	
228.48	255.55	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.221E+04	0.9	1.02	40.44
1.01	246.31	.352E+05	14.0	0.99	41.77
1.53	246.83	.841E+05	47.3	1.39	29.61
2.04	247.34	.144E+06	102.0	1.76	23.49
2.55	247.85	.213E+06	177.3	2.07	19.99
3.07	248.37	.291E+06	274.4	2.34	17.66
3.58	248.88	.378E+06	394.6	2.58	15.97
4.09	249.39	.474E+06	541.4	2.83	14.60
4.61	249.91	.578E+06	719.9	3.08	13.38
5.12	250.42	.688E+06	923.8	3.33	12.40
5.63	250.93	.803E+06	1153.3	3.56	11.61
6.14	251.44	.925E+06	1408.6	3.77	10.95
6.66	251.96	.105E+07	1690.6	3.98	10.38
7.17	252.47	.119E+07	2002.3	4.18	9.88
7.68	252.98	.133E+07	2345.4	4.38	9.43
8.20	253.50	.147E+07	2710.1	4.56	9.05
8.71	254.01	.162E+07	3101.0	4.73	8.72
9.22	254.52	.178E+07	3521.8	4.90	8.43
9.74	255.04	.195E+07	3467.6	4.39	9.39

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8206)	244.15	1.74	6.75	11.58	0.53	1.02
OUTFLOW:	ID= 1 (6438)	244.15	1.53	7.75	11.58	0.52	1.02

ADD HYD (8208)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0438):		130.70	0.963	6.75	10.79
+ ID2= 2 (6438):		244.15	1.527	7.75	11.58
ID = 3 (8208):		374.85	2.355	7.50	11.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8210)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0440):		226.35	1.396	7.75	14.54
+ ID2= 2 (8208):		374.85	2.355	7.50	11.31
ID = 3 (8210):		601.20	3.750	7.50	12.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0432)	Area (ha)= 114.21 Curve Number (CN)= 53.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.21

Unit Hyd Qpeak (cms)= 1.617

PEAK FLOW (cms)= 0.530 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 11.676
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0430)	Area (ha)= 111.64 Curve Number (CN)= 55.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.52

Unit Hyd Qpeak (cms)= 3.687

PEAK FLOW (cms)= 1.054 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 12.200
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.195

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0428)	Area (ha)= 50.53 Curve Number (CN)= 51.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.50

Unit Hyd Qpeak (cms)= 1.725

PEAK FLOW (cms)= 0.428 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 10.720
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.171

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0426)	Area (ha)= 247.17 Curve Number (CN)= 61.0
ID= 1 DT=15.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.98

Unit Hyd Qpeak (cms)= 4.315

PEAK FLOW (cms)= 1.733 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 14.967
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.239

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   0.670 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.586
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   0.670     6.50    13.59
       + ID2= 2 (0426):   247.17   1.733     7.25    14.97
         ================================================
         ID = 3 (8198):   296.74   2.260     6.75    14.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4281.0) ------>
               Distance      Elevation       Manning
                   0.00         246.54        0.0900
                   8.80         246.29        0.0900
                  30.78         246.03        0.0900
                  41.78         243.97        0.0900
                  63.77         237.16        0.0900
                  85.76         232.53        0.0900
                  96.75         230.16        0.0900
                 109.94         228.40        0.0900
                 112.14         228.28    0.0900 /0.0450  Main Channel
                 112.84         228.00        0.0450      Main Channel
                 113.34         227.50        0.0450      Main Channel
                 114.34         227.50        0.0450      Main Channel
                 114.84         228.00        0.0450      Main Channel
                 116.54         228.29    0.0450 /0.0900  Main Channel
                 118.74         228.40        0.0900
                 120.94         228.52        0.0900
                 149.52         229.51        0.0900
                 169.31         230.69        0.0900
                 186.00         234.27        0.0900
                 217.69         243.56        0.0900

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.78   228.28    .205E+04       1.6         0.97      21.60
        1.58   229.08    .202E+05      16.6         1.02      20.37
        2.39   229.89    .665E+05      64.8         1.22      17.11
        3.19   230.69    .133E+06     158.1         1.49      14.05
        4.00   231.50    .213E+06     308.6         1.82      11.48
        4.80   232.30    .299E+06     504.9         2.11       9.89
        5.61   233.11    .394E+06     746.6         2.37       8.79
        6.41   233.91    .496E+06    1034.5         2.61       7.99
        7.21   234.71    .605E+06    1373.3         2.84       7.35
        8.02   235.52    .722E+06    1763.3         3.06       6.82
        8.82   236.32    .844E+06    2202.0         3.27       6.39
        9.63   237.13    .974E+06    2690.5         3.46       6.03
       10.43   237.93    .111E+07    3239.5         3.66       5.71
       11.23   238.73    .125E+07    3839.0         3.84       5.43
       12.04   239.54    .140E+07    4489.1         4.03       5.18
       12.84   240.34    .155E+07    5190.5         4.20       4.97
       13.65   241.15    .170E+07    5943.8         4.36       4.78
       14.45   241.95    .187E+07    6749.8         4.53       4.61
       15.26   242.76    .204E+07    7609.4         4.68       4.46

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     2.26    6.75  14.74      0.82      0.97
     OUTFLOW: ID= 1 (6428)  296.74     2.17    7.25  14.74      0.81      0.97

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.428     6.50    10.72
       + ID2= 2 (6428):   296.74   2.171     7.25    14.74
         ================================================
         ID = 3 (8200):   347.27   2.537     7.25    14.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   1.054     6.50    12.20
       + ID2= 2 (8200):   347.27   2.537     7.25    14.15
         ================================================
         ID = 3 (8202):   458.91   3.490     7.00    13.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4321.0) ------>
               Distance      Elevation       Manning
                   0.00         221.00        0.0600
                  15.29         219.85        0.0600
                  45.86         219.86        0.0600
                  76.44         219.96        0.0600
                 110.84         220.23        0.0600
                 112.00         220.15        0.0600
                 114.66         220.09        0.0600
                 118.48         219.73        0.0600
                 120.80         219.70    0.0600 /0.0350  Main Channel
                 121.30         219.20        0.0350      Main Channel
                 122.30         219.20        0.0350      Main Channel
                 122.80         219.70    0.0350 /0.0600  Main Channel
                 129.95         220.11        0.0600
                 175.81         220.24        0.0600
                 214.03         220.55        0.0600
                 252.25         220.61        0.0600
                 290.47         220.70        0.0600
                 328.69         221.04        0.0600
                 347.80         221.08        0.0600
                 378.37         221.04        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.08   219.28    .185E+03       0.0         0.23     149.38
        0.17   219.37    .399E+03       0.1         0.34     100.62
        0.25   219.45    .641E+03       0.1         0.42      80.98
        0.33   219.53    .911E+03       0.2         0.49      69.79
        0.42   219.62    .121E+04       0.3         0.55      62.35
        0.50   219.70    .154E+04       0.5         0.60      56.91
        0.61   219.81    .267E+04       0.7         0.56      61.28
        0.71   219.91    .901E+04       1.3         0.30     112.96
        0.82   220.02    .249E+05       3.4         0.28     122.71
        0.92   220.12    .452E+05       6.8         0.31     109.98
        1.03   220.23    .747E+05      12.2         0.33     102.05
        1.14   220.34    .112E+06      21.3         0.39      87.59
        1.24   220.44    .153E+06      33.0         0.44      77.01
        1.35   220.55    .196E+06      47.2         0.49      69.22
        1.46   220.66    .248E+06      62.3         0.51      66.48
        1.56   220.76    .310E+06      83.4         0.55      62.06
        1.67   220.87    .376E+06     108.8         0.59      57.56
        1.77   220.97    .444E+06     137.7         0.64      53.77
        1.88   221.08    .517E+06     163.6         0.65      52.70

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```

```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     3.49    7.00  13.68      0.82      0.28
     OUTFLOW: ID= 1 (6432)  458.91     2.33    9.25  13.68      0.76      0.29


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   0.530     8.00    11.68
       + ID2= 2 (6432):   458.91   2.333     9.25    13.68
         ================================================
         ID = 3 (8204):   573.12   2.816     9.00    13.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   2.816     9.00    13.28
       + ID2= 2 (8210):   601.20   3.750     7.50    12.52
         ================================================
         ID = 3 (8212):  1174.32   6.240     8.00    12.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4421.0) ------>
               Distance      Elevation       Manning
                   0.00         221.00        0.0350
                  26.73         220.80        0.0350
                  53.47         220.60        0.0350
                  66.83         220.40        0.0350
                  80.20         220.20        0.0350
                 347.52         220.00        0.0350
                 354.21         219.59        0.0350
                 360.89         219.50        0.0350
                 367.57         219.08        0.0350
                 368.76         219.00    0.0350 /0.0300  Main Channel
                 369.26         218.50        0.0300      Main Channel
                 374.26         218.50        0.0300      Main Channel
                 374.76         219.00    0.0300 /0.0350  Main Channel
                 380.94         220.33        0.0350
                 387.62         219.62        0.0350
                 394.31         219.23        0.0350
                 454.45         219.07        0.0350
                 514.60         219.09        0.0350
                 660.00         219.19        0.0350
                 661.63         221.00        0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.12   218.62    .100E+04       0.2          0.28      92.89
        0.25   218.75    .205E+04       0.6          0.43      60.09
        0.37   218.87    .315E+04       1.1          0.55      46.99
        0.50   219.00    .430E+04       1.8          0.66      39.67
        0.63   219.13    .141E+05       3.4          0.37      69.99
        0.77   219.27    .652E+05      13.7          0.33      79.14
        0.90   219.40    .124E+06      35.5          0.45      58.02
        1.03   219.53    .183E+06      65.7          0.56      46.45
        1.17   219.67    .245E+06     103.8          0.66      39.30
        1.30   219.80    .307E+06     149.3          0.76      34.30
        1.43   219.93    .371E+06     201.6          0.85      30.65
        1.57   220.07    .440E+06     256.5          0.91      28.56
        1.70   220.20    .541E+06     325.7          0.94      27.70
        1.83   220.33    .663E+06     415.2          0.98      26.62
        1.97   220.47    .787E+06     520.3          1.03      25.21
        2.10   220.60    .913E+06     638.5          1.09      23.82
        2.23   220.73    .104E+07     767.2          1.15      22.62
        2.37   220.87    .117E+07     908.0          1.21      21.54
        2.50   221.00    .131E+07    1060.7          1.27      20.57

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```

```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32     6.24    8.00  12.89      0.67      0.36
     OUTFLOW: ID= 1 (6442) 1174.32     5.46    9.50  12.89      0.66      0.36

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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.395     8.00     8.37
       + ID2= 2 (6442):  1174.32   5.460     9.50    12.89
         ================================================
         ID = 3 (8214):  1291.58   5.802     9.50    12.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 44084.05 177.611    14.00    21.93
       + ID2= 2 (8214):  1291.58   5.802     9.50    12.48
         ================================================
         ID = 3 (8196): 45375.62 181.075    14.00    21.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   1.266 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.815
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT    =   0.204

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   1.266     7.50    12.82
       + ID2= 2 (8196): 45375.62 181.075    14.00    21.66
         ================================================
         ID = 3 (8216): 45597.28 181.391    14.00    21.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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================================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\cb0c6c38-61aa-40de-82c2-26b771bad59b\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\cb0c6c38-61aa-40de-82c2-26b771bad59b\Scenario.sum


DATE: 08/29/2012                          TIME: 01:57:31

USER:


COMMENTS: _____________________________________________________


----------------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              cb0c6c38-61aa-40de-82c2-26b771bad59b\5a0ec211
| Ptotal= 73.10 mm |    Comments: 25-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    1.83 |  3.25    2.92 |  6.25   13.16 |  9.25    2.56
               0.50    1.83 |  3.50    2.92 |  6.50   13.16 |  9.50    2.56
               0.75    1.83 |  3.75    2.92 |  6.75    5.85 |  9.75    2.56
               1.00    1.83 |  4.00    2.92 |  7.00    5.85 | 10.00    2.56
               1.25    1.83 |  4.25    4.39 |  7.25    4.39 | 10.25    1.46
               1.50    1.83 |  4.50    4.39 |  7.50    4.39 | 10.50    1.46
               1.75    1.83 |  4.75    5.85 |  7.75    4.39 | 10.75    1.46
               2.00    1.83 |  5.00    5.85 |  8.00    4.39 | 11.00    1.46
               2.25    2.19 |  5.25    8.77 |  8.25    2.56 | 11.25    1.46
               2.50    2.19 |  5.50    8.77 |  8.50    2.56 | 11.50    1.46
               2.75    2.19 |  5.75   35.09 |  8.75    2.56 | 11.75    1.46
               3.00    2.19 |  6.00   96.49 |  9.00    2.56 | 12.00    1.46

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--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       136.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.47 (ii)   21.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.26         7.92        16.519 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        42.93          53.63
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.59           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        70.19
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.54 (ii)   27.86 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.99        14.37        22.140 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        34.23          42.71
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.47           0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300     6.6504
                          0.4310     3.5677   |   9.1580     7.5825
                          1.6680     3.8178   |  10.9790     8.5125
                          3.5970     4.8509   |  11.3790     8.5225
                          5.3070     5.7381   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640     22.140      6.00      42.71
     OUTFLOW: ID= 1 (5166)    293.640      7.083      7.00      42.70

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.99
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  6.5871

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1662):   141.06  16.519     6.00    53.63
        + ID2= 2 (5166):   293.64   7.083     7.00    42.70
          ================================================
          ID = 3 (8134):   434.70  16.866     6.00    46.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.48         93.87
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     895.73         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         47.97
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.89 (ii)    26.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.37          5.54          7.850 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         29.27          36.38
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.40           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1641) |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86         33.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     871.36         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         94.31
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.69 (ii)    22.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      12.98          4.17         15.695 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         37.69          55.40
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.52           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.4260      4.5513
                         0.3860     1.9228   |   9.2330      4.9251
                         3.3700     2.2339   |   9.9990      5.2982
                         4.5710     3.3613   |  10.3990      5.3082
                         5.7170     4.0568   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890     15.695      6.00      55.40
     OUTFLOW: ID= 1 (5164)    113.890      4.444      6.75      55.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.31
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.2831

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-------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35   7.850     6.00    36.38
        + ID2= 2 (5164):   113.89   4.444     6.75    55.39
          ================================================
          ID = 3 (8132):   234.24  11.416     6.25    45.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.731
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1481) |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02         32.73
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     641.61         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         11.21
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       9.73 (ii)    35.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.39          0.59          2.631 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10          8.17          18.87
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.11           0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1310      1.6343
                         0.2090     0.7802   |   5.1870      1.8598
                         1.1960     0.9062   |   6.0380      2.0805
                         2.2280     1.1562   |   6.4380      2.0905
                         3.0910     1.3741   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750      2.631      6.00      18.87
     OUTFLOW: ID= 1 (5148)     61.750      0.222      8.50      18.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.43
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7824
```

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--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   1.087 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.349
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.101

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   1.087     7.75     7.35
       + ID2= 2 (5148):    61.75   0.222     8.50    18.86
         ================================================
         ID = 3 (9148):   417.89   1.293     8.00     9.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      32.66        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49         5.54
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       1.63 (ii)   35.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.007 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10         5.38          15.09
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.07           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  16.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0110      0.0042
                         0.0010     0.0020   |   0.0140      0.0049
                         0.0030     0.0023   |   0.0160      0.0054
                         0.0060     0.0030   |   0.4160      0.0154
                         0.0080     0.0036   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1501)     0.160     0.007      6.00      15.09
     OUTFLOW: ID= 1 (5150)     0.160     0.001      7.50      12.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.26

                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0014

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.254 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.510
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.048

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.254     6.75     3.51
       + ID2= 2 (5150):     0.16   0.001     7.50    12.09
         ================================================
         ID = 3 (9150):   105.88   0.255     6.75     3.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   1.293     8.00     9.05
       + ID2= 2 (9150):   105.88   0.255     6.75     3.52
         ================================================
         ID = 3 (8116):   523.77   1.506     7.50     7.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1521.0) ------>
               Distance      Elevation       Manning
                   0.00         290.00        0.0500
                  15.34         286.87        0.0500
                  46.03         284.84        0.0500
                  88.22         283.07        0.0500
                 126.57         282.11        0.0500
                 153.42         280.34        0.0500
                 157.26         280.07        0.0500
                 161.09         279.72        0.0500
                 167.76         278.94    0.0500 /0.0300  Main Channel
                 168.01         278.60        0.0300      Main Channel
                 168.76         278.60        0.0300      Main Channel
                 169.51         278.60        0.0300      Main Channel
                 169.76         278.90    0.0300 /0.0500  Main Channel
                 173.76         279.40        0.0500
                 180.27         279.69        0.0500
                 184.11         279.93        0.0500
                 218.62         281.86        0.0500
                 260.82         283.20        0.0500
                 360.54         289.25        0.0500
                 379.72         289.80        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    278.90    .114E+04        0.4          0.80       45.70
      0.87    279.47    .932E+04        4.2          0.98       37.22
      1.45    280.05    .353E+05       17.5          1.09       33.68
      2.02    280.62    .831E+05       47.8          1.26       29.01
      2.59    281.19    .155E+06      102.9          1.46       25.06
      3.17    281.77    .250E+06      189.3          1.66       22.03
      3.74    282.34    .375E+06      298.5          1.75       20.91
```

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       4.32   282.92    .547E+06     456.5          1.83      19.98
       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     1.51    7.50   7.93      0.47      0.85
     OUTFLOW: ID= 1 (6152)  523.77     1.42    8.50   7.93      0.45      0.84


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-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   1.174     7.00    18.73
       + ID2= 2 (6152):   523.77   1.424     8.50     7.93
         ================================================
         ID = 3 (8122):   648.14   2.498     8.00    10.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   1.724 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  19.897
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.666 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  11.996
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.164

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49         9.37
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       5.82 (ii)   33.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00

     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.99         0.04          2.005 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10         8.91          52.44
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.12           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  31.3     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7460      0.3544
                         0.0380     0.1987   |   0.9370      0.3839
                         0.2160     0.2386   |   1.0900      0.4129
                         0.4020     0.2749   |   1.4900      0.4229
                         0.5580     0.3133   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      2.005      6.00      52.44
     OUTFLOW: ID= 1 (5154)     11.150      0.604      6.25      52.32

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.15
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3306

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   0.882 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.891
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.135

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   0.882     7.25     9.89
       + ID2= 2 (5154):    11.15   0.604     6.25    52.32
         ================================================
         ID = 3 (9154):   200.32   1.319     6.50    12.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.666     6.75    12.00
       + ID2= 2 (9154):   200.32   1.319     6.50    12.25
         ================================================
         ID = 3 (8118):   283.81   1.978     6.50    12.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6158) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

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--------------------
              <------ DATA FOR SECTION (1581.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0400
                 19.20         288.88        0.0400
                 48.00         288.26        0.0400
                119.99         283.68        0.0400
                167.99         282.07        0.0400
                196.79         281.32        0.0400
                210.79         280.90        0.0400
                219.79         280.38    0.0400 /0.0300  Main Channel
                220.04         279.65        0.0300      Main Channel
                220.79         279.65        0.0300      Main Channel
                221.54         279.65        0.0300      Main Channel
                221.79         280.39    0.0300 /0.0400  Main Channel
                225.79         280.59        0.0400
                235.19         280.88        0.0400
                254.39         281.50        0.0400
                273.58         282.56        0.0400
                302.38         283.42        0.0400
                359.98         284.03        0.0400
                436.77         289.37        0.0400
                475.17         290.37        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.37   280.01    .973E+03       0.5         0.86      31.78
      0.73   280.38    .210E+04       1.5         1.18      23.16
      1.30   280.95    .149E+05       8.6         0.95      28.91
      1.86   281.51    .579E+05      40.0         1.13      24.12
      2.43   282.08    .133E+06     118.5         1.46      18.75
      2.99   282.64    .236E+06     254.6         1.77      15.46
      3.56   283.21    .369E+06     450.3         2.00      13.67
      4.13   283.78    .542E+06     702.7         2.13      12.86
      4.69   284.34    .767E+06    1125.2         2.41      11.36
      5.26   284.91    .101E+07    1697.1         2.75       9.93
      5.82   285.47    .127E+07    2379.1         3.07       8.91
      6.39   286.04    .155E+07    3171.4         3.36       8.14
      6.95   286.60    .184E+07    4075.5         3.64       7.53
      7.52   287.17    .215E+07    5093.1         3.89       7.03
      8.09   287.74    .247E+07    6226.5         4.13       6.62
      8.65   288.30    .281E+07    7461.2         4.36       6.28
      9.22   288.87    .318E+07    8635.1         4.46       6.13
      9.78   289.43    .357E+07   10143.6         4.67       5.86
     10.35   290.00    .398E+07   11608.8         4.79       5.71

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8118)  283.81     1.98    6.50  12.18      0.77      1.16
     OUTFLOW: ID= 1 (6158)  283.81     1.83    7.00  12.18      0.76      1.17


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8120) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0158):   178.59   1.724     7.25    19.90
       + ID2= 2 (6158):   283.81   1.833     7.00    12.18
         ==========================================
         ID = 3 (8120):   462.40   3.556     7.25    15.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8124) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8120):   462.40   3.556     7.25    15.16
       + ID2= 2 (8122):   648.14   2.498     8.00    10.00
         ==========================================
         ID = 3 (8124):  1110.54   5.935     7.50    12.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6160) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

```
--------------------
              <------ DATA FOR SECTION (1601.0) ------>
              Distance      Elevation       Manning
                  0.00         261.02        0.0400
                 29.89         254.30        0.0400
                 40.75         252.58        0.0400
                 62.49         251.30        0.0400
                114.11         250.94        0.0400
                130.41         248.58        0.0400
                141.28         247.50        0.0400
                154.86         246.87        0.0400
                155.20         246.70        0.0400
                160.20         246.30    0.0400 /0.0300  Main Channel
                160.30         245.30        0.0300      Main Channel
                165.20         245.30        0.0300      Main Channel
                165.30         246.30    0.0300 /0.0400  Main Channel
                168.45         246.96        0.0400
                195.62         249.20        0.0400
                203.77         250.82        0.0400
                225.50         256.78        0.0400
                244.52         261.14        0.0400
                255.39         261.95        0.0400
                268.97         261.92        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   245.80    .120E+05       2.9         1.18      68.31
      1.00   246.30    .242E+05       8.5         1.70      47.47
      1.92   247.22    .825E+05      31.7         1.86      43.34
      2.84   248.14    .248E+06     102.5         2.00      40.39
      3.76   249.06    .506E+06     247.7         2.37      34.03
      4.68   249.98    .832E+06     486.8         2.83      28.49
      5.60   250.90    .121E+07     814.9         3.27      24.71
      6.52   251.82    .180E+07    1157.1         3.11      25.97
      7.44   252.74    .253E+07    1840.2         3.52      22.92
      8.36   253.66    .331E+07    2727.1         3.98      20.25
      9.29   254.59    .414E+07    3782.6         4.43      18.22
     10.21   255.51    .499E+07    5010.7         4.86      16.61
     11.13   256.43    .589E+07    6397.4         5.26      15.33
     12.05   257.35    .681E+07    7932.8         5.64      14.31
     12.97   258.27    .777E+07    9621.2         5.99      13.46
     13.89   259.19    .877E+07   11469.4         6.33      12.74
     14.81   260.11    .980E+07   13478.4         6.66      12.12
     15.73   261.03    .109E+08   15651.7         6.97      11.58
     16.65   261.95    .120E+08   17492.5         7.07      11.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8124) 1110.54     5.93    7.50  12.15      0.77      1.41
     OUTFLOW: ID= 1 (6160) 1110.54     5.25    8.50  12.15      0.71      1.35


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--------------------
| CALIB            |
| STANDHYD  (1601) |   Area    (ha)=  19.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  69.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.27          4.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     356.18         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         23.32
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.84 (ii)    25.99 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.26          0.22        3.396 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=      71.10         20.50       55.41
     TOTAL RAINFALL   (mm)=      73.10         73.10       73.10
     RUNOFF COEFFICIENT   =       0.97          0.28        0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5160)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	1.2730	0.6034
			0.0640	0.3377	1.5980	0.6540
			0.3690	0.4055	1.8600	0.7037
			0.6870	0.4676	2.2600	0.7137
			0.9520	0.5332	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1601)	19.030	3.396	6.00	55.41
OUTFLOW: ID= 1 (5160)	19.030	1.063	6.25	55.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.31
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.5597

CALIB	NASHYD (1602)	ID= 1 DT=15.0 min

Area (ha)= 299.79 Curve Number (CN)= 60.3
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.42

Unit Hyd Qpeak (cms)= 3.592

PEAK FLOW (cms)= 2.078 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 19.588
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9160)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1602):	299.79	2.078	8.00	19.59
	+ ID2= 2 (5160):	19.03	1.063	6.25	55.35
	ID = 3 (9160):	318.82	2.601	6.75	21.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8126)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6160):	1110.54	5.247	8.50	12.15
	+ ID2= 2 (9160):	318.82	2.601	6.75	21.72
	ID = 3 (8126):	1429.36	7.512	8.50	14.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (1621)	ID= 1 DT=15.0 min

Area (ha)= 46.07
Total Imp(%)= 45.00 Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.73	25.34
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	554.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	over (min)	96.49	44.70
		15.00	30.00
Storage Coeff.	(min)=	8.91 (ii)	23.68 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.09	0.04

		TOTALS
PEAK FLOW	(cms)=	2.15 1.46 3.064 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.00
RUNOFF VOLUME	(mm)=	71.10 20.50 30.62
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.28 0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5162)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	3.0820	1.1997
			0.1560	0.5629	3.8700	1.3716
			0.8930	0.6512	4.5050	1.5398
			1.6620	0.8407	4.9050	1.5498
			2.3060	1.0035	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1621)	46.070	3.064	6.00	30.62
OUTFLOW: ID= 1 (5162)	46.070	1.078	6.75	30.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.20
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.7024

CALIB	STANDHYD (1622)	ID= 1 DT=15.0 min

Area (ha)= 144.07
Total Imp(%)= 26.00 Dir. Conn.(%)= 11.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.46	106.61
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	980.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	over (min)	96.49	19.12
		15.00	45.00
Storage Coeff.	(min)=	12.55 (ii)	33.28 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	3.32 3.34 4.692 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	71.10 17.54 23.43
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.24 0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9162)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1622):	144.07	4.692	6.00	23.43
	+ ID2= 2 (5162):	46.07	1.078	6.75	30.60
	ID = 3 (9162):	190.14	5.198	6.50	25.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8128)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8126):	1429.36	7.512	8.50	14.29
+	ID2= 2 (9162):	190.14	5.198	6.50	25.17
	ID = 3 (8128):	1619.50	9.444	6.50	15.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8128):	1619.50	9.444	6.50	15.56
+	ID2= 2 (8132):	234.24	11.416	6.25	45.62
	ID = 3 (8130):	1853.74	18.970	6.25	19.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6166)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1661.0) ------>

Distance	Elevation	Manning	
0.00	248.36	0.0500	
41.67	246.98	0.0500	
95.82	244.93	0.0500	
149.98	242.42	0.0500	
191.64	241.88	0.0500	
224.97	239.90	0.0500	
229.13	239.35	0.0500	
233.30	237.77	0.0500	
237.47	236.57	0.0500	
240.63	235.60	0.0500 /0.0300	Main Channel
241.63	234.10	0.0300	Main Channel
247.13	234.10	0.0300	Main Channel
247.53	235.60	0.0300 /0.0500	Main Channel
254.13	236.25	0.0500	
266.63	236.77	0.0500	
283.29	237.84	0.0500	
291.63	238.89	0.0500	
329.12	244.66	0.0500	
370.78	249.55	0.0500	
412.44	253.17	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	234.85	.130E+05	6.0	1.36	36.45
1.50	235.60	.276E+05	18.1	1.95	25.41
2.25	236.35	.544E+05	40.0	2.18	22.69
3.00	237.10	.117E+06	80.1	2.04	24.32
3.75	237.85	.213E+06	148.9	2.07	23.89
4.50	238.60	.334E+06	255.1	2.27	21.85
5.25	239.35	.473E+06	395.8	2.49	19.90
6.00	240.10	.631E+06	563.8	2.65	18.66
6.75	240.85	.824E+06	773.2	2.79	17.77
7.50	241.60	.106E+07	1037.9	2.92	16.97
8.26	242.36	.135E+07	1326.7	2.92	16.94
9.01	243.11	.173E+07	1758.5	3.01	16.44
9.76	243.86	.217E+07	2285.9	3.13	15.81
10.51	244.61	.265E+07	2909.5	3.26	15.17
11.26	245.36	.318E+07	3610.1	3.37	14.67
12.01	246.11	.377E+07	4417.4	3.48	14.21
12.76	246.86	.441E+07	5348.0	3.60	13.75
13.51	247.61	.512E+07	6394.0	3.71	13.34
14.26	248.36	.589E+07	7580.3	3.82	12.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8130)	1853.74	18.97	6.25	19.36	1.53	1.96
OUTFLOW: ID= 1 (6166)	1853.74	16.67	6.75	19.36	1.40	1.84

ADD HYD (8136)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6166):	1853.74	16.670	6.75	19.36
+	ID2= 2 (8134):	434.70	16.866	6.00	46.25
	ID = 3 (8136):	2288.44	28.554	6.50	24.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2021)	Area (ha)= 107.32		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 27.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	48.29	59.03	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	845.85	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		96.49	71.50	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.49 (ii)	23.72 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	6.27	5.51	9.806 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	71.10	34.84	44.63
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.48	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5202)						
IN= 2---> OUT= 1						
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000		5.1480	2.8069	
	0.3630	1.2717		6.4200	3.2412	
	1.5670	1.4796		7.4640	3.6910	
	2.7880	1.9296		7.8640	3.7010	
	3.8580	2.3404		0.0000	0.0000	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2021)		107.320	9.806	6.00	44.63
OUTFLOW: ID= 1 (5202)		107.320	3.653	6.75	44.62
PEAK FLOW REDUCTION [Qout/Qin](%)= 37.25					
TIME SHIFT OF PEAK FLOW (min)= 45.00					
MAXIMUM STORAGE USED (ha.m.)= 2.2697					

CALIB			
STANDHYD (2022)	Area (ha)= 361.21		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 36.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	216.73	144.48
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1551.79	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	95.42

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            over (min)       15.00        30.00
     Storage Coeff.  (min)=      16.53 (ii)   27.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      24.32        16.82         35.206 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        38.58         50.29
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.53          0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  35.206     6.00    50.29
       + ID2= 2 (5202):   107.32   3.653     6.75    44.62
         ================================================
         ID = 3 (8110):   468.53  35.549     6.00    48.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        17.28
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.85 (ii)   39.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.57         9.30         11.959 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10        16.21         21.15
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.22          0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   1.955 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  10.287
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   1.955     9.25    10.29
       + ID2= 2 (0102):   466.00  11.959     6.50    21.15
         ================================================
         ID = 3 (8000):  1159.84  13.215     6.50    14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                  0.00         330.16        0.0450
                 50.03         328.36        0.0450
                 89.34         326.33        0.0450
                117.94         324.30        0.0450
                160.82         322.75        0.0450
                178.34         319.96        0.0450
                183.34         319.81        0.0450
                184.34         319.38    0.0450 /0.0300  Main Channel
                185.09         318.78        0.0300      Main Channel
                185.84         318.72        0.0300      Main Channel
                186.84         319.32    0.0300 /0.0450  Main Channel
                193.84         319.70        0.0450
                198.84         320.38        0.0450
                200.13         320.81        0.0450
                218.00         322.49        0.0450
                239.44         323.49        0.0450
                250.17         323.96        0.0450
                275.18         325.20        0.0450
                310.92         326.47        0.0450
                353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   319.02    .624E+03       0.1          0.45      73.00
      0.60   319.32    .181E+04       0.6          0.67      49.46
      1.23   319.95    .128E+05       4.9          0.77      43.38
      1.86   320.58    .396E+05      19.1          0.96      34.50
      2.48   321.20    .757E+05      43.5          1.15      28.98
      3.11   321.83    .125E+06      81.2          1.30      25.58
      3.74   322.46    .187E+06     135.9          1.45      22.92
      4.37   323.09    .269E+06     195.6          1.45      22.90
      5.00   323.72    .387E+06     287.8          1.48      22.44
      5.63   324.35    .545E+06     428.4          1.56      21.22
      6.25   324.97    .735E+06     630.5          1.71      19.42
      6.88   325.60    .952E+06     876.1          1.83      18.12
      7.51   326.23    .120E+07    1177.0          1.95      17.03
      8.14   326.86    .149E+07    1554.4          2.08      15.93
      8.77   327.49    .179E+07    2009.7          2.23      14.88
      9.40   328.12    .213E+07    2533.9          2.37      13.99
     10.02   328.74    .249E+07    3112.6          2.49      13.31
     10.65   329.37    .288E+07    3760.9          2.60      12.75
     11.28   330.00    .330E+07    4494.8          2.71      12.23

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84    13.22    6.50  14.65      1.59      0.87
     OUTFLOW: ID= 1 (6104) 1159.84     9.58    6.75  14.65      1.43      0.82


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| CALIB           |
| STANDHYD  (1041) |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      66.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        11.52
               over (min)        15.00        30.00
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     Storage Coeff.  (min)=       2.51 (ii)   27.90 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.00          0.128 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        10.87          53.01
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.15           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450      0.0213
                         0.0020     0.0120   |   0.0560      0.0231
                         0.0130     0.0144   |   0.0660      0.0248
                         0.0240     0.0165   |   0.4660      0.0348
                         0.0340     0.0189   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)    0.670      0.128      6.00      53.01
     OUTFLOW: ID= 1 (5104)    0.670      0.039      6.25      50.77

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.22
                    TIME SHIFT OF PEAK FLOW        (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0207

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-------------------
| CALIB            |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   2.172 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.227
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.154

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1042):   527.14   2.172     8.00    11.23
       + ID2= 2 (5104):     0.67   0.039     6.25    50.77
         ================================================
         ID = 3 (9104):   527.81   2.182     8.00    11.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6104):  1159.84   9.578     6.75    14.65
       + ID2= 2 (9104):   527.81   2.182     8.00    11.28
         ================================================
         ID = 3 (8002):  1687.65  11.460     7.00    13.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| CALIB            |
| STANDHYD  (1061) |   Area    (ha)=  32.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------

                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         54.02
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.01 (ii)   21.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.95          0.78          4.438 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         24.08          48.06
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.33           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580      0.9744
                         0.1090     0.5252   |   2.7090      1.0694
                         0.6250     0.6260   |   3.1540      1.1625
                         1.1640     0.7386   |   3.5540      1.1725
                         1.6140     0.8505   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)   32.260      4.438      6.00      48.06
     OUTFLOW: ID= 1 (5106)   32.260      1.391      6.50      48.02

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.34
                    TIME SHIFT OF PEAK FLOW        (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8033

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   1.761 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.964
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1062):   227.27   1.761     7.50    17.96
       + ID2= 2 (5106):    32.26   1.391     6.50    48.02
         ================================================
         ID = 3 (9106):   259.53   2.901     6.50    21.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65  11.460     7.00    13.60
       + ID2= 2 (9106):   259.53   2.901     6.50    21.70
         ================================================
         ID = 3 (8004):  1947.18  14.352     6.75    14.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1081.0) ------>
               Distance      Elevation       Manning
                   0.00         326.06        0.0400
                  12.06         325.74        0.0400
                  30.15         324.28        0.0400
                  59.27         320.35        0.0400
                  72.37         317.60        0.0400
                  87.45         314.52        0.0400
                  93.48         313.91        0.0400
                 105.54         313.55        0.0400
                 106.17         313.40    0.0400 /0.0300  Main Channel
                 110.62         313.04        0.0300      Main Channel
                 110.82         312.97        0.0300      Main Channel
                 111.57         313.08        0.0300      Main Channel
                 111.67         313.48    0.0300 /0.0400  Main Channel
                 129.66         316.62        0.0400
                 150.77         318.95        0.0400
                 180.92         319.61        0.0400
                 205.04         321.23        0.0400
                 232.18         322.09        0.0400
                 268.37         322.31        0.0400
                 298.52         326.00        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.43  313.40    .244E+04        0.7        0.59      58.83
        1.09  314.06    .214E+05       10.4        1.01      34.24
        1.76  314.73    .600E+05       40.2        1.39      24.89
        2.42  315.39    .109E+06       92.1        1.75      19.80
        3.08  316.05    .169E+06      166.5        2.05      16.88
        3.75  316.72    .237E+06      264.4        2.31      14.97
        4.41  317.38    .318E+06      386.3        2.52      13.72
        5.07  318.04    .411E+06      539.3        2.72      12.71
        5.74  318.71    .517E+06      725.5        2.91      11.88
        6.40  319.37    .642E+06      909.2        2.94      11.77
        7.06  320.03    .806E+06     1179.3        3.04      11.38
        7.72  320.69    .989E+06     1515.9        3.18      10.87
        8.39  321.36    .119E+07     1895.5        3.30      10.49
        9.05  322.02    .143E+07     2310.2        3.36      10.30
        9.71  322.68    .172E+07     2763.2        3.33      10.39
       10.38  323.35    .205E+07     3477.6        3.53       9.81
       11.04  324.01    .238E+07     4284.3        3.73       9.27
       11.70  324.67    .274E+07     5154.0        3.91       8.85
       12.37  325.34    .311E+07     6104.0        4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8004) 1947.18    14.35    6.75  14.68      1.18      1.05
     OUTFLOW: ID= 1 (6108) 1947.18    12.88    7.50  14.68      1.15      1.03


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--------------------
| CALIB            |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.61        10.20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     521.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49         8.94
               over (min)        15.00        45.00

     Storage Coeff.  (min)=       8.60 (ii)   36.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.74         0.14          6.799 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10         8.51          52.32
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.12           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  30.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7300      1.2970
                          0.1380     0.7271   |   3.4270      1.4050
                          0.7910     0.8733   |   3.9900      1.5110
                          1.4720     1.0061   |   4.3900      1.5210
                          2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1081)     40.810     6.799      6.00      52.32
     OUTFLOW: ID= 1 (5108)     40.810     2.090      6.25      52.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.73
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1595

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.621 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   7.599
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.621     7.25     7.60
       + ID2= 2 (5108):    40.81   2.090     6.25    52.29
         ================================================
         ID = 3 (9108):   207.05   2.569     6.25    16.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18  12.880     7.50    14.68
       + ID2= 2 (9108):   207.05   2.569     6.25    16.41
         ================================================
         ID = 3 (8006):  2154.23  14.415     7.25    14.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1101) |   Area    (ha)=  60.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07         18.90
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     637.55         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         46.68
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.70 (ii)    24.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.66          1.13          8.361 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         21.40         48.74
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.29          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.0780      1.8615
                         0.2060     1.0120   |   5.1210      2.0372
                         1.1810     1.2083   |   5.9610      2.2096
                         2.2000     1.4181   |   6.3610      2.2196
                         3.0510     1.6293   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970      8.361      6.00      48.74
     OUTFLOW: ID= 1 (5110)     60.970      2.671      6.50      48.72

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.95
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5507

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   1.692 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.894
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.231

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1102):   262.95   1.692     8.00    16.89
       + ID2= 2 (5110):    60.97   2.671     6.50    48.72
         ================================================
         ID = 3 (9110):   323.92   4.015     6.50    22.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8006):  2154.23  14.415     7.25    14.84
       + ID2= 2 (9110):   323.92   4.015     6.50    22.88
         ================================================
         ID = 3 (8008):  2478.15  17.644     7.25    15.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                   0.00         320.59        0.0400
                  13.48         317.93        0.0400
                  40.45         311.52        0.0400
                  64.04         307.68        0.0400
                  74.15         307.01        0.0400
                  91.00         307.22        0.0400
                 107.86         305.21        0.0400
                 111.23         304.86        0.0400
                 113.32         304.60    0.0400 /0.0300  Main Channel
                 117.77         304.24        0.0300      Main Channel
                 117.97         304.17        0.0300      Main Channel
                 118.72         304.28        0.0300      Main Channel
                 118.82         304.68    0.0300 /0.0400  Main Channel
                 124.71         304.76        0.0400
                 171.90         306.30        0.0400
                 205.60         307.24        0.0400
                 239.31         308.24        0.0400
                 262.90         310.64        0.0400
                 289.86         314.34        0.0400
                 333.68         317.66        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43    304.60    .372E+04       0.6         0.54      97.65
      1.12    305.29    .463E+05      12.5         0.85      61.89
      1.80    305.97    .149E+06      53.0         1.13      46.85
      2.49    306.66    .311E+06     134.2         1.37      38.62
      3.18    307.35    .554E+06     261.6         1.50      35.27
      3.87    308.04    .894E+06     490.7         1.74      30.37
      4.55    308.72    .129E+07     833.0         2.05      25.75
      5.24    309.41    .171E+07    1269.8         2.36      22.39
      5.93    310.10    .215E+07    1789.0         2.64      20.01
      6.62    310.79    .261E+07    2392.7         2.90      18.21
      7.30    311.47    .310E+07    3087.8         3.16      16.74
      7.99    312.16    .361E+07    3873.6         3.40      15.52
      8.68    312.85    .413E+07    4741.0         3.64      14.52
      9.37    313.54    .467E+07    5689.3         3.86      13.69
     10.05    314.22    .523E+07    6718.4         4.07      12.97
     10.74    314.91    .581E+07    7770.7         4.24      12.46
     11.43    315.60    .641E+07    8897.5         4.40      12.01
     12.12    316.29    .704E+07   10113.2         4.55      11.61
     12.80    316.97    .770E+07   11420.1         4.70      11.24

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15    17.64    7.25  15.89      1.21      0.88
     OUTFLOW: ID= 1 (6112) 2478.15    14.59    8.25  15.89      1.15      0.86

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-------------------
| CALIB             |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48          4.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     257.68         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         14.85
               over (min)        15.00         30.00
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```
     Storage Coeff.  (min)=       5.63 (ii)   28.57 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.64         0.13          0.715 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        10.10          25.35
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.14           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660      0.2787
                         0.0340     0.1406   |   0.8360      0.3122
                         0.1930     0.1653   |   0.9740      0.3450
                         0.3590     0.2034   |   1.3740      0.3550
                         0.4980     0.2383   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)    9.960     0.715      6.00      25.35
     OUTFLOW: ID= 1 (5112)    9.960     0.112      6.75      25.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.60
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1531

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1122)  |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   0.823 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.323
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1122):   404.93   0.823     9.25     7.32
       + ID2= 2 (5112):     9.96   0.112     6.75    25.25
         ================================================
         ID = 3 (9112):   414.89   0.866     8.50     7.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6112):  2478.15  14.592     8.25    15.89
       + ID2= 2 (9112):   414.89   0.866     8.50     7.75
         ================================================
         ID = 3 (8010):  2893.04  15.458     8.25    14.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (1141.0) ------>
                Distance      Elevation       Manning
                    0.00         312.27        0.0500
                   14.07         309.70        0.0500
                   28.14         306.51        0.0500
                   35.17         305.81        0.0500
                   42.20         304.95        0.0500
                   52.75         304.24        0.0500
                   77.37         303.61        0.0500
                   98.47         301.33        0.0500
                  131.76         300.40    0.0500 /0.0300  Main Channel
                  136.21         300.04        0.0300      Main Channel
                  136.41         299.97        0.0300      Main Channel
                  137.16         300.08        0.0300      Main Channel
                  137.26         300.48    0.0300 /0.0500  Main Channel
                  140.68         300.53        0.0500
                  179.36         302.20        0.0500
                  214.53         303.82        0.0500
                  242.66         305.27        0.0500
                  288.38         307.66        0.0500
                  316.52         311.76        0.0500
                  348.17         313.48        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43    300.40   .366E+04        0.7          0.59      88.31
      1.05    301.02   .505E+05       12.1          0.75      69.49
      1.68    301.65   .165E+06       52.7          0.99      52.28
      2.30    302.27   .324E+06      130.3          1.26      41.40
      2.93    302.90   .520E+06      247.1          1.48      35.08
      3.55    303.52   .754E+06      406.8          1.68      30.91
      4.18    304.15   .104E+07      586.1          1.76      29.55
      4.80    304.77   .138E+07      856.0          1.93      26.96
      5.43    305.40   .177E+07     1201.1          2.12      24.56
      6.05    306.02   .219E+07     1612.2          2.30      22.63
      6.68    306.65   .264E+07     2090.6          2.47      21.07
      7.30    307.27   .313E+07     2653.0          2.64      19.65
      7.93    307.90   .364E+07     3303.9          2.83      18.36
      8.55    308.52   .417E+07     4053.9          3.03      17.14
      9.18    309.15   .471E+07     4871.9          3.22      16.12
      9.80    309.77   .527E+07     5756.2          3.41      15.25
     10.43    310.40   .584E+07     6699.8          3.58      14.52
     11.05    311.02   .642E+07     7710.5          3.74      13.89
     11.68    311.65   .702E+07     8788.5          3.90      13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04    15.46    8.25  14.73      1.11      0.76
     OUTFLOW: ID= 1 (6114) 2893.04    13.35    9.50  14.73      1.07      0.75

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| CALIB             |
| STANDHYD  (1141)  |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.75         10.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     360.09         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         24.03
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.88 (ii)   25.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.72          0.52          1.044 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         17.17          25.26
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.23           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 43.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5114)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.3010	0.5065
	0.0660	0.2376	1.6340	0.5791
	0.3770	0.2749	1.9020	0.6501
	0.7020	0.3549	2.3020	0.6601
	0.9730	0.4237	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1141)	19.450	1.044	6.00	25.26
OUTFLOW: ID= 1 (5114)	19.450	0.292	7.00	25.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.00
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.2665

CALIB			
NASHYD (1142)	Area (ha)= 268.19	Curve Number (CN)= 51.3	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.09		

Unit Hyd Qpeak (cms)= 4.197

PEAK FLOW (cms)= 1.708 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 14.863
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.203

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9114)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1142):	268.19	1.708	7.50	14.86
+ ID2= 2 (5114):	19.45	0.292	7.00	25.22
ID = 3 (9114):	287.64	1.951	7.00	15.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8012)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6114):	2893.04	13.354	9.50	14.73
+ ID2= 2 (9114):	287.64	1.951	7.00	15.56
ID = 3 (8012):	3180.68	14.834	9.50	14.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0116)	Area (ha)= 206.43	Curve Number (CN)= 64.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.80		

Unit Hyd Qpeak (cms)= 4.394

PEAK FLOW (cms)= 2.488 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 21.671
TOTAL RAINFALL (mm)= 73.100

RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8014)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0116):	206.43	2.488	7.00	21.67
+ ID2= 2 (8012):	3180.68	14.834	9.50	14.80
ID = 3 (8014):	3387.11	16.440	9.25	15.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6118) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1181.0) ------>

Distance	Elevation	Manning	
0.00	307.18	0.0450	
24.89	299.75	0.0450	
37.34	296.39	0.0450	
71.57	292.75	0.0450	
96.46	291.12	0.0450	
108.90	289.43	0.0450	
112.02	288.86	0.0450	
115.13	288.46	0.0450	
117.24	288.32	0.0450 /0.0350	Main Channel
117.49	288.15	0.0350	Main Channel
118.24	288.00	0.0350	Main Channel
118.99	288.20	0.0350	Main Channel
119.24	288.36	0.0350 /0.0450	Main Channel
121.35	288.40	0.0450	
149.35	289.36	0.0450	
171.14	290.47	0.0450	
208.47	293.14	0.0450	
236.48	295.17	0.0450	
280.04	299.48	0.0450	
308.04	307.00	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	288.32	.116E+04	0.2	0.62	81.92
1.30	289.30	.631E+05	22.2	1.07	47.43
2.29	290.29	.218E+06	117.5	1.64	30.95
3.27	291.27	.448E+06	314.6	2.15	23.72
4.25	292.25	.756E+06	625.6	2.53	20.13
5.24	293.24	.115E+07	1093.2	2.91	17.50
6.22	294.22	.161E+07	1731.6	3.28	15.50
7.20	295.20	.214E+07	2547.4	3.63	14.01
8.19	296.19	.274E+07	3584.9	4.00	12.72
9.17	297.17	.338E+07	4859.1	4.39	11.60
10.15	298.15	.407E+07	6341.5	4.76	10.70
11.13	299.13	.480E+07	8024.6	5.11	9.97
12.12	300.12	.556E+07	10006.6	5.49	9.27
13.10	301.10	.635E+07	12244.6	5.89	8.64
14.08	302.08	.716E+07	14681.7	6.26	8.13
15.07	303.07	.799E+07	17316.5	6.62	7.69
16.05	304.05	.884E+07	20148.1	6.96	7.31
17.03	305.03	.971E+07	23176.2	7.29	6.98
18.02	306.02	.106E+08	26400.8	7.61	6.69

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (8014)	3387.11	16.44	9.25	15.22	1.05	0.90
OUTFLOW: ID= 1 (6118)	3387.11	15.44	10.25	15.22	1.00	0.88

CALIB			
NASHYD (0118)	Area (ha)= 340.53	Curve Number (CN)= 45.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 5.200

```
     PEAK FLOW       (cms)=   1.732 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  12.145
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   1.732     7.75    12.15
       + ID2= 2 (6118):  3387.11  15.443    10.25    15.22
         ================================================
         ID = 3 (8016):  3727.64  16.791    10.00    14.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.50   259.80    .626E+04        2.5         1.23      41.35
        1.41   260.71    .462E+05       21.8         1.44      35.27
        2.31   261.61    .149E+06       79.6         1.63      31.19
        3.22   262.52    .340E+06      200.1         1.80      28.34
        4.12   263.42    .636E+06      446.8         2.15      23.71
        5.03   264.33    .995E+06      819.9         2.52      20.23
        5.93   265.23    .141E+07     1337.0         2.90      17.56
        6.84   266.14    .187E+07     1984.8         3.25      15.67
        7.74   267.04    .237E+07     2766.0         3.57      14.26
        8.65   267.95    .292E+07     3596.9         3.76      13.53
        9.55   268.85    .355E+07     4575.4         3.93      12.95
       10.46   269.76    .427E+07     5814.9         4.16      12.23
       11.36   270.66    .503E+07     7319.0         4.44      11.46
       12.27   271.57    .584E+07     9009.7         4.71      10.81
       13.17   272.47    .670E+07    10886.3         4.96      10.26
       14.08   273.38    .761E+07    12893.2         5.17       9.84
       14.98   274.28    .858E+07    15098.1         5.37       9.48
       15.89   275.19    .961E+07    17527.6         5.57       9.14
       16.79   276.09    .107E+08    20190.3         5.76       8.83

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    16.79   10.00  14.94      1.17      1.38
     OUTFLOW: ID= 1 (6122) 3727.64    16.29   10.75  14.94      1.14      1.37


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-------------------
| CALIB             |
| STANDHYD  (1221) |   Area    (ha)= 117.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88         66.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     886.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         17.82
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.82 (ii)    33.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.04          1.94          4.834 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         13.31         22.56
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.18          0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8880      3.0390
                          0.3990     1.4100   |   9.9040      3.4850
                          2.2850     1.6269   |  11.5290      3.9214
                          4.2550     2.1164   |  11.9290      3.9314
                          5.9010     2.5338   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      4.834      6.00      22.56
     OUTFLOW: ID= 1 (5122)    117.910      1.275      7.25      22.55

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.37
                TIME SHIFT OF PEAK FLOW        (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.5135

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-------------------
| CALIB             |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   1.196 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.670
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8018) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   246.95   1.196     7.75    11.67
       + ID2= 2 (5122):   117.91   1.275     7.25    22.55
         ================================================
         ID = 3 (8018):   364.86   2.453     7.25    15.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  16.289    10.75    14.94
       + ID2= 2 (8018):   364.86   2.453     7.25    15.19
         ================================================
         ID = 3 (8020):  4092.50  17.517    10.50    14.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      18.07        32.12
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     578.45        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      96.49        16.08
              over (min)        15.00        45.00
    Storage Coeff.  (min)=       9.15 (ii)   31.36 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       3.03         0.87          3.386 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50          6.00
    RUNOFF VOLUME    (mm)=      71.10        15.47         29.93
    TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
    RUNOFF COEFFICIENT   =       0.97         0.21          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  48.1    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   3.3570     1.2179
                         0.1700     0.5264   |   4.2160     1.4221
                         0.9720     0.5968   |   4.9080     1.6217
                         1.8110     0.8165   |   5.3080     1.6317
                         2.5120     0.9954   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1261)     50.190      3.386      6.00      29.93
    OUTFLOW: ID= 1 (5126)     50.190      1.173      6.75      29.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.63
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6586

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

    Unit Hyd Qpeak  (cms)=   2.509

    PEAK FLOW       (cms)=   1.075 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  17.806
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.244

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| ADD HYD   (8024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   1.075     6.50    17.81
       + ID2= 2 (5126):    50.19   1.173     6.75    29.92
         ================================================
         ID = 3 (8024):   133.52   2.241     6.75    22.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.51

    Unit Hyd Qpeak  (cms)=   4.049

    PEAK FLOW       (cms)=   1.047 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  11.142
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.152

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   1.047     6.50    11.14
       + ID2= 2 (8024):   133.52   2.241     6.75    22.36
         ================================================
         ID = 3 (8026):   254.95   3.280     6.50    17.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (1281.0) ------>
              Distance      Elevation       Manning
                 0.00         270.58        0.0400
                 7.71         270.36        0.0400
                15.43         269.48        0.0400
                23.14         265.88        0.0400
                42.43         261.83        0.0400
                61.71         258.31        0.0400
                75.21         256.62        0.0400
                90.64         255.35        0.0400
                92.49         255.00    0.0400 /0.0300  Main Channel
                93.49         254.00        0.0300      Main Channel
                94.49         253.90        0.0300      Main Channel
                94.99         253.80        0.0300      Main Channel
                95.49         253.70        0.0300      Main Channel
                95.99         253.80        0.0300      Main Channel
                98.49         255.00    0.0300 /0.0400  Main Channel
               100.28         255.44        0.0400
               134.99         257.45        0.0400
               148.49         259.67        0.0400
               167.77         263.42        0.0400
               190.92         270.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.65    254.35    .439E+04       2.0         1.24       36.10
      1.30    255.00    .131E+05       9.4         1.92       23.39
      2.18    255.88    .433E+05      37.0         2.30       19.54
      3.06    256.76    .131E+06     113.3         2.34       19.20
      3.95    257.65    .273E+06     273.8         2.70       16.64
      4.83    258.53    .453E+06     538.5         3.21       14.01
      5.71    259.41    .658E+06     902.9         3.70       12.14
      6.59    260.29    .886E+06    1368.4         4.16       10.79
      7.48    261.18    .114E+07    1936.3         4.59        9.79
      8.36    262.06    .141E+07    2610.9         4.99        9.01
      9.24    262.94    .171E+07    3398.7         5.37        8.36
     10.12    263.82    .202E+07    4309.6         5.75        7.81
     11.01    264.71    .235E+07    5347.5         6.13        7.33
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      11.89   265.59    .270E+07    6501.0          6.48       6.93
      12.77   266.47    .307E+07    7808.6          6.86       6.55
      13.65   267.35    .345E+07    9250.5          7.23       6.21
      14.54   268.24    .384E+07   10808.3          7.59       5.92
      15.42   269.12    .424E+07   12482.5          7.94       5.66
      16.30   270.00    .466E+07   14127.4          8.18       5.49

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8026)  254.95    3.28    6.50  17.02      0.76      1.32
    OUTFLOW: ID= 1 (6128)  254.95    2.76    7.25  17.02      0.72      1.29


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      27.93        27.93
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     610.30        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      96.49        46.60
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       9.44 (ii)   23.96 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
    PEAK FLOW       (cms)=       3.73         1.67          4.770 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25          6.00
    RUNOFF VOLUME    (mm)=      71.10        21.81         36.11
    TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
    RUNOFF COEFFICIENT   =       0.97         0.30          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  54.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7380      1.5139
                         0.1890     0.7401   |   4.6930      1.7113
                         1.0830     0.8643   |   5.4630      1.9045
                         2.0160     1.0853   |   5.8630      1.9045
                         2.7960     1.2819   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1281)     55.870      4.770      6.00      36.11
    OUTFLOW: ID= 1 (5128)     55.870      1.564      6.75      36.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.78
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9932

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

    Unit Hyd Qpeak  (cms)=   5.093

    PEAK FLOW       (cms)=   2.546 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  20.293
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.278

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (9128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1282):   184.36   2.546     6.75    20.29
      + ID2= 2 (5128):    55.87   1.564     6.75    36.09
        ================================================
        ID = 3 (9128):   240.23   4.110     6.75    23.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6128):   254.95   2.765     7.25    17.02
      + ID2= 2 (9128):   240.23   4.110     6.75    23.97
        ================================================
        ID = 3 (8028):   495.18   6.556     7.00    20.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8020):  4092.50  17.517    10.50    14.96
      + ID2= 2 (8028):   495.18   6.556     7.00    20.39
        ================================================
        ID = 3 (8022):  4587.68  19.611    10.25    15.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      79.36        96.99
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=    1084.28        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      96.49        23.17
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      13.33 (ii)   32.53 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.08         0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=       7.95         3.72          9.486 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50          6.00
    RUNOFF VOLUME    (mm)=      71.10        17.99         29.67
    TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
    RUNOFF COEFFICIENT   =       0.97         0.25          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  47.3    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.7960      4.5929
                         0.5970     2.1554   |  14.8120      5.2509
                         3.4170     2.4937   |  17.2430      5.8948
                         6.3630     3.2187   |  17.6430      5.9048
                         8.8260     3.8422   |   0.0000      0.0000
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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)    176.350      9.486      6.00      29.67
     OUTFLOW: ID= 1 (5120)    176.350      3.584      6.75      29.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.78
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.5555

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--------------------
| CALIB            |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39        40.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     686.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        22.72
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.13 (ii)   29.49 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.19         1.73          4.244 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        17.83         28.49
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.24          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):    70.67   4.244     6.00     28.49
       + ID2= 2 (5120):   176.35   3.584     6.75     29.67
         ==================================================
         ID = 3 (8030):   247.02   4.950     6.75     29.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8022):  4587.68  19.611    10.25     15.55
       + ID2= 2 (8030):   247.02   4.950     6.75     29.33
         ==================================================
         ID = 3 (8032):  4834.70  20.540    10.25     16.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                   0.00         257.18        0.0350
                  62.45         254.70        0.0350
                 109.29         252.74        0.0350
                 150.92         251.55        0.0350
                 192.56         248.96        0.0350
                 239.39         247.16        0.0350
                 291.84         246.00        0.0350
                 296.84         245.00        0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60        0.0300      Main Channel
                 301.84         244.60        0.0300      Main Channel
                 303.44         244.60        0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00        0.0350
                 309.84         246.00        0.0350
                 317.46         247.22        0.0350
                 348.68         254.83        0.0350
                 359.09         256.70        0.0350
                 452.76         258.23        0.0350
                 515.22         258.33        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.40    245.00    .870E+04        1.2          0.64       124.12
       1.04    245.64    .468E+05        9.5          0.96        81.81
       1.68    246.28    .109E+06       25.6          1.11        70.86
       2.32    246.92    .257E+06       63.5          1.17        67.51
       2.96    247.56    .498E+06      142.7          1.36        58.18
       3.61    248.21    .800E+06      266.7          1.58        50.01
       4.25    248.85    .116E+07      437.4          1.78        44.24
       4.89    249.49    .157E+07      669.1          2.01        39.20
       5.53    250.13    .203E+07      954.9          2.23        35.36
       6.17    250.77    .252E+07     1294.4          2.43        32.42
       6.81    251.41    .305E+07     1689.6          2.62        30.07
       7.45    252.05    .363E+07     2090.7          2.73        28.93
       8.09    252.69    .429E+07     2553.1          2.82        27.98
       8.73    253.33    .501E+07     3138.4          2.96        26.60
       9.37    253.97    .579E+07     3803.8          3.11        25.36
      10.02    254.62    .662E+07     4549.3          3.25        24.25
      10.66    255.26    .751E+07     5364.9          3.38        23.32
      11.30    255.90    .845E+07     6265.7          3.51        22.49
      11.94    256.54    .946E+07     7260.1          3.63        21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70    20.54   10.25  16.25      1.48      1.06
     OUTFLOW: ID= 1 (6130) 4834.70    19.27   11.25  16.25      1.43      1.05

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--------------------
| CALIB            |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93       115.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1461.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        87.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.95 (ii)   27.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      28.61        12.38         36.611 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        38.47         53.81
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.53          0.74

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  18.6040      9.7083
```

```
                      1.1320     5.3237   |  22.6740     10.8355
                      6.6360     6.1006   |  30.4650     12.2155
                     10.3780     7.2341   |  31.8650     12.2255
                     14.1960     8.4233   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1301)    320.200     36.611      6.00      53.81
    OUTFLOW: ID= 1 (5130)    320.200     13.954      6.75      53.80

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.11
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  8.4490

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--------------------
| CALIB            |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   1.474 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  34.623
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.474

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8036) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1302):    65.86   1.474     6.75    34.62
        + ID2= 2 (5130):   320.20  13.954     6.75    53.80
          ================================================
          ID = 3 (8036):   386.06  15.428     6.75    50.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8034) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6130):  4834.70  19.265    11.25    16.25
        + ID2= 2 (8036):   386.06  15.428     6.75    50.53
          ================================================
          ID = 3 (8034):  5220.76  22.423     7.25    18.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        48.62
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.03 (ii)   19.31 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.48         0.23     0.625 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25      6.00
     RUNOFF VOLUME    (mm)=      71.10        21.72     35.05
     TOTAL RAINFALL   (mm)=      73.10        73.10     73.10
     RUNOFF COEFFICIENT   =       0.97         0.30      0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4580     0.1865
                          0.0230     0.0917   |   0.5750     0.2106
                          0.1330     0.1071   |   0.6700     0.2341
                          0.2470     0.1341   |   1.0700     0.2441
                          0.3430     0.1582   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)     6.850     0.625      6.00      35.05
     OUTFLOW: ID= 1 (5186)     6.850     0.186      6.50      34.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.82
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1212

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32       196.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1516.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        24.87
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.31 (ii)   34.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      14.93         7.79     18.164 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50      6.00
     RUNOFF VOLUME    (mm)=      71.10        20.11     31.84
     TOTAL RAINFALL   (mm)=      73.10        73.10     73.10
     RUNOFF COEFFICIENT   =       0.97         0.28      0.44


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1862):   344.94  18.164     6.00    31.84
        + ID2= 2 (5186):     6.85   0.186     6.50    34.90
          ================================================
          ID = 3 (9186):   351.79  18.183     6.00    31.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      86.41        40.00
     Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      96.49       109.30
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       2.92 (ii)   13.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.06         0.200 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00         6.00
     RUNOFF VOLUME    (mm)=      71.10        33.15        50.60
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.45         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750      0.0357
                          0.0040     0.0200   |   0.0940      0.0386
                          0.0220     0.0240   |   0.1100      0.0416
                          0.0410     0.0277   |   0.5100      0.0516
                          0.0560     0.0315   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)     1.120     0.200      6.00       50.60
     OUTFLOW: ID= 1 (5188)     1.120     0.054      6.25       49.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.76
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0311

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--------------------
| CALIB            |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.04       181.37
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1431.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.71
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      15.75 (ii)   30.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      14.69         8.45        18.232 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      71.10        23.25        35.21
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.32         0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1882):   307.41  18.232     6.00    35.21
       + ID2= 2 (5188):     1.12   0.054     6.25    49.48
         ================================================
         ID = 3 (9188):   308.53  18.249     6.00    35.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9186):   351.79  18.183     6.00    31.90
       + ID2= 2 (9188):   308.53  18.249     6.00    35.27
         ================================================
         ID = 3 (8068):   660.32  36.432     6.00    33.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        25.60
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      11.63 (ii)   30.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.10         2.95         5.324 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      71.10        20.20        28.86
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.28         0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7800      2.5656
                          0.3790     1.0207   |   7.3720      3.0829
                          1.6240     1.1939   |   8.7710      3.5956
                          3.0930     1.6631   |   9.1710      3.6056
                          4.3530     2.1032   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800     5.324      6.00       28.86
     OUTFLOW: ID= 1 (5182)    111.800     2.297      7.00       28.85

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.14
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4169

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.437 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.596
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     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.437     7.00    17.60
       + ID2= 2 (5182):   111.80   2.297     7.00    28.85
         ================================================
         ID = 3 (8062):   156.20   2.734     7.00    25.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1841) |   Area    (ha)= 145.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.63         75.44
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     983.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         57.93
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.57 (ii)    25.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.77          5.42          9.164 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         24.60         33.44
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.34          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.9270     2.3472
                          0.2980     1.0088   |   7.4630     2.7585
                          1.6660     1.1775   |   8.7490     3.1642
                          3.1100     1.4809   |   9.1490     3.1742
                          4.4100     1.8897   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    145.070     9.164      6.00      33.44
     OUTFLOW: ID= 1 (5184)    145.070     4.432      6.75      33.43

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.36
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.9293

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--------------------
| CALIB            |
| STANDHYD  (1842) |   Area    (ha)= 117.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.33         68.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     884.87         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         49.90
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.80 (ii)    25.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.28          4.21          6.897 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         23.11         31.27
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.32          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   117.45   6.897     6.00    31.27
       + ID2= 2 (5184):   145.07   4.432     6.75    33.43
         ================================================
         ID = 3 (8060):   262.52   9.572     6.25    32.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.52   9.572     6.25    32.46
       + ID2= 2 (8062):   156.20   2.734     7.00    25.65
         ================================================
         ID = 3 (8064):   418.72  10.794     6.50    29.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1781) |   Area    (ha)=  55.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.65         33.86
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     608.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         81.70
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.43 (ii)    21.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.66          3.82          4.373 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10         37.01         41.44
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.51          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  74.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.1870      0.7248
                          0.1880     0.3394   |   9.3670      0.8313
                          1.7260     0.4003   |  10.7440      0.9285
                          3.2000     0.4933   |  11.1440      0.9385
                          4.6710     0.6039   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     55.500      4.373      6.25      41.44
     OUTFLOW: ID= 1 (5178)     55.500      3.784      6.25      41.43

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.54
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5637

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--------------------
| CALIB            |
| NASHYD    (1782) |   Area    (ha)= 219.91   Curve Number   (CN)= 77.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   4.921

     PEAK FLOW       (cms)=   4.212 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  32.294
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1782):   219.91   4.212     7.00    32.29
        + ID2= 2 (5178):    55.50   3.784     6.25    41.43
          ================================================
          ID = 3 (8046):   275.41   7.727     6.50    34.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0180) |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   2.096 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  22.455
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0180):   226.65   2.096     7.75    22.45
        + ID2= 2 (8046):   275.41   7.727     6.50    34.14
          ================================================
          ID = 3 (8050):   502.06   9.487     6.50    28.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1741) |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.70         36.60
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         50.36
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.47 (ii)    23.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=       2.33          2.40           3.833 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         26.21          34.29
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.36           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1370      1.3070
                          0.0580     0.5427   |   1.4280      1.5354
                          0.3290     0.6196   |   1.6620      1.7593
                          0.6130     0.8627   |   2.0620      1.7693
                          0.8510     1.0621   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300      3.833      6.00      34.29
     OUTFLOW: ID= 1 (5174)     56.300      0.866      7.25      34.25

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.58
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.0796

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1742) |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.397 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.508
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.363

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1742):    82.80   1.397     6.75    26.51
        + ID2= 2 (5174):    56.30   0.866     7.25    34.25
          ================================================
          ID = 3 (8044):   139.10   2.246     7.00    29.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   3.482 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  32.785
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.448

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   2.144 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  15.089
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.075 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.317
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   2.144     7.00    15.09
       + ID2= 2 (0170):   166.91   2.075     7.00    22.32
         ================================================
         ID = 3 (8040):   414.04   4.218     7.00    18.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   3.482     7.00    32.79
       + ID2= 2 (8040):   414.04   4.218     7.00    18.00
         ================================================
         ID = 3 (8042):   616.27   7.700     7.00    22.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1741.0) ------>
```

Distance	Elevation	Manning		
0.00	296.00	0.0450		
13.36	288.94	0.0450		
26.71	288.64	0.0450		
51.19	287.96	0.0450		
73.45	287.32	0.0450		
86.81	286.48	0.0450		
102.39	285.08	0.0450		
110.73	282.76	0.0450		
115.73	281.06	0.0450 /0.0350	Main Channel	
115.74	280.35	0.0350	Main Channel	
120.73	280.35	0.0350	Main Channel	
120.74	281.10	0.0350 /0.0450	Main Channel	
125.74	282.64	0.0450		
135.78	286.87	0.0450		
149.13	289.58	0.0450		
162.49	292.29	0.0450		
175.84	293.95	0.0450		
195.88	295.13	0.0450		
213.68	296.02	0.0450		
220.36	296.09	0.0450		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	281.06	.136E+05	6.0	1.69	37.89
1.50	281.85	.358E+05	22.5	2.42	26.43
2.28	282.63	.726E+05	53.8	2.85	22.47
3.07	283.42	.124E+06	104.1	3.24	19.79
3.86	284.21	.189E+06	176.7	3.60	17.81
4.64	284.99	.268E+06	274.9	3.94	16.26
5.43	285.78	.369E+06	390.8	4.07	15.73
6.21	286.56	.501E+06	551.6	4.23	15.15
7.00	287.35	.674E+06	750.5	4.28	14.97
7.79	288.14	.920E+06	993.3	4.15	15.44
8.57	288.92	.126E+07	1361.5	4.14	15.47
9.36	289.71	.167E+07	1986.0	4.56	14.04
10.15	290.50	.210E+07	2739.7	5.02	12.76
10.93	291.28	.254E+07	3615.0	5.47	11.70
11.72	292.07	.300E+07	4608.8	5.91	10.83
12.50	292.85	.347E+07	5693.3	6.30	10.16
13.29	293.64	.397E+07	6892.9	6.67	9.60
14.08	294.43	.450E+07	8150.4	6.97	9.19
14.86	295.21	.506E+07	9525.0	7.23	8.86

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8042)	616.27	7.70	7.00	22.85	0.79	1.74
OUTFLOW:	ID= 1 (6174)	616.27	7.05	7.75	22.85	0.76	1.72

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--------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   7.054     7.75    22.85
       + ID2= 2 (8044):   139.10   2.246     7.00    29.64
         ================================================
         ID = 3 (8048):   755.37   9.077     7.75    24.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37   9.077     7.75    24.10
       + ID2= 2 (8050):   502.06   9.487     6.50    28.86
         ================================================
         ID = 3 (8052):  1257.43  16.293     7.00    26.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
         ID1= 1 (8052):  1257.43  16.293     7.00    26.00
       + ID2= 2 (8064):   418.72  10.794     6.50    29.92
         ================================================
         ID = 3 (8058):  1676.15  26.528     6.50    26.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        24.46
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.00 (ii)   31.79 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.69         4.89          5.848 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      71.10        22.04          27.43
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.30           0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        64.60
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.07 (ii)   21.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.38         2.13          3.733 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        26.93          36.20
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.37           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640      1.3175
                         0.1650     0.6418   |   4.0090      1.4908
                         0.9450     0.7489   |   4.7720      1.6604
                         1.7610     0.9426   |   5.1720      1.6704
                         2.4420     1.1144   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      3.733      6.00       36.20
     OUTFLOW: ID= 1 (5176)     48.800      1.394      6.75       36.18

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.36
                TIME SHIFT OF PEAK FLOW       (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8625

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--------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00   5.848     6.50    27.43
       + ID2= 2 (5176):    48.80   1.394     6.75    36.18
         ================================================
         ID = 3 (8056):   210.80   7.163     6.50    29.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80   7.163     6.50    29.46
       + ID2= 2 (8058):  1676.15  26.528     6.50    26.98
         ================================================
         ID = 3 (8066):  1886.95  33.691     6.50    27.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.95  33.691     6.50    27.26
       + ID2= 2 (8068):   660.32  36.432     6.00    33.47
         ================================================
         ID = 3 (8070):  2547.27  59.559     6.50    28.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1901.0) ------>
              Distance      Elevation       Manning
                 0.00         261.34        0.0600
                19.76         261.64        0.0600
                59.28         261.29        0.0600
                79.04         261.09        0.0600
               103.74         255.99        0.0600
               153.13         253.42        0.0600
               192.65         252.78        0.0600
               212.29         249.80        0.0600
               217.29         249.50    0.0600 /0.0350  Main Channel
               217.30         249.05        0.0350      Main Channel
               222.29         249.05        0.0350      Main Channel
               222.30         249.50    0.0350 /0.0600  Main Channel
               227.30         249.80        0.0600
               232.17         252.31        0.0600
               276.63         253.53        0.0600
               326.03         256.97        0.0600
               355.67         257.30        0.0600
               400.12         260.08        0.0600
               469.28         261.25        0.0600
               489.04         262.53        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.45    249.50    .436E+04        1.0         0.43      75.97
      1.07    250.12    .205E+05        5.4         0.51      62.96
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       1.70   250.75    .451E+05      14.8          0.64      50.78
       2.32   251.37    .762E+05      29.2          0.74      43.46
       2.94   251.99    .114E+06      49.1          0.84      38.61
       3.57   252.62    .161E+06      70.2          0.85      38.18
       4.19   253.24    .248E+06      93.4          0.73      44.29
       4.81   253.86    .398E+06     154.9          0.76      42.79
       5.44   254.49    .576E+06     246.1          0.83      38.99
       6.06   255.11    .779E+06     362.7          0.90      35.79
       6.68   255.73    .101E+07     506.5          0.98      33.15
       7.30   256.35    .126E+07     687.6          1.06      30.52
       7.93   256.98    .153E+07     902.8          1.15      28.18
       8.55   257.60    .183E+07    1114.3          1.18      27.39
       9.17   258.22    .216E+07    1407.8          1.26      25.55
       9.80   258.85    .250E+07    1735.4          1.35      24.03
      10.42   259.47    .286E+07    2097.5          1.42      22.73
      11.04   260.09    .324E+07    2492.3          1.49      21.63
      11.67   260.72    .364E+07    2837.8          1.51      21.39

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.27    59.56    6.50  28.87      3.25      0.84
     OUTFLOW: ID= 1 (6190) 2547.27    45.52    6.75  28.87      2.84      0.82


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| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.82          5.67
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     299.89         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         92.22
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.17 (ii)    17.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.06          0.78          1.571 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         36.42         47.17
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.50          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.9030      0.3849
                          0.0460     0.1975   |  1.1330      0.4289
                          0.2610     0.2331   |  1.3190      0.4720
                          0.4870     0.2836   |  1.7190      0.4820
                          0.6750     0.3308   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1901)     13.490      1.571      6.00      47.17
     OUTFLOW: ID= 1 (5190)     13.490      0.587      6.50      47.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.35
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3104

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
```

```
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     142.74        131.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1352.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         80.00
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.23 (ii)    26.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      14.91         12.92         23.175 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         34.61         44.83
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.47          0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1902):   274.50  23.175     6.00     44.83
       + ID2= 2 (5190):    13.49   0.587     6.50     47.09
         ================================================
         ID = 3 (9190):   287.99  23.219     6.00     44.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):  2547.27  45.516     6.75     28.87
       + ID2= 2 (9190):   287.99  23.219     6.00     44.94
         ================================================
         ID = 3 (8072):  2835.26  57.916     6.50     30.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                  0.00         264.40        0.0500
                  3.64         263.94        0.0500
                 14.54         261.05        0.0500
                 29.08         256.78        0.0500
                 36.36         254.96        0.0500
                 50.90         252.20        0.0500
                 65.44         249.78        0.0500
                 76.35         246.86        0.0500
                 77.24         245.90        0.0500
                 82.24         245.45    0.0500 /0.0350  Main Channel
                 82.25         244.90        0.0350      Main Channel
                 87.25         244.90        0.0350      Main Channel
                 87.26         245.45    0.0350 /0.0500  Main Channel
                 94.53         246.89        0.0500
                170.87         247.16        0.0500
                218.13         248.69        0.0500
                265.40         249.22        0.0500
                301.75         250.78        0.0500
                338.11         253.47        0.0500
                359.92         264.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
```

```
       0.55   245.45    .345E+04       2.0          0.71      29.20
       1.53   246.43    .174E+05      14.6          1.05      19.92
       2.50   247.40    .767E+05      52.8          0.86      24.20
       3.48   248.38    .224E+06     199.8          1.11      18.71
       4.46   249.36    .429E+06     441.2          1.29      16.19
       5.43   250.33    .691E+06     874.3          1.58      13.18
       6.41   251.31    .987E+06    1468.3          1.86      11.20
       7.38   252.28    .131E+07    2224.8          2.13       9.79
       8.36   253.26    .165E+07    3132.4          2.37       8.78
       9.34   254.24    .201E+07    4256.4          2.65       7.87
      10.31   255.21    .238E+07    5551.0          2.92       7.15
      11.29   256.19    .276E+07    6996.8          3.17       6.57
      12.27   257.17    .314E+07    8585.9          3.42       6.10
      13.24   258.14    .353E+07   10315.9          3.65       5.71
      14.22   259.12    .393E+07   12180.7          3.87       5.38
      15.19   260.09    .434E+07   14178.2          4.09       5.10
      16.17   261.07    .475E+07   16306.5          4.29       4.85
      17.15   262.05    .517E+07   18558.6          4.49       4.64
      18.12   263.02    .559E+07   20939.7          4.68       4.45

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8072) 2835.26    57.92    6.50  30.50      2.54      0.87
    OUTFLOW: ID= 1 (6192) 2835.26    49.96    7.00  30.50      2.43      0.87


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1921) |   Area    (ha)=  72.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.35         41.92
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     694.12         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         49.46
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.20 (ii)    24.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.09          2.65          4.739 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         23.44          32.50
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.32           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5192) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1390      1.4346
                          0.2060     0.7072   |   3.8730      1.6637
                          0.9550     0.8170   |   4.8310      1.9184
                          1.7940     1.0081   |   5.2310      1.9284
                          2.4250     1.1871   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1921)     72.270     4.739      6.00      32.50
     OUTFLOW: ID= 1 (5192)     72.270     1.931      6.75      32.49

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.74
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0570

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--------------------
| CALIB            |
| STANDHYD  (1922) |   Area    (ha)= 174.34
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      67.99        106.35
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1078.08         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         46.21
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.29 (ii)    27.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.44          5.85          10.060 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         22.78          31.47
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.31           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8074) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1922):   174.34  10.060     6.00    31.47
       + ID2= 2 (5192):    72.27   1.931     6.75    32.49
         ==========================================
         ID = 3 (8074):   246.61  10.226     6.00    31.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8076) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6192):  2835.26  49.959     7.00    30.50
       + ID2= 2 (8074):   246.61  10.226     6.00    31.77
         ==========================================
         ID = 3 (8076):  3081.87  55.392     6.75    30.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0196) |   Area    (ha)=  41.47   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.24

     Unit Hyd Qpeak  (cms)=   2.950

     PEAK FLOW       (cms)=   1.446 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  24.056
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1941) |   Area    (ha)=   0.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       0.34         0.42
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      71.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        77.93
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.60 (ii)   14.42 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.06          0.095 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      71.10        32.84          38.56
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.45           0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0510      0.0197
                         0.0030     0.0093   |   0.0640      0.0226
                         0.0150     0.0107   |   0.0740      0.0253
                         0.0270     0.0138   |   0.4740      0.0353
                         0.0380     0.0165   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)     0.760      0.095      6.00      38.56
     OUTFLOW: ID= 1 (5194)     0.760      0.028      6.50      37.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.80
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0142

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1942)  |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   4.165 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.356
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1942):   255.33   4.165     6.75    25.36
       + ID2= 2 (5194):     0.76   0.028     6.50    37.55
         ================================================
         ID = 3 (9194):   256.09   4.191     6.75    25.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9196):    41.47   1.446     6.00    24.06
       + ID2= 2 (9194):   256.09   4.191     6.75    25.39
         ================================================
         ID = 3 (8078):   297.56   5.339     6.50    25.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation       Manning
                  0.00         267.15        0.0500
                 22.99         265.94        0.0500
                 51.73         261.39        0.0500
                 74.72         258.75        0.0500
                 94.83         257.79        0.0500
                114.95         254.36        0.0500
                126.44         254.06        0.0500
                132.19         253.68        0.0500
                135.06         253.35        0.0500
                137.94         252.93    0.0500 /0.0300  Main Channel
                140.81         252.41        0.0300      Main Channel
                143.69         251.89        0.0300      Main Channel
                146.56         252.51        0.0300      Main Channel
                149.43         253.36    0.0300 /0.0500  Main Channel
                158.05         255.89        0.0500
                172.42         256.25        0.0500
                204.03         259.15        0.0500
                229.90         260.36        0.0500
                252.89         260.46        0.0500
                284.50         260.45        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35   252.24    .111E+04       0.6          0.97       31.07
       0.69   252.58    .442E+04       3.8          1.55       19.42
       1.04   252.93    .974E+04      11.1          2.06       14.65
       1.51   253.40    .203E+05      31.2          2.77       10.87
       1.98   253.87    .357E+05      65.0          3.30        9.14
       2.45   254.34    .596E+05     112.9          3.43        8.80
       2.92   254.81    .935E+05     186.8          3.62        8.34
       3.39   255.28    .131E+06     282.1          3.89        7.75
       3.86   255.75    .172E+06     398.2          4.18        7.22
       4.33   256.22    .221E+06     527.0          4.31        6.99
       4.80   256.69    .282E+06     697.3          4.47        6.75
       5.27   257.16    .350E+06     898.5          4.64        6.50
       5.74   257.63    .425E+06    1131.4          4.82        6.26
       6.21   258.10    .508E+06    1367.4          4.88        6.19
       6.68   258.57    .603E+06    1635.6          4.91        6.14
       7.15   259.04    .709E+06    1977.2          5.04        5.98
       7.62   259.51    .826E+06    2360.5          5.17        5.83
       8.09   259.98    .954E+06    2790.7          5.29        5.70
       8.56   260.45    .110E+07    3179.6          5.25        5.74

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     5.34    6.50  25.21      0.77      1.64
     OUTFLOW: ID= 1 (6198)  297.56     5.13    6.75  25.21      0.76      1.63

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1981)  |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min  |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
-------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       65.98         83.97
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      999.83         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49         53.21
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       12.70 (ii)    26.47 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
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                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.95         5.47          9.359 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        24.32          33.21
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.33           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.9910      3.4957
                          0.4390     1.7800   |  13.3530      3.9512
                          2.6180     2.0449   |  15.3540      4.3979
                          5.1680     2.5932   |  15.7540      4.4079
                          7.9230     3.0040   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950      9.359      6.00      33.21
     OUTFLOW: ID= 1 (5198)    149.950      3.993      6.75      33.20

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.66
                   TIME SHIFT OF PEAK FLOW       (min)= 45.00
                   MAXIMUM  STORAGE   USED      (ha.m.)=  2.3488

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--------------------
| CALIB            |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12       192.49
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1266.52        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        21.05
                 over (min)      15.00        45.00
     Storage Coeff.  (min)=      14.64 (ii)   34.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.27         6.50          7.736 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      71.10        20.19          24.78
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.28           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1982):   240.61   7.736     6.50    24.78
       + ID2= 2 (5198):   149.95   3.993     6.75    33.20
         ================================================
         ID = 3 (8080):   390.56  11.369     6.50    28.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6198):   297.56   5.128     6.75    25.21
       + ID2= 2 (8080):   390.56  11.369     6.50    28.01
         ================================================
         ID = 3 (8082):   688.12  16.120     6.50    26.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8076):  3081.87  55.392     6.75    30.60
       + ID2= 2 (8082):   688.12  16.120     6.50    26.80
         ================================================
         ID = 3 (8084):  3769.99  70.397     6.75    29.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2001.0) ------>
              Distance      Elevation       Manning
                 0.00         252.47        0.0500
                10.38         252.29        0.0500
                20.76         252.28        0.0500
                41.52         247.66        0.0500
                62.28         247.47        0.0500
                80.45         247.34        0.0500
                90.83         246.85        0.0500
               103.81         245.51        0.0500
               106.00         244.50        0.0500
               108.99         244.05    0.0500 /0.0300  Main Channel
               109.00         243.50        0.0300      Main Channel
               114.00         243.50        0.0300      Main Channel
               114.01         244.05    0.0300 /0.0500  Main Channel
               118.99         244.50        0.0500
               132.36         245.09        0.0500
               150.52         245.83        0.0500
               199.83         249.24        0.0500
               207.62         250.16        0.0500
               236.16         253.11        0.0500
               256.92         253.83        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.28   243.77    .365E+04       0.7         0.54      81.42
       0.55   244.05    .730E+04       2.2         0.81      54.59
       1.05   244.55    .197E+05       7.2         0.97      45.51
       1.54   245.04    .463E+05      17.2         0.99      44.76
       2.04   245.54    .895E+05      34.8         1.03      42.81
       2.53   246.03    .152E+06      62.8         1.09      40.43
       3.03   246.53    .232E+06     104.7         1.20      36.91
       3.52   247.02    .328E+06     159.7         1.29      34.19
       4.02   247.52    .450E+06     223.4         1.32      33.56
       4.51   248.01    .627E+06     326.9         1.38      31.99
       5.01   248.51    .820E+06     463.0         1.50      29.52
       5.50   249.00    .103E+07     626.0         1.62      27.30
       6.00   249.50    .124E+07     820.1         1.75      25.24
       6.49   249.99    .147E+07    1044.4         1.89      23.42
       6.99   250.49    .170E+07    1292.6         2.01      21.95
       7.48   250.98    .195E+07    1565.6         2.13      20.71
       7.98   251.48    .220E+07    1864.5         2.25      19.65
       8.47   251.97    .246E+07    2189.4         2.36      18.73
       8.97   252.47    .274E+07    2427.5         2.35      18.80

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    70.40    6.75  29.91      2.62      1.11
     OUTFLOW: ID= 1 (6200) 3769.99    58.48    7.50  29.91      2.46      1.08
```

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--------------------
| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54         22.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     532.17         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         80.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.70 (ii)    20.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.90          2.58          3.571 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         34.78          41.68
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.48           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7210      1.0525
                          0.1450     0.4892   |   3.4130      1.1947
                          0.7930     0.5722   |   4.0030      1.3346
                          1.4410     0.7540   |   4.4030      1.3446
                          2.0370     0.8927   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480      3.571      6.00      41.68
     OUTFLOW: ID= 1 (5200)     42.480      1.580      6.75      41.66

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.23
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7981

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56         50.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     696.61         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         60.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.22 (ii)    23.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.13          4.00          4.761 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10         31.32          36.49
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.43           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   4.761     6.25    36.49
        + ID2= 2 (5200):    42.48   1.580     6.75    41.66
          ================================================
          ID = 3 (8086):   115.27   5.877     6.25    38.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  58.485     7.50    29.91
        + ID2= 2 (8086):   115.27   5.877     6.25    38.40
          ================================================
          ID = 3 (8088):  3885.26  60.424     7.50    30.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76  22.423     7.25    18.79
        + ID2= 2 (8088):  3885.26  60.424     7.50    30.16
          ================================================
          ID = 3 (8038):  9106.02  82.640     7.50    23.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                   0.00         252.00        0.0400
                   2.35         244.60        0.0400
                  39.94         243.14        0.0400
                  58.74         242.65        0.0400
                  91.63         242.03        0.0400
                 101.03         241.69        0.0400
                 103.38         241.66        0.0400
                 105.73         240.76        0.0400
                 105.93         240.59        0.0400
                 109.18         240.28    0.0400 /0.0300  Main Channel
                 110.43         239.81        0.0300      Main Channel
                 111.68         239.81        0.0300      Main Channel
                 113.43         240.09    0.0300 /0.0400  Main Channel
                 118.43         240.50        0.0400
                 138.62         241.68        0.0400
                 152.72         241.60        0.0400
                 166.82         242.68        0.0400
                 185.62         249.09        0.0400
                 197.36         251.00        0.0400
                 232.61         252.28        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)       (min)
        0.28   240.09    .118E+04        0.1          0.20      142.09
        0.91   240.72    .114E+05        2.4          0.35       79.92
        1.53   241.34    .352E+05        9.4          0.45       62.17
        2.16   241.97    .831E+05       22.8          0.46       60.69
        2.79   242.60    .172E+06       54.2          0.53       52.74
```

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       3.41   243.22    .297E+06     111.4          0.63      44.49
       4.04   243.85    .445E+06     194.1          0.74      38.22
       4.67   244.48    .612E+06     301.1          0.83      33.88
       5.29   245.10    .793E+06     443.0          0.94      29.82
       5.92   245.73    .976E+06     611.3          1.06      26.60
       6.55   246.36    .116E+07     802.0          1.17      24.12
       7.18   246.99    .135E+07    1014.0          1.27      22.16
       7.80   247.61    .154E+07    1246.2          1.37      20.56
       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02    82.64    7.50  23.64      3.10      0.58
     OUTFLOW: ID= 1 (1365) 9106.02    69.51    8.25  23.64      2.96      0.56


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96         68.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1180.11         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         78.44
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.03 (ii)    25.82 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      19.29          6.75        23.586 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         31.33         49.62
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.43          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9970     7.9437
                          0.9210     5.2645   |  12.4650     8.5839
                          3.2690     5.3433   |  16.9060     9.2236
                          6.3980     5.6925   |  17.3060     9.2336
                          7.1860     6.8155   |   0.0000     0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)    208.900     23.586      6.00      49.62
     OUTFLOW: ID= 1 (5132)    208.900      6.560      6.75      49.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.81
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.9275

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (1322) |   Area    (ha)=  81.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32         51.62
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     739.10         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         45.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.59 (ii)    25.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.55          2.96          6.402 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         25.27         36.73
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.35          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1322):    81.94   6.402     6.00    36.73
        + ID2= 2 (5132):   208.90   6.560     6.75    49.62
          ==========================================
          ID = 3 (8090):   290.84   9.558     6.50    45.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84         57.32
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     804.82         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         22.02
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.15 (ii)    30.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.95          2.15          6.835 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         19.73         34.11
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.27          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64         41.15
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     626.05         40.00
     Mannings n          =      0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=      96.49        19.45
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      9.59 (ii)   30.18 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.69         1.38        3.260 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=     71.10        18.68        29.17
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.26         0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1250      1.0755
                          0.1070     0.6119   |   1.7570      1.1641
                          0.4130     0.6225   |   2.3860      1.2526
                          0.8380     0.7018   |   2.7860      1.2626
                          0.9790     0.8884   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790     3.260      6.00      29.17
     OUTFLOW: ID= 1 (5134)     58.790     0.938      7.00      29.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.78
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8386

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--------------------
| ADD HYD   (9134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1342):    97.16   6.835     6.00    34.11
       + ID2= 2 (5134):    58.79   0.938     7.00    29.14
         ================================================
         ID = 3 (9134):   155.95   6.910     6.00    32.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8090):   290.84   9.558     6.50    45.99
       + ID2= 2 (9134):   155.95   6.910     6.00    32.24
         ================================================
         ID = 3 (8092):   446.79  13.908     6.50    41.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                   0.00         262.81        0.0400
                  37.23         260.54        0.0400
                  79.12         256.98        0.0400
                 111.70         254.74        0.0400
                 172.20         252.76        0.0400
                 251.32         248.82        0.0400
                 255.97         248.75        0.0400
                 260.43         248.76        0.0400
                 265.43         248.49        0.0400
                 268.68         248.18    0.0400 /0.0300  Main Channel
                 269.93         247.71        0.0300      Main Channel
                 271.18         247.71        0.0300      Main Channel
                 272.93         247.99        0.0300      Main Channel
                 277.93         248.40    0.0300 /0.0400  Main Channel
                 283.90         248.88        0.0400
                 307.17         249.60        0.0400
                 321.13         251.59        0.0400
                 363.01         257.08        0.0400
                 400.25         257.58        0.0400
                 460.75         261.91        0.0400

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.47    248.18    .881E+04         1.3          0.76       114.66
        1.19    248.90    .742E+05        17.3          1.22        71.44
        1.92    249.63    .278E+06        78.3          1.48        59.26
        2.64    250.35    .589E+06       210.3          1.87        46.69
        3.36    251.07    .974E+06       414.3          2.23        39.19
        4.08    251.79    .143E+07       696.2          2.55        34.32
        4.81    252.52    .197E+07      1063.0          2.83        30.86
        5.53    253.24    .259E+07      1505.7          3.06        28.62
        6.25    253.96    .331E+07      2051.3          3.26        26.85
        6.97    254.68    .413E+07      2720.9          3.46        25.30
        7.70    255.41    .504E+07      3584.5          3.73        23.43
        8.42    256.13    .601E+07      4580.9          4.00        21.87
        9.14    256.85    .704E+07      5707.9          4.25        20.57
        9.86    257.57    .818E+07      6636.1          4.26        20.53
       10.59    258.30    .945E+07      8115.0          4.50        19.42
       11.31    259.02    .108E+08      9759.2          4.74        18.45
       12.03    259.74    .122E+08     11569.5          4.96        17.61
       12.75    260.46    .137E+08     13550.6          5.18        16.87
       13.48    261.19    .153E+08     15636.4          5.37        16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79    13.91    6.50  41.19      1.04      1.08
     OUTFLOW: ID= 1 (1366)  446.79     7.37    7.25  41.19      0.74      0.89

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67       275.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1574.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.93
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      16.68 (ii)   31.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.70        12.70        15.892 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.50
     RUNOFF VOLUME    (mm)=      71.10        25.38        31.78
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.35         0.43

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=      77.34        63.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     968.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        75.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.46 (ii)   24.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       8.57         6.13        12.474 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      71.10        31.23        42.79
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.43         0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.7060      4.3486
                          0.3100     2.4365   |   5.9200      5.0324
                          1.7670     2.5993   |   7.0820      5.7151
                          3.4020     2.8510   |   7.4820      5.7251
                          4.0310     3.5962   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620     12.474      6.00      42.79
     OUTFLOW: ID= 1 (5136)    140.620      3.711      6.75      42.77

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.75
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.2408

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--------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   371.79  15.892     6.50    31.78
       + ID2= 2 (5136):   140.62   3.711     6.75    42.77
         ================================================
         ID = 3 (8096):   512.41  19.473     6.50    34.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.79   7.375     7.25    41.19
       + ID2= 2 (8096):   512.41  19.473     6.50    34.80
         ================================================
         ID = 3 (8094):   959.20  24.505     6.50    37.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.02  69.511     8.25    23.64
       + ID2= 2 (8094):   959.20  24.505     6.50    37.77
         ================================================
         ID = 3 (8098): 10065.22  82.569     7.75    24.99
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
--------------------
                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          56.78         39.46
     Dep. Storage     (mm)=           2.00          5.00
     Average Slope     (%)=           0.50          0.50
     Length            (m)=         801.00         40.00
     Mannings n           =          0.013         0.250

     Max.Eff.Inten.(mm/hr)=          96.49         14.69
               over (min)            15.00         45.00
     Storage Coeff.  (min)=          11.12 (ii)    34.16 (ii)
     Unit Hyd. Tpeak (min)=          15.00         45.00
     Unit Hyd. peak  (cms)=           0.08          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=           7.16          0.94          7.543 (iii)
     TIME TO PEAK    (hrs)=           6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=          71.10         10.34          31.00
     TOTAL RAINFALL   (mm)=          73.10         73.10          73.10
     RUNOFF COEFFICIENT   =           0.97          0.14           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.4380      2.7648
                          0.3260     1.4281   |   8.0830      3.0750
                          1.8650     1.6876   |   9.4100      3.3790
                          3.4730     2.0447   |   9.8100      3.3890
                          4.8170     2.3809   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)     96.240      7.543      6.00      31.00
     OUTFLOW: ID= 1 (5138)     96.240      1.802      6.75      30.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.89
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6876

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   1.068 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.936
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.109

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1382):   318.55   1.068     7.75     7.94
       + ID2= 2 (5138):    96.24   1.802     6.75    30.99
         ================================================
         ID = 3 (9138):   414.79   2.780     6.75    13.28
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB | STANDHYD (1402) | ID= 1 DT=15.0 min |

Area (ha)= 131.22
Total Imp(%)= 29.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.05	93.17
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	935.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	10.40
over (min)		15.00	45.00
Storage Coeff.	(min)=	12.20 (ii)	38.66 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	6.426 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	23.30
TOTAL RAINFALL	(mm)=	73.10
RUNOFF COEFFICIENT	=	0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 37.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (1401) | ID= 1 DT=15.0 min |

Area (ha)= 27.37
Total Imp(%)= 45.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.32	15.05
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	427.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	12.46
over (min)		15.00	45.00
Storage Coeff.	(min)=	7.62 (ii)	32.23 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	2.319 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	31.20
TOTAL RAINFALL	(mm)=	73.10
RUNOFF COEFFICIENT	=	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 37.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (5140) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.8310	0.7127
0.0930	0.3344	2.2990	0.8148
0.5300	0.3869	2.6760	0.9148
0.9880	0.4994	3.0760	0.9248
1.3700	0.5962	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1401)	27.370	2.319	6.00	31.20
OUTFLOW: ID= 1 (5140)	27.370	0.660	6.50	31.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.45
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4197

| ADD HYD (9140) | 1 + 2 = 3 |

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1402):		131.22	6.426	6.00	23.30
+ ID2= 2 (5140):		27.37	0.660	6.50	31.17
ID = 3 (9140):		158.59	6.510	6.00	24.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (8102) | 1 + 2 = 3 |

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (9138):		414.79	2.780	6.75	13.28
+ ID2= 2 (9140):		158.59	6.510	6.00	24.66
ID = 3 (8102):		573.38	7.308	6.00	16.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (6142) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1421.0) ------>

Distance	Elevation	Manning	
0.00	295.50	0.0400	
7.25	295.36	0.0400	
14.50	295.22	0.0400	
21.75	295.22	0.0400	
29.00	294.23	0.0400	
52.56	286.45	0.0400	
67.06	281.44	0.0400	
77.94	278.28	0.0400	
82.81	277.20	0.0400 /0.0300	Main Channel
83.21	276.80	0.0300	Main Channel
88.81	276.80	0.0300	Main Channel
96.41	276.80	0.0300	Main Channel
96.81	277.20	0.0300 /0.0400	Main Channel
103.31	278.96	0.0400	
108.75	280.16	0.0400	
117.81	282.73	0.0400	
135.94	290.30	0.0400	
159.50	292.14	0.0400	
174.00	293.07	0.0400	
179.44	293.37	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	277.20	.238E+05	6.9	1.27	57.28
1.25	278.05	.889E+05	50.9	2.50	29.13
2.10	278.90	.179E+06	133.4	3.26	22.36
2.95	279.75	.293E+06	256.7	3.83	19.03
3.80	280.60	.432E+06	426.0	4.31	16.90
4.66	281.46	.593E+06	644.3	4.75	15.35
5.51	282.31	.776E+06	915.3	5.16	14.12
6.36	283.16	.978E+06	1242.2	5.55	13.12
7.21	284.01	.120E+07	1626.2	5.94	12.27
8.06	284.86	.143E+07	2065.6	6.30	11.57
8.91	285.71	.169E+07	2562.4	6.64	10.97
9.76	286.56	.196E+07	3118.0	6.97	10.46
10.61	287.41	.224E+07	3733.3	7.28	10.02
11.46	288.26	.255E+07	4411.9	7.57	9.62
12.31	289.11	.287E+07	5155.6	7.86	9.27
13.17	289.97	.321E+07	5966.6	8.14	8.96
14.02	290.82	.357E+07	6705.0	8.22	8.87
14.87	291.67	.398E+07	7494.3	8.24	8.85
15.72	292.52	.444E+07	8405.3	8.28	8.80

<---- hydrograph ----> <-pipe / channel->

AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.38     7.31    6.00  16.43     0.41      1.28
     OUTFLOW: ID= 1 (6142)  573.38     4.31    7.25  16.43     0.25      1.27


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--------------------
| CALIB            |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.40         38.37
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     682.01         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         62.21
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.10 (ii)    23.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.36          3.14          4.343 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         26.52         33.20
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.36          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6670      1.8169
                          0.2360     0.8525   |   5.8600      2.0773
                          1.3520     0.9863   |   6.8220      2.3321
                          2.5180     1.2732   |   7.2220      2.3421
                          3.4920     1.5199   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770     4.343      6.00      33.20
     OUTFLOW: ID= 1 (5142)     69.770     1.860      6.75      33.19

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.82
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1135

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1422) |   Area    (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   2.636 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  20.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1422):   326.77   2.636     7.75    20.08
        + ID2= 2 (5142):    69.77   1.860     6.75    33.19
          ================================================
          ID = 3 (9142):   396.54   4.268     7.00    22.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8104) |
|   1 +  2 = 3     |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6142):   573.38   4.307     7.25    16.43
        + ID2= 2 (9142):   396.54   4.268     7.00    22.39
          ================================================
          ID = 3 (8104):   969.92   8.541     7.00    18.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          3.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     204.78         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         81.98
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.90 (ii)    16.49 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.25          0.43          0.528 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         34.46         39.95
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.47          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4210      0.1639
                          0.0210     0.0769   |   0.5290      0.1874
                          0.1220     0.0890   |   0.6150      0.2104
                          0.2270     0.1148   |   1.0150      0.2204
                          0.3150     0.1371   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)     6.290      0.528      6.00      39.95
     OUTFLOW: ID= 1 (5144)     6.290      0.227      6.75      39.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.94
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1169

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1442) |   Area    (ha)= 129.40   Curve Number   (CN)= 74.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.147
```

```
     PEAK FLOW       (cms)=   2.431 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.746
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1442):   129.40   2.431     6.75    29.75
        + ID2= 2 (5144):     6.29   0.227     6.75    39.81
          ================================================
          ID = 3 (9144):   135.69   2.658     6.75    30.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8104):   969.92   8.541     7.00    18.87
        + ID2= 2 (9144):   135.69   2.658     6.75    30.21
          ================================================
          ID = 3 (8106):  1105.61  11.152     7.00    20.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                   0.00         262.00        0.0350
                  39.58         257.13        0.0350
                 123.69         257.51        0.0350
                 183.07         256.83        0.0350
                 202.86         255.73        0.0350
                 212.75         254.73        0.0350
                 222.65         252.86        0.0350
                 232.44         250.70    0.0350 /0.0300  Main Channel
                 236.44         250.20        0.0300      Main Channel
                 236.84         249.80        0.0300      Main Channel
                 242.44         249.80        0.0300      Main Channel
                 250.04         249.80        0.0300      Main Channel
                 250.44         250.20        0.0300      Main Channel
                 252.33         250.57    0.0300 /0.0350  Main Channel
                 286.97         253.52        0.0350
                 331.50         255.80        0.0350
                 380.98         255.55        0.0350
                 445.30         258.40        0.0350
                 455.19         259.82        0.0350
                 489.83         262.22        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.39   250.19    .169E+05       5.4         1.04      52.00
       0.77   250.57    .373E+05      16.6         1.44      37.46
       1.44   251.24    .911E+05      60.3         2.14      25.19
       2.11   251.91    .169E+06     136.3         2.61      20.64
       2.79   252.59    .270E+06     249.7         2.99      18.05
       3.46   253.26    .396E+06     405.4         3.31      16.28
       4.13   253.93    .549E+06     603.3         3.56      15.15
       4.80   254.60    .737E+06     857.8         3.77      14.31
       5.48   255.28    .963E+06    1174.6         3.95      13.67
       6.15   255.95    .128E+07    1449.5         3.66      14.74
       6.82   256.62    .173E+07    2046.4         3.83      14.07
       7.49   257.29    .227E+07    2665.2         3.81      14.17
       8.17   257.97    .310E+07    3705.2         3.87      13.93
       8.84   258.64    .400E+07    5127.4         4.15      12.99
       9.51   259.31    .492E+07    6858.6         4.51      11.95
      10.18   259.98    .587E+07    8815.5         4.86      11.09
      10.86   260.66    .684E+07   10954.6         5.18      10.41
      11.53   261.33    .785E+07   13324.3         5.49       9.82
      12.20   262.00    .890E+07   15923.2         5.79       9.31

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK    TPEAK   R.V.    MAX DEPTH  MAX VEL
                                (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61    11.15     7.00  20.26      0.58      1.21
     OUTFLOW: ID= 1 (6146) 1105.61     9.48     7.75  20.26      0.52      1.15


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--------------------
| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.91         76.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     864.95         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         66.16
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.64 (ii)    24.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.14          6.50          7.757 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10         33.48          38.37
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.46           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.65         51.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     745.16         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         72.49
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.65 (ii)    22.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.96          4.97          6.156 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         34.63          40.47
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.47           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9200      2.5813
                          0.2820     0.8782   |  11.0570      3.0328
                          2.5360     1.0372   |  12.9860      3.4993
                          4.7880     1.7148   |  13.3860      3.5093
                          6.7570     2.1134   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     83.290     6.156      6.00      40.47
     OUTFLOW: ID= 1 (5146)     83.290     3.396      6.50      40.46

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.17
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3245

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--------------------
| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   112.22   7.757     6.25    38.37
       + ID2= 2 (5146):    83.29   3.396     6.50    40.46
         ================================================
         ID = 3 (8099):   195.51  10.572     6.25    39.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.61   9.479     7.75    20.26
       + ID2= 2 (8099):   195.51  10.572     6.25    39.26
         ================================================
         ID = 3 (8108):  1301.12  13.236     6.25    23.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.22  82.569     7.75    24.99
       + ID2= 2 (8108):  1301.12  13.236     6.25    23.11
         ================================================
         ID = 3 (8100): 11366.34  94.493     7.75    24.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                  0.00         245.48        0.0400
                 29.68         242.80        0.0400
                 74.20         240.39        0.0400
                155.81         237.12        0.0400
                200.33         234.48        0.0400
                244.85         234.67        0.0400
                259.69         233.96        0.0400
                274.53         233.84        0.0400
                281.68         233.40        0.0400
                285.78         232.40    0.0400 /0.0300  Main Channel
                286.78         231.40        0.0300      Main Channel
                296.78         231.40        0.0300      Main Channel
                299.78         232.40    0.0300 /0.0400  Main Channel
                311.62         233.74        0.0400
                333.88         234.34        0.0400
                497.11         235.32        0.0400
                571.31         237.32        0.0400
                675.18         239.10        0.0400
                704.86         242.71        0.0400
                734.54         242.62        0.0400

     <---------- TRAVEL TIME TABLE ---------->

       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   231.90    .221E+05       4.7        0.85      78.67
        1.00   232.40    .482E+05      15.3        1.28      52.40
        1.60   233.00    .913E+05      38.3        1.68      39.77
        2.20   233.60    .154E+06      72.9        1.90      35.24
        2.80   234.20    .278E+06     124.2        1.79      37.30
        3.40   234.80    .599E+06     214.3        1.44      46.59
        4.01   235.41    .125E+07     445.0        1.43      46.90
        4.61   236.01    .205E+07     838.4        1.64      40.81
        5.21   236.61    .293E+07    1361.6        1.86      35.89
        5.81   237.21    .389E+07    2011.2        2.08      32.23
        6.41   237.81    .494E+07    2753.5        2.24      29.91
        7.01   238.41    .612E+07    3635.0        2.39      28.04
        7.61   239.01    .741E+07    4672.5        2.53      26.43
        8.21   239.61    .880E+07    5999.3        2.74      24.44
        8.82   240.22    .102E+08    7510.0        2.94      22.72
        9.42   240.82    .117E+08    9201.9        3.15      21.23
       10.02   241.42    .132E+08   11059.7        3.35      19.95
       10.62   242.02    .148E+08   13073.4        3.54      18.87
       11.22   242.62    .164E+08   15242.1        3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) ******    94.49    7.75  24.77      2.45      1.85
     OUTFLOW: ID= 1 (6202) ******    89.19    8.50  24.77      2.39      1.86

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--------------------
| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.34  89.191     8.50    24.77
       + ID2= 2 (8110):   468.53  35.549     6.00    48.99
         ================================================
         ID = 3 (8112): 11834.87  94.268     8.25    25.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  *******     19.2100
                           2.8500     0.5200   |  *******     24.7300
                           8.1800     1.2600   |  *******     30.8600
                          15.0900     2.2100   |  *******     37.6100
                          23.2700     3.3900   |  *******     41.2200
                          32.5300     4.7800   |  *******     48.9000
                          36.5100     5.3900   |  *******     66.4700
                          42.7600     6.3700   |  *******    100.1200
                          53.8500     8.1300   |  *******    140.4100
                          91.7300    14.3200   |  *******    140.4200

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********     94.268      8.25      25.73
     OUTFLOW: ID= 1 (5555)  ********     92.215      8.75      25.73

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.82
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 14.4154

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--------------------
| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.87  92.215     8.75    25.73
       + ID2= 2 (8136):  2288.44  28.554     6.50    24.47
         ================================================
         ID = 3 (8114): 14123.31 109.643     8.50    25.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
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| STANDHYD  (2061) |   Area    (ha)=  49.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88        11.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     576.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       144.99
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.13 (ii)   18.35 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.79         2.56          7.517 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        45.16         58.13
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.62          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.5640      2.4459
                         0.1690     0.8986   |   4.2460      2.7624
                         1.3810     1.2959   |   4.8070      3.0770
                         2.2440     1.6904   |   5.2070      3.0870
                         2.8510     2.0623   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840      7.517      6.00      58.13
     OUTFLOW: ID= 1 (5206)     49.840      2.005      6.75      58.10

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.66
                 TIME SHIFT OF PEAK FLOW         (min)= 45.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  1.6016

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-------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45        81.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1226.65        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       100.39
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.36 (ii)   25.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      18.85        10.44         25.665 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        40.26         53.21
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.55          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  25.665     6.00    53.21
        + ID2= 2 (5206):    49.84   2.005     6.75    58.10
          ================================================
          ID = 3 (8144):   275.54  26.063     6.00    54.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66       132.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        45.72
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.05 (ii)   28.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.84         7.08         13.233 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        24.05         33.93
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.33          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.0280      5.1901
                         0.5340     2.0405   |  16.1840      5.6427
                         3.0020     2.3552   |  19.0840      6.7700
                         5.5440     3.8411   |  19.4840      6.7800
                         8.4130     4.5335   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900     13.233      6.00      33.93
     OUTFLOW: ID= 1 (5204)    209.900      4.614      7.00      33.93

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.87
                 TIME SHIFT OF PEAK FLOW         (min)= 60.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  3.3284

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-------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86        44.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     873.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        76.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.71 (ii)   23.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
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     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       8.37         4.45         11.198 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        29.62          43.72
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.41           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   114.52  11.198     6.00    43.72
       + ID2= 2 (5204):   209.90   4.614     7.00    33.93
         ================================================
         ID = 3 (8140):   324.42  11.630     6.00    37.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2061.0) ------>
              Distance      Elevation       Manning
                 0.00         253.07        0.0350
                13.98         252.89        0.0350
                27.95         251.99        0.0350
                34.94         252.18        0.0350
                41.93         252.02        0.0350
                73.38         250.35        0.0350
                94.34         247.09        0.0350
               111.81         244.79        0.0350
               115.31         244.24        0.0350
               117.55         244.20    0.0350 /0.0300  Main Channel
               118.80         243.60        0.0300      Main Channel
               122.30         243.60        0.0300      Main Channel
               122.55         244.60    0.0300 /0.0350  Main Channel
               146.76         244.74        0.0350
               164.23         247.26        0.0350
               213.15         248.92        0.0350
               241.10         249.51        0.0350
               272.55         250.87        0.0350
               300.50         252.26        0.0350
               345.93         253.67        0.0350

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   243.90    .310E+04       1.4          1.23      36.25
      0.60   244.20    .676E+04       4.6          1.81      24.64
      1.12   244.72    .221E+05      17.1          2.07      21.60
      1.64   245.24    .754E+05      64.1          2.28      19.60
      2.17   245.77    .139E+06     149.8          2.88      15.50
      2.69   246.29    .214E+06     273.3          3.43      13.04
      3.21   246.81    .299E+06     436.1          3.91      11.43
      3.73   247.33    .395E+06     632.6          4.30      10.40
      4.25   247.85    .511E+06     836.4          4.39      10.18
      4.77   248.37    .653E+06    1114.9          4.58       9.76
      5.30   248.90    .822E+06    1472.1          4.81       9.30
      5.82   249.42    .102E+07    1872.2          4.91       9.10
      6.34   249.94    .126E+07    2444.6          5.22       8.56
      6.86   250.46    .151E+07    3113.1          5.52       8.09
      7.38   250.98    .180E+07    3843.5          5.74       7.79
      7.90   251.50    .211E+07    4717.8          6.00       7.45
      8.43   252.03    .245E+07    5701.4          6.24       7.16
      8.95   252.55    .284E+07    6727.5          6.36       7.03
      9.47   253.07    .326E+07    7885.3          6.48       6.90

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.42    11.63    6.00  37.38      0.89      1.95
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     OUTFLOW: ID= 1 (6206)  324.42     9.36    6.50  37.38      0.80      1.90

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| ADD HYD   (8142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.42   9.357     6.50    37.38
       + ID2= 2 (8144):   275.54  26.063     6.00    54.09
         ================================================
         ID = 3 (8142):   599.96  30.664     6.00    45.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.31 109.643     8.50    25.53
       + ID2= 2 (8142):   599.96  30.664     6.00    45.06
         ================================================
         ID = 3 (8138): 14723.27 117.483     8.25    26.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2081.0) ------>
              Distance      Elevation       Manning
                 0.00         249.19        0.1000
                73.11         244.13        0.1000
               121.86         243.39        0.1000
               243.71         240.01        0.1000
               353.38         238.75        0.1000
               450.87         235.40        0.1000
               499.61         231.40        0.1000
               511.80         230.96        0.1000
               523.98         230.12        0.1000
               534.50         227.80    0.1000 /0.0500  Main Channel
               536.50         226.70        0.0500      Main Channel
               546.50         226.70        0.0500      Main Channel
               548.50         227.80    0.0500 /0.1000  Main Channel
               572.72         230.25        0.1000
               682.40         230.50        0.1000
               804.25         233.95        0.1000
               926.11         235.83        0.1000
              1047.96         240.70        0.1000
              1145.45         243.26        0.1000
              1206.38         247.03        0.1000

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.55   227.25    .111E+05       2.0          0.33      92.44
      1.10   227.80    .242E+05       6.5          0.50      61.56
      2.23   228.93    .700E+05      26.0          0.68      44.91
      3.36   230.06    .150E+06      60.8          0.74      41.04
      4.49   231.19    .446E+06     130.8          0.54      56.83
      5.62   232.32    .925E+06     287.4          0.57      53.66
      6.76   233.46    .152E+07     522.9          0.63      48.32
      7.89   234.59    .223E+07     827.2          0.68      44.91
      9.02   235.72    .312E+07    1219.5          0.72      42.61
     10.15   236.85    .418E+07    1780.6          0.78      39.11
     11.28   237.98    .537E+07    2479.2          0.85      36.07
     12.41   239.11    .669E+07    3282.9          0.90      33.95
     13.54   240.24    .824E+07    4228.6          0.94      32.47
     14.67   241.37    .997E+07    5384.6          0.99      30.87
     15.81   242.51    .119E+08    6698.4          1.03      29.56
     16.94   243.64    .140E+08    8235.2          1.08      28.25
     18.07   244.77    .162E+08   10104.2          1.14      26.73
     19.20   245.90    .185E+08   12251.5          1.21      25.21
     20.33   247.03    .209E+08   14597.0          1.28      23.89

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******   117.48    8.25  26.32      4.28      0.57
```

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     OUTFLOW: ID= 1 (6208) *******   106.44    9.25  26.32      4.09      0.60


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--------------------
| CALIB            |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    273.02       153.58
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1686.42        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49       100.43
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     17.38 (ii)   28.06 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     28.85        18.58        40.830 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     71.10        37.25        49.78
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.51         0.68


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     73.39       136.31
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1182.37        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        57.25
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     14.04 (ii)   27.42 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.42         9.42        14.345 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     71.10        30.26        38.43
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.41         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     42.00        14.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    611.01        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        77.22
               over (min)      15.00        30.00
     Storage Coeff.  (min)=      9.45 (ii)   21.31 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      9.02         1.49         9.998 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     71.10        41.18        62.12
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.56         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8000      1.5745
                          0.1900     0.9984   |   3.7500      1.7809
                          1.0900     1.1991   |   4.7100      1.9291
                          2.0200     1.3813   |   5.4800      2.0745

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000      9.998      6.00      62.12
     OUTFLOW: ID= 1 (9289)     56.000      3.477      6.50      62.10

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.77
               TIME SHIFT OF PEAK FLOW        (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.7553

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| ADD HYD   (9262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2081):   209.70  14.345     6.00    38.43
        + ID2= 2 (9289):    56.00   3.477     6.50    62.10
          ================================================
          ID = 3 (9262):   265.70  16.727     6.25    43.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      8.3371
                          0.8360     4.7353   |  21.1630      9.3975
                          4.7810     5.1070   |  25.1140     10.4406
                          8.9050     6.2484   |  25.5140     10.4506
                         12.6070     7.1796   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700     16.727      6.25      43.42
     OUTFLOW: ID= 1 (5208)    265.700      6.353      7.00      43.41

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.98
               TIME SHIFT OF PEAK FLOW        (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  5.5756

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--------------------
| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2082):   426.60  40.830     6.00    49.78
        + ID2= 2 (5208):   265.70   6.353     7.00    43.41
          ================================================
          ID = 3 (8148):   692.30  41.170     6.00    47.33
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8146) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.27 106.443     9.25    26.32
        + ID2= 2 (8148):   692.30  41.170     6.00    47.33
          ================================================
          ID = 3 (8146): 15415.57 110.966     9.25    27.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                  0.00         241.81        0.0800
                 28.43         241.78        0.0800
                 85.30         237.04        0.0800
                149.27         231.32        0.0800
                170.60         230.10        0.0800
                255.89         229.37        0.0800
                277.22         228.68        0.0800
                284.33         228.42        0.0800
                291.43         228.16        0.0800
                297.76         227.00    0.0800 /0.0350  Main Channel
                298.76         225.00        0.0350      Main Channel
                312.76         225.00        0.0350      Main Channel
                313.76         227.00    0.0350 /0.0800  Main Channel
                326.97         229.50        0.0800
                348.30         230.29        0.0800
                376.73         229.76        0.0800
                490.46         235.75        0.0800
                568.65         236.24        0.0800
                661.06         241.85        0.0800
                703.71         246.04        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.67   225.67    .141E+05       6.6         0.69       35.86
       1.33   226.33    .289E+05      20.4         1.04       23.65
       2.00   227.00    .443E+05      39.3         1.31       18.81
       2.93   227.93    .730E+05      77.8         1.57       15.64
       3.85   228.85    .123E+06     131.1         1.57       15.65
       4.78   229.78    .228E+06     205.6         1.33       18.51
       5.70   230.70    .503E+06     356.7         1.05       23.49
       6.63   231.63    .846E+06     608.7         1.06       23.17
       7.55   232.55    .123E+07     946.4         1.14       21.65
       8.48   233.48    .165E+07    1367.0         1.22       20.13
       9.41   234.41    .211E+07    1871.8         1.31       18.80
      10.33   235.33    .261E+07    2463.2         1.40       17.65
      11.26   236.26    .317E+07    2999.4         1.40       17.63
      12.18   237.18    .384E+07    3848.3         1.48       16.63
      13.11   238.11    .454E+07    4806.0         1.56       15.75
      14.03   239.03    .528E+07    5876.9         1.64       14.97
      14.96   239.96    .605E+07    7062.7         1.72       14.29
      15.88   240.88    .687E+07    8365.0         1.80       13.68
      16.81   241.81    .771E+07    9506.9         1.82       13.52

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   110.97    9.25  27.27      3.50      1.57
     OUTFLOW: ID= 1 (6210) *******   110.53    9.50  27.27      3.49      1.57


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--------------------
| CALIB            |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     140.67        52.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1133.43        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        73.69
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.12 (ii)   19.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      28.67         5.53         32.306 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      72.10        39.82         61.77
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.54          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2104)    192.700    32.306      6.00      61.77
     OUTFLOW: ID= 1 (9283)    192.700     2.670      7.25      61.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.27
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  8.3493

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--------------------
| CALIB            |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.33         7.77
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     272.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        90.03
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.72 (ii)   12.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         1.50          1.790 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      72.10        44.83         47.56
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.61          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9284) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5600      0.2067
```

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                        0.0400     0.1045   |   0.7400      0.2572
                        0.2200     0.1166   |   0.9300      0.3046
                        0.4000     0.1670   |   1.0900      0.3510

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2103)     11.100      1.790      6.00      47.56
     OUTFLOW: ID= 1 (9284)     11.100      0.621      6.25      47.50

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.70
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2272

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| ADD HYD   (9258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9283):   192.70   2.670     7.25    61.76
       + ID2= 2 (9284):    11.10   0.621     6.25    47.50
         ================================================
         ID = 3 (9258):   203.80   3.071     6.75    60.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.0060      0.0024
                        0.0020     0.0013   |   0.0080      0.0027
                        0.0030     0.0017   |   0.0090      0.0031
                        0.0050     0.0020   |   0.4090      0.0131

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      3.071      6.75      60.99
     OUTFLOW: ID= 1 (5210)    203.800      3.098      7.00      60.98

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.88
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0817

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.226 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  34.918
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2102):    14.38   0.226     7.25    34.92
       + ID2= 2 (5210):   203.80   3.098     7.00    60.98
         ================================================
         ID = 3 (9210):   218.18   3.322     7.00    59.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6210): 15415.57 110.530     9.50    27.27
       + ID2= 2 (9210):   218.18   3.322     7.00    59.27
         ================================================
         ID = 3 (8150): 15633.75 113.031     9.50    27.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.77         5.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     615.85        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49       203.64
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.50 (ii)   17.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.67         1.57      10.739 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10        46.02      64.58
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.97         0.63       0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.30         1.10
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     171.27        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        53.33
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.41 (ii)   18.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.81         0.09       0.863 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10        28.97      58.46
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.97         0.40       0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.2200      0.1226
                        0.0100     0.0778   |   0.2900      0.1387
                        0.0800     0.0934   |   0.3700      0.1503
                        0.1600     0.1076   |   0.4300      0.1616
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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)    4.400      0.863      6.00      58.46
     OUTFLOW: ID= 1 (9290)    4.400      0.278      6.25      58.01

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.28
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1386

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--------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89  10.739     6.00    64.58
       + ID2= 2 (9290):     4.40   0.278     6.25    58.01
         ================================================
         ID = 3 (9264):    61.29  10.894     6.00    64.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.1000      2.1402
                          0.2080     1.2793   |   5.1480      2.2661
                          1.1880     1.5546   |   5.9930      2.3900
                          2.2120     1.7255   |   6.3930      2.4000
                          3.0680     1.9336   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9264)    61.290     10.894      6.00      64.11
     OUTFLOW: ID= 1 (5212)    61.290      3.571      6.50      64.08

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.77
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0574

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--------------------
| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.46       189.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1334.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        48.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.10 (ii)   29.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.48        10.58        19.083 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        29.22         39.27
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.40          0.54


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.3600      4.9180
                          0.9100     2.4658   |  17.8700      6.1368
                          5.1800     2.7404   |  22.4400      7.2882
```

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                          9.6400     3.9605   |  26.1200      8.4139

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2122)    267.100     19.083      6.00      39.27
     OUTFLOW: ID= 1 (9312)    267.100      9.869      6.75      39.27

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.72
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.0932

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--------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5212):    61.29   3.571     6.50    64.08
       + ID2= 2 (9312):   267.10   9.869     6.75    39.27
         ================================================
         ID = 3 (8152):   328.39  13.378     6.50    43.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (2141.0) ------>
                Distance      Elevation       Manning
                    0.00         259.29        0.0500
                   15.33         258.91        0.0500
                   38.33         258.57        0.0500
                   65.16         257.93        0.0500
                   95.82         253.44        0.0500
                  111.15         251.21        0.0500
                  130.32         249.67        0.0500
                  149.48         248.51        0.0500
                  150.66         248.50    0.0500 /0.0370  Main Channel
                  150.81         247.50        0.0370      Main Channel
                  154.66         247.50        0.0370      Main Channel
                  155.66         248.50    0.0370 /0.0500  Main Channel
                  160.98         248.50        0.0500
                  187.81         249.78        0.0500
                  199.31         252.13        0.0500
                  245.30         254.04        0.0500
                  264.46         253.99        0.0500
                  298.96         255.23        0.0500
                  329.62         257.02        0.0500
                  379.45         258.82        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   248.00    .648E+04       2.1          1.00      52.30
       1.00   248.50    .139E+05       6.4          1.44      36.35
       1.61   249.11    .570E+05      22.6          1.24      42.01
       2.21   249.71    .143E+06      63.6          1.39      37.61
       2.82   250.32    .263E+06     142.9          1.70      30.69
       3.43   250.93    .403E+06     257.2          2.00      26.11
       4.04   251.54    .562E+06     410.4          2.29      22.82
       4.64   252.14    .735E+06     601.3          2.56      20.37
       5.25   252.75    .933E+06     791.0          2.66      19.67
       5.86   253.36    .117E+07    1038.0          2.79      18.74
       6.46   253.96    .144E+07    1344.4          2.93      17.82
       7.07   254.57    .178E+07    1664.1          2.93      17.83
       7.68   255.18    .217E+07    2140.2          3.10      16.87
       8.28   255.78    .259E+07    2722.9          3.30      15.83
       8.89   256.39    .304E+07    3387.1          3.50      14.94
       9.50   257.00    .351E+07    4132.7          3.69      14.16
      10.11   257.61    .402E+07    4913.0          3.83      13.64
      10.71   258.21    .458E+07    5648.3          3.87      13.50
      11.32   258.82    .521E+07    6343.1          3.82      13.68

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.39    13.38    6.50  43.90      1.26      1.35
     OUTFLOW: ID= 1 (6214)  328.39    10.19    7.25  43.90      1.14      1.39


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CALIB	
STANDHYD (2144)	Area (ha)= 93.10
ID= 1 DT=15.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.82	23.27
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	787.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	54.88
over (min)		15.00	30.00
Storage Coeff. (min)=		11.01 (ii)	24.61 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	14.31 1.63 15.335 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.00
RUNOFF VOLUME	(mm)=	71.10 29.76 58.70
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.41 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 70.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9285)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.6500	2.6150
	0.3200	1.6583	6.2300	2.9579
	1.8100	1.9916	7.8200	3.2041
	3.3600	2.2943	9.1000	3.4456

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2144)	93.100	15.335	6.00	58.70
OUTFLOW: ID= 1 (9285)	93.100	5.284	6.50	58.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.46
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 2.7959

CALIB	
STANDHYD (2143)	Area (ha)= 158.30
ID= 1 DT=15.0 min	Total Imp(%)= 26.00 Dir. Conn.(%)= 9.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	41.16	117.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1027.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	60.50
over (min)		15.00	30.00
Storage Coeff. (min)=		12.91 (ii)	25.99 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	2.96 8.81 10.088 (iii)
TIME TO PEAK	(hrs)=	6.00 6.25 6.25
RUNOFF VOLUME	(mm)=	71.10 31.91 35.43
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.44 0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9286)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.9200	2.8224
	0.5400	1.3792	10.5900	3.5534
	3.0700	1.5175	13.3000	4.2519
	5.7200	2.2534	15.4900	4.9349

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2143)	158.300	10.088	6.25	35.43
OUTFLOW: ID= 1 (9286)	158.300	5.185	6.75	35.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 51.40
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 2.1083

ADD HYD (9260)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (9285):	93.10	5.284	6.50	58.69
+ ID2= 2 (9286):	158.30	5.185	6.75	35.43
ID = 3 (9260):	251.40	10.106	6.50	44.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5214)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.5370	0.9877
	0.1280	0.4635	3.1860	1.1293
	0.5900	0.5362	3.7090	1.2678
	1.3690	0.6921	3.9980	1.2778
	1.8980	0.8262	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9260)	251.400	10.106	6.50	44.04
OUTFLOW: ID= 1 (5214)	251.400	10.733	6.75	44.04

PEAK FLOW REDUCTION [Qout/Qin](%)=106.20
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.5521

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

CALIB	
STANDHYD (2142)	Area (ha)= 65.54
ID= 1 DT=15.0 min	Total Imp(%)= 27.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.70	47.84
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	661.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	19.99
over (min)		15.00	45.00
Storage Coeff. (min)=		9.91 (ii)	30.28 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.03

		TOTALS
PEAK FLOW	(cms)=	1.49 1.64 2.163 (iii)
TIME TO PEAK	(hrs)=	6.00 6.50 6.00
RUNOFF VOLUME	(mm)=	71.10 17.86 23.18
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.24 0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2142):    65.54   2.163     6.00    23.18
       + ID2= 2 (5214):   251.40  10.733     6.75    44.04
         ================================================
         ID = 3 (9214):   316.94  12.150     6.75    39.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6214):   328.39  10.187     7.25    43.90
       + ID2= 2 (9214):   316.94  12.150     6.75    39.73
         ================================================
         ID = 3 (8154):   645.33  20.647     6.75    41.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (2163)  |   Area    (ha)=  69.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.82         50.88
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     681.66         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         73.12
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.09 (ii)    22.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.42          5.02          5.514 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10         37.72          40.72
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.52           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9271) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.4900      1.2605
                         0.2400     0.6230   |   4.6600      1.5808
                         1.3500     0.6885   |   5.8600      1.8854
                         2.5200     1.0102   |   6.8200      2.1832

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (2163)    69.700     5.514      6.25     40.72
     OUTFLOW: ID= 1 (9271)    69.700     2.833      6.75     40.71

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.37
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.1058

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--------------------
| CALIB             |
| STANDHYD  (2169)  |   Area    (ha)=   3.50
|ID= 1 DT=15.0 min  |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          2.45
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     152.75         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         59.87
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.11 (ii)    17.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09          0.22          0.234 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10         30.32          34.40
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.41           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1800      0.0659
                         0.0100     0.0333   |   0.2400      0.0820
                         0.0700     0.0372   |   0.3000      0.0971
                         0.1300     0.0532   |   0.3500      0.1119

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2169)    3.500     0.234      6.25      34.40
     OUTFLOW: ID= 1 (9272)    3.500     0.117      6.75      34.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.96
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0508

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--------------------
| ADD HYD   (9251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9271):    69.70   2.833     6.75    40.71
       + ID2= 2 (9272):     3.50   0.117     6.75    34.16
         ================================================
         ID = 3 (9251):    73.20   2.950     6.75    40.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5216) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7400      2.4559
                         0.1890     1.6831   |   4.6960      2.6646
                         1.0830     1.7903   |   5.4670      2.8688
                         2.0170     2.0202   |   5.8670      2.8788
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                          2.7980     2.2179   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9251)     73.200      2.950      6.75      40.40
     OUTFLOW: ID= 1 (5216)     73.200      0.464      9.00      40.37

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.74
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.7162

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| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51        58.06
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        50.68
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.22 (ii)   24.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.14         3.77         4.177 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10        28.43         31.41
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.39          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570      4.177      6.25      31.41
     OUTFLOW: ID= 1 (9316)     72.570      3.408      6.50      31.41

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 81.58
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2633

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5216):    73.20   0.464     9.00    40.37
        + ID2= 2 (9316):    72.57   3.408     6.50    31.41
          ================================================
          ID = 3 (9216):   145.77   3.449     6.50    35.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8156) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8154):   645.33  20.647     6.75    41.85
        + ID2= 2 (9216):   145.77   3.449     6.50    35.91
          ================================================
          ID = 3 (8156):   791.10  23.552     6.75    40.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (2181.0) ------>
                Distance      Elevation       Manning
                    0.00         256.38        0.0450
                    7.70         254.85        0.0450
                   15.40         253.20        0.0450
                   19.25         252.29        0.0450
                   23.10         251.17        0.0450
                   78.94         236.16        0.0450
                   80.87         235.80        0.0450
                   82.79         235.45        0.0450
                   84.57         234.60    0.0450 /0.0300  Main Channel
                   85.07         233.60        0.0300      Main Channel
                   88.57         233.60        0.0300      Main Channel
                   93.57         233.60        0.0300      Main Channel
                   94.07         234.60    0.0300 /0.0450  Main Channel
                   96.27         235.13        0.0450
                   98.19         235.20        0.0450
                  100.12         235.32        0.0450
                  138.63         239.95        0.0450
                  180.98         244.80        0.0450
                  188.69         245.00        0.0450
                  190.61         256.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
       1.00    234.60    .181E+05        6.0           0.66       50.64
       2.13    235.73    .518E+05       23.8           0.93       36.27
       3.25    236.85    .119E+06       60.0           1.02       33.03
       4.38    237.98    .217E+06      120.6           1.12       29.99
       5.51    239.11    .346E+06      210.5           1.23       27.39
       6.63    240.23    .506E+06      334.1           1.33       25.22
       7.76    241.36    .697E+06      495.6           1.43       23.44
       8.88    242.48    .920E+06      699.8           1.53       21.91
      10.01    243.61    .117E+07      950.8           1.63       20.59
      11.14    244.74    .146E+07     1252.5           1.73       19.45
      12.26    245.86    .178E+07     1619.6           1.83       18.37
      13.39    246.99    .212E+07     2078.5           1.97       17.01
      14.52    248.12    .247E+07     2589.0           2.11       15.88
      15.64    249.24    .282E+07     3149.7           2.25       14.94
      16.77    250.37    .319E+07     3759.8           2.37       14.14
      17.89    251.49    .356E+07     4419.5           2.50       13.44
      19.02    252.62    .395E+07     5126.4           2.61       12.84
      20.15    253.75    .435E+07     5871.6           2.72       12.34
      21.27    254.87    .476E+07     6663.2           2.82       11.89

                                     <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10    23.55    6.75  40.76      2.11      0.92
     OUTFLOW: ID= 1 (6218)  791.10    17.09    7.25  40.75      1.71      0.81

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| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25        54.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     679.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        72.27
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.08 (ii)   22.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
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     PEAK FLOW       (cms)=       1.10         5.27          5.652 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10        38.87          41.12
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.53           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR (9282) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5000	3.5000
	0.8000	0.1000	6.0000	4.0000
	1.1000	2.0000	6.5000	4.5000
	2.5000	3.0000	7.0000	5.5000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2183)	69.300	5.652	6.25	41.12
OUTFLOW: ID= 1 (9282)	69.300	0.999	7.50	41.12

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.67
                TIME SHIFT OF PEAK FLOW          (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3608
```

RESERVOIR (5218) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.5090	1.7553
	0.2280	0.8236	5.6620	2.0069
	1.3060	0.9528	6.5910	2.2530
	2.4320	1.2300	6.9910	2.2630
	3.3740	1.4683	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	69.300	0.999	7.50	41.12
OUTFLOW: ID= 1 (5218)	69.300	0.956	9.50	41.11

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.72
                TIME SHIFT OF PEAK FLOW          (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9110
```

CALIB NASHYD (2182) ID= 1 DT=15.0 min	Area (ha)= 82.95	Curve Number (CN)= 67.7 Ia (mm)= 5.00	# of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 0.79

```
     Unit Hyd Qpeak  (cms)=   1.786

     PEAK FLOW       (cms)=   1.131 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  24.148
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.330

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (9218) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2182):	82.95	1.131	7.00	24.15
+ ID2= 2 (5218):	69.30	0.956	9.50	41.11
ID = 3 (9218):	152.25	1.735	8.75	31.87

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ADD HYD (8158) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6218):	791.10	17.085	7.25	40.75
+ ID2= 2 (9218):	152.25	1.735	8.75	31.87
ID = 3 (8158):	943.35	18.362	7.25	39.32

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ADD HYD (8151) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8150):	15633.75	113.031	9.50	27.71
+ ID2= 2 (8158):	943.35	18.362	7.25	39.32
ID = 3 (8151):	16577.10	125.120	8.50	28.37

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

RESERVOIR (5504) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	33.0100	0.6700
	2.6400	0.0500	37.4800	0.7800
	4.8300	0.0900	47.5400	1.0100
	7.4100	0.1300	60.2300	1.2800
	10.3300	0.1900	71.9530	1.5258
	13.5300	0.2500	*******	3.0529
	16.9900	0.3200	*******	5.3299
	20.6800	0.3900	*******	8.4148
	24.6000	0.4800	*******	11.7637
	28.7100	0.5700	*******	11.7737

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8151)	********	125.120	8.50	28.37
OUTFLOW: ID= 1 (5504)	********	125.142	8.50	28.37

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.02
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.6552

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
```

ROUTE CHN (6220) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2201.0) ------>

Distance	Elevation	Manning	
0.00	245.59	0.0600	
5.76	245.45	0.0600	
23.03	242.27	0.0600	
57.58	232.35	0.0600	
86.37	226.18	0.0600	
109.41	224.31	0.0600	
115.17	223.86	0.0600	
120.92	222.78	0.0600	
126.68	221.93	0.0600	
128.06	221.50	0.0600 /0.0300	Main Channel
129.56	220.00	0.0300	Main Channel
141.56	220.00	0.0300	Main Channel
143.06	221.50	0.0300 /0.0600	Main Channel
149.72	223.77	0.0600	
155.47	225.09	0.0600	
253.36	229.21	0.0600	
333.98	227.50	0.0600	
454.90	229.25	0.0600	
500.97	233.11	0.0600	
570.07	237.42	0.0600	

<----------- TRAVEL TIME TABLE ----------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	220.75	.262E+05	5.5	0.57	79.44
1.50	221.50	.555E+05	17.5	0.86	52.89
2.44	222.44	.103E+06	42.7	1.14	40.03
3.37	223.37	.171E+06	79.4	1.27	35.98
4.31	224.31	.263E+06	128.1	1.33	34.22
5.25	225.25	.393E+06	191.7	1.34	34.19
6.18	226.18	.594E+06	276.7	1.28	35.77
7.12	227.12	.872E+06	399.9	1.26	36.33
8.06	228.06	.127E+07	542.7	1.17	38.92
8.99	228.99	.199E+07	770.0	1.06	43.01
9.93	229.93	.297E+07	1151.8	1.06	42.95
10.86	230.86	.400E+07	1652.9	1.13	40.33
11.80	231.80	.507E+07	2251.8	1.22	37.53
12.74	232.74	.618E+07	2946.5	1.31	34.97
13.67	233.67	.733E+07	3726.8	1.39	32.79
14.61	234.61	.853E+07	4591.0	1.48	30.96
15.55	235.55	.977E+07	5544.1	1.55	29.37
16.48	236.48	.111E+08	6586.7	1.63	27.99
17.42	237.42	.124E+08	7719.2	1.71	26.77

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (5504) *******	125.14	8.50	28.37		4.25	1.33
OUTFLOW: ID= 1 (6220) *******	121.25	9.50	28.37		4.18	1.33

CALIB / STANDHYD (2207) / ID= 1 DT=15.0 min	Area (ha)= 57.80	Total Imp(%)= 21.00	Dir. Conn.(%)= 8.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.14	45.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	620.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	96.49	73.88
over (min)		15.00	30.00
Storage Coeff. (min)	=	9.54 (ii)	21.62 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.09	0.05
			TOTALS
PEAK FLOW (cms)	=	1.06	4.62 4.972 (iii)
TIME TO PEAK (hrs)	=	6.00	6.25 6.25
RUNOFF VOLUME (mm)	=	71.10	40.57 43.02
TOTAL RAINFALL (mm)	=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.56 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9278) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.5000	2.5000
	0.2000	0.3000	0.6000	3.5000
	0.3000	0.9000	0.7000	4.5000
	0.4000	2.0000	0.8000	5.5000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2207)	57.800	4.972	6.25	43.02
OUTFLOW: ID= 1 (9278)	57.800	0.375	9.00	43.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.54
TIME SHIFT OF PEAK FLOW (min)=165.00

MAXIMUM STORAGE USED (ha.m.)= 1.7232

CALIB / STANDHYD (2204) / ID= 1 DT=15.0 min	Area (ha)= 13.30	Total Imp(%)= 75.00	Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.98	3.33
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	297.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	96.49	70.94
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.14 (ii)	18.41 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.10	0.05
			TOTALS
PEAK FLOW (cms)	=	2.35	0.34 2.578 (iii)
TIME TO PEAK (hrs)	=	6.00	6.25 6.00
RUNOFF VOLUME (mm)	=	71.10	37.95 61.16
TOTAL RAINFALL (mm)	=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.52 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9279) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6700	0.3747
	0.0500	0.2376	0.8900	0.4238
	0.2600	0.2854	1.1200	0.4591
	0.4800	0.3287	1.3000	0.4937

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2204)	13.300	2.578	6.00	61.16
OUTFLOW: ID= 1 (9279)	13.300	0.847	6.25	61.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.86
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.4148

ADD HYD (9255) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (9278):	57.80	0.375	9.00	43.01
+ ID2= 2 (9279):	13.30	0.847	6.25	61.07
ID = 3 (9255):	71.10	1.131	6.25	46.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5220) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.6050	1.0142
	0.1320	0.4759	3.2710	1.1595
	0.7550	0.5505	3.8080	1.3018
	1.4050	0.7107	4.2080	1.3118
	1.9490	0.8484	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9255)	71.100	1.131	6.25	46.39
OUTFLOW: ID= 1 (5220)	71.100	0.614	8.00	46.37

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.26
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5340

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-------------------
| CALIB           |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   1.000 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.570
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.405

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2202):    98.00   1.000     8.00    29.57
        + ID2= 2 (5220):    71.10   0.614     8.00    46.37
          ================================================
          ID = 3 (9220):   169.10   1.613     8.00    36.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6220): 16577.10 121.252     9.50    28.37
        + ID2= 2 (9220):   169.10   1.613     8.00    36.64
          ================================================
          ID = 3 (8160): 16746.20 122.675     9.50    28.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2221) |   Area    (ha)= 110.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  20.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.94         69.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     858.84         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         69.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.59 (ii)    23.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.77          6.32          8.837 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         35.49         42.61
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.49          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (2224) |   Area    (ha)=  43.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  66.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.10         12.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     536.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         72.23
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.74 (ii)    20.93 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.70          1.21          7.488 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         38.19         59.91
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.52          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9288) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1600      1.1836
                         0.1500     0.7428   |   2.8900      1.3455
                         0.8400     0.8895   |   3.6300      1.4651
                         1.5600     1.0342   |   4.2300      1.5823

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2224)     43.200      7.488      6.00      59.91
     OUTFLOW: ID= 1 (9288)     43.200      2.563      6.50      59.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.23
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2977

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-------------------
| ADD HYD   (9261) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2221):   110.64   8.837     6.00    42.61
        + ID2= 2 (9288):    43.20   2.563     6.50    59.88
          ================================================
          ID = 3 (9261):   153.84  10.743     6.25    47.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2210      4.0213
                         0.4910     2.1348   |   9.0080      4.5380
                         2.1830     2.4433   |  15.0420      4.9977
                         3.9370     2.9883   |  15.4420      5.0077
                         5.4550     3.4692   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9261)    153.840     10.743      6.25      47.46
     OUTFLOW: ID= 1 (5222)    153.840      4.394      7.00      47.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.90
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
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                MAXIMUM  STORAGE   USED       (ha.m.)=  3.1342
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| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  65.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.18         10.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     661.77         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49        278.81
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.91 (ii)    17.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.71          4.49          9.850 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         53.53          61.44
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.73           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69   9.850     6.00    61.44
       + ID2= 2 (5222):   153.84   4.394     7.00    47.46
         ================================================
         ID = 3 (8164):   219.53  10.118     6.00    51.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99         33.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     593.01         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         65.61
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.28 (ii)    21.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.29          3.00          5.232 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         36.92          46.15
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.51           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39         26.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     764.63         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         70.94
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.81 (ii)    23.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.40          2.47         13.997 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         37.95          59.17
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.52           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   4.3900      2.3776
                         0.3000     1.4858    |   5.8700      2.7087
                         1.7000     1.7770    |   7.3700      2.9557
                         3.1700     2.0741    |   8.5800      3.1980

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700     13.997      6.00      59.17
     OUTFLOW: ID= 1 (9287)     87.700      5.083      6.50      59.15

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.32
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.5642
```

```
--------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4470      0.1810
                         0.0230     0.0884    |   0.5620      0.2047
                         0.1300     0.1032    |   0.6540      0.2278
                         0.2410     0.1297    |   1.0540      0.2378
                         0.3350     0.1532    |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      5.083      6.50      59.15
     OUTFLOW: ID= 1 (5224)     87.700      5.376      6.50      59.14

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=105.75
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.3590

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
```

```
--------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   5.232     6.00    46.15
       + ID2= 2 (5224):    87.70   5.376     6.50    59.14
         ================================================
         ID = 3 (9224):   140.45   8.011     6.50    54.26
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8166)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8164):	219.53	10.118	6.00	51.64
	+ ID2= 2 (9224):	140.45	8.011	6.50	54.26
	ID = 3 (8166):	359.98	15.727	6.00	52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6226)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2261.0) ------>

Distance	Elevation	Manning	
0.00	245.35	0.0600	
8.27	242.72	0.0600	
16.54	240.01	0.0600	
31.02	235.31	0.0600	
41.36	233.14	0.0600	
90.99	227.73	0.0600	
93.06	227.50	0.0600	
95.13	227.27	0.0600	
95.83	227.00	0.0600	
100.83	226.50	0.0600 /0.0350	Main Channel
101.33	225.50	0.0350	Main Channel
101.83	226.50	0.0350 /0.0600	Main Channel
105.83	227.00	0.0600	
107.54	227.39	0.0600	
109.60	227.62	0.0600	
111.67	227.86	0.0600	
146.83	231.76	0.0600	
173.71	234.77	0.0600	
186.12	238.23	0.0600	
202.67	238.35	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	226.00	.403E+03	0.0	0.16	330.59
1.00	226.50	.161E+04	0.1	0.26	208.26
1.70	227.20	.173E+05	1.5	0.27	195.72
2.39	227.89	.541E+05	5.9	0.35	152.27
3.09	228.59	.119E+06	16.0	0.43	124.08
3.79	229.29	.212E+06	33.8	0.51	104.65
4.49	229.99	.334E+06	61.2	0.59	90.97
5.18	230.68	.484E+06	99.7	0.66	80.88
5.88	231.38	.663E+06	151.0	0.73	73.13
6.58	232.08	.870E+06	216.5	0.80	66.95
7.27	232.77	.111E+07	297.5	0.87	61.91
7.97	233.47	.137E+07	398.1	0.94	57.29
8.67	234.17	.165E+07	518.9	1.01	53.12
9.36	234.86	.196E+07	658.9	1.08	49.59
10.06	235.56	.228E+07	827.0	1.17	46.02
10.76	236.26	.262E+07	1015.4	1.25	42.96
11.46	236.96	.296E+07	1221.2	1.33	40.41
12.15	237.65	.332E+07	1444.6	1.40	38.26
12.85	238.35	.368E+07	1598.2	1.40	38.42

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8166)	359.98	15.73	6.00	52.66	3.07	0.43
OUTFLOW:	ID= 1 (6226)	359.98	6.55	7.25	52.66	2.44	0.36

CALIB
NASHYD (2267) | Area (ha)= 10.50 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.47

Unit Hyd Qpeak (cms)= 0.383

PEAK FLOW (cms)= 0.341 (i)
TIME TO PEAK (hrs)= 6.500

RUNOFF VOLUME (mm)= 36.272
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.496

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9276)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5300	0.1297
0.0400	0.0402	0.7100	0.1837
0.2000	0.0341	0.8900	0.2402
0.3800	0.0910	1.0300	0.2954

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2267)	10.500	0.341	6.50	36.27
OUTFLOW:	ID= 1 (9276)	10.500	0.282	7.25	36.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 82.68
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0608

**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

CALIB
STANDHYD (2264) | Area (ha)= 117.80
ID= 1 DT=15.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	88.35	29.45
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	886.19	40.00
Mannings n	=	0.013	0.250

				TOTALS
Max.Eff.Inten.(mm/hr)=		96.49	70.94	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.81 (ii)	24.09 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
PEAK FLOW	(cms)=	17.67	2.71	19.425 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	71.10	37.95	61.16
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.52	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9277)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.5000	8.0000
0.3000	2.0000	3.5000	10.0000
0.9000	5.0000	4.5000	13.0000
2.0000	7.5000	5.5000	14.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2264)	117.800	19.425	6.00	61.16
OUTFLOW:	ID= 1 (9277)	117.800	1.071	8.25	61.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.51
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 5.3891

ADD HYD (9253)

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9276):    10.50   0.282     7.25    36.25
       + ID2= 2 (9277):   117.80   1.071     8.25    61.14
         ================================================
         ID = 3 (9253):   128.30   1.314     7.75    59.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.7530      0.6823
                         0.0890     0.3202   |   2.2010      0.7801
                         0.5080     0.3704   |   2.5620      0.8758
                         0.9450     0.4782   |   2.9620      0.8858
                         1.3110     0.5708   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300      1.314      7.75      59.10
     OUTFLOW: ID= 1 (5226)    128.300      1.229      8.50      59.10

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 93.59
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5524

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-------------------
| CALIB             |
| NASHYD    (2262) |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.934

     PEAK FLOW       (cms)=   1.744 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  32.003
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2262):   119.28   1.744     7.25    32.00
       + ID2= 2 (5226):   128.30   1.229     8.50    59.10
         ================================================
         ID = 3 (9226):   247.58   2.854     8.00    46.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6226):   359.98   6.549     7.25    52.66
       + ID2= 2 (9226):   247.58   2.854     8.00    46.04
         ================================================
         ID = 3 (8168):   607.56   9.283     7.50    49.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.20 122.675     9.50    28.46
       + ID2= 2 (8168):   607.56   9.283     7.50    49.96
         ================================================
         ID = 3 (8162): 17353.76 129.804     9.00    29.21
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation       Manning
                  0.00         245.00        0.0600
                 18.60         244.74        0.0600
                 37.20         242.47        0.0600
                 93.01         233.71        0.0600
                125.57         226.95        0.0600
                213.93         221.63        0.0600
                218.58         221.15        0.0600
                223.23         220.45        0.0600
                225.03         220.55    0.0600 /0.0300  Main Channel
                225.53         218.05        0.0300      Main Channel
                232.53         218.05        0.0300      Main Channel
                240.03         218.05        0.0300      Main Channel
                241.03         220.55    0.0300 /0.0600  Main Channel
                246.48         221.00        0.0600
                251.13         221.27        0.0600
                255.78         221.22        0.0600
                325.54         225.25        0.0600
                367.40         228.91        0.0600
                404.60         231.75        0.0600
                460.41         245.00        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.25    219.30    .338E+05      16.0        0.86       35.15
       2.50    220.55    .696E+05      48.3        1.26       24.02
       3.94    221.99    .168E+06     116.0        1.26       24.14
       5.38    223.43    .392E+06     247.5        1.15       26.37
       6.81    224.86    .743E+06     472.6        1.16       26.20
       8.25    226.30    .122E+07     821.6        1.23       24.67
       9.69    227.74    .179E+07    1320.1        1.34       22.59
      11.13    229.18    .243E+07    1965.7        1.47       20.58
      12.57    230.62    .313E+07    2744.2        1.59       19.02
      14.01    232.06    .390E+07    3683.4        1.72       17.66
      15.44    233.49    .472E+07    4824.1        1.86       16.30
      16.88    234.93    .557E+07    6092.4        1.99       15.23
      18.32    236.37    .646E+07    7503.3        2.11       14.35
      19.76    237.81    .739E+07    9061.2        2.23       13.59
      21.20    239.25    .836E+07   10767.6        2.34       12.94
      22.64    240.69    .937E+07   12624.8        2.45       12.37
      24.07    242.12    .104E+08   14634.9        2.56       11.87
      25.51    243.56    .115E+08   16762.8        2.65       11.45
      26.95    245.00    .127E+08   18699.9        2.69       11.28

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   129.80    9.00  29.21      4.09      1.24
     OUTFLOW: ID= 1 (6228) *******   127.89    9.75  29.21      4.07      1.25

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| CALIB             |
| STANDHYD  (2287) |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.01        100.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     932.74         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         24.67
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.18 (ii)    30.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.77          4.19          4.864 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10         22.80         27.63
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.31          0.38
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9275) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.5000      3.5000
                         0.8000     0.1000   |   6.0000      4.0000
                         1.5000     2.0000   |   6.5000      4.5000
                         2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2287)    130.500      4.864      6.50      27.63
     OUTFLOW: ID= 1 (9275)    130.500      1.329      7.75      27.63

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.33
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5374

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-------------------
| RESERVOIR (5228) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.7260      2.6184
                         0.3410     1.2286   |   8.4460      2.9937
                         1.9480     1.4214   |   9.8320      3.3609
                         3.6280     1.8348   |  10.2320      3.3709
                         5.0330     2.1904   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9275)    130.500      1.329      7.75      27.63
     OUTFLOW: ID= 1 (5228)    130.500      1.208      9.75      27.62

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.87
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3327

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| CALIB           |
| NASHYD    (2282) |   Area    (ha)= 180.03   Curve Number   (CN)= 61.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.754

     PEAK FLOW       (cms)=   1.571 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.484
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2282):   180.03   1.571     7.50    20.48
       + ID2= 2 (5228):   130.50   1.208     9.75    27.62
         ================================================
         ID = 3 (9228):   310.53   2.492     9.25    23.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8170) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6228): 17353.76 127.893     9.75    29.21
       + ID2= 2 (9228):   310.53   2.492     9.25    23.48
         ================================================
         ID = 3 (8170): 17664.29 130.347     9.75    29.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2302) |   Area    (ha)=  30.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  11.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.84         21.63
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      450.70         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49         53.63
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        7.87 (ii)    21.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.81          1.57          1.802 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       71.10         27.98         32.72
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.97          0.38          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2307) |   Area    (ha)= 175.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       43.75        131.25
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1080.12         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       96.49         64.44
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       13.30 (ii)    26.06 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.23         10.52         11.953 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=       71.10         34.29         37.60
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.97          0.47          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9280) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.7500      3.0604
                         0.5900     1.4722   |  11.7100      3.8736
                         3.3900     1.6096   |  14.7000      4.6556
                         6.3200     2.4308   |  17.1100      5.4201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2307)    175.000     11.953      6.25      37.60
    OUTFLOW: ID= 1 (9280)    175.000      6.275      6.75      37.60

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.50
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.4284

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.6830      2.7782
                         0.4700     1.3193   |  10.7480      3.1570
                         2.5870     1.5374   |  12.3570      3.5304
                         5.1590     1.9534   |  12.7570      3.5404
                         6.7830     2.3333   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9280)    175.000      6.275      6.75      37.60
    OUTFLOW: ID= 1 (5230)    175.000      4.585      7.50      37.60

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.06
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.8626

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   1.802     6.00     32.72
       + ID2= 2 (5230):   175.00   4.585     7.50     37.60
         ================================================
         ID = 3 (8172):   205.47   4.907     7.50     36.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.22

    Unit Hyd Qpeak  (cms)=   0.143

    PEAK FLOW       (cms)=   0.066 (i)
    TIME TO PEAK    (hrs)=   6.000
    RUNOFF VOLUME    (mm)=  23.008
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.315

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0900      0.0300
                         0.0100     0.0136   |   0.1200      0.0386
                         0.0400     0.0146   |   0.1500      0.0471
                         0.0700     0.0234   |   0.1800      0.0554

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2329)      1.800     0.066      6.00      23.01
    OUTFLOW: ID= 1 (9269)      1.800     0.042      6.75      22.83

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 63.22
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0153

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-------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        44.16         139.84
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         0.50           0.50
     Length            (m)=      1107.55          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        96.49          49.65
               over (min)          15.00          30.00
     Storage Coeff.  (min)=        13.50 (ii)     27.66 (ii)
     Unit Hyd. Tpeak (min)=        15.00          30.00
     Unit Hyd. peak  (cms)=         0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         3.00           8.31       9.662 (iii)
     TIME TO PEAK    (hrs)=         6.00           6.25        6.25
     RUNOFF VOLUME    (mm)=        71.10          26.87       30.40
     TOTAL RAINFALL   (mm)=        73.10          73.10       73.10
     RUNOFF COEFFICIENT   =         0.97           0.37        0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0000      4.0000
                         1.1000     0.3000   |   3.5000      4.5000
                         1.8000     1.8000   |   4.5000      6.0000
                         2.0000     2.5000   |   5.5000      8.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2327)    184.000      9.662      6.25      30.40
    OUTFLOW: ID= 1 (9270)    184.000      2.082      7.50      30.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.55
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.6271

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| ADD HYD   (9249) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.042     6.75     22.83
       + ID2= 2 (9270):   184.00   2.082     7.50     30.40
         ================================================
         ID = 3 (9249):   185.80   2.102     7.50     30.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.1130      4.3262
                         0.5630     2.0299   |  13.9540      4.9462
                         3.2190     2.3484   |  16.2450      5.5530
                         5.9950     3.0315   |  16.6450      5.5630
                         8.3150     3.6189   |   0.0000      0.0000
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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800     2.102      7.50      30.33
     OUTFLOW: ID= 1 (5232)    185.800     1.835     10.25      30.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 87.29
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.1830

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| CALIB           |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   1.090 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.267
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2322):   129.00   1.090     7.25    18.27
      + ID2= 2 (5232):   185.80   1.835    10.25    30.33
        ================================================
        ID = 3 (9232):   314.80   2.602     9.75    25.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8172):   205.47   4.907     7.50    36.87
      + ID2= 2 (9232):   314.80   2.602     9.75    25.38
        ================================================
        ID = 3 (8173):   520.27   6.335     7.50    29.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8170): 17664.29 130.347     9.75    29.11
      + ID2= 2 (8173):   520.27   6.335     7.50    29.92
        ================================================
        ID = 3 (8174): 18184.56 134.108     9.75    29.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                  0.00         228.00        0.0550
                 42.86         223.21        0.0550
                 85.72         219.56        0.0550
                107.15         219.42        0.0550
                128.58         219.39        0.0550
                214.30         219.30        0.0550
                225.02         219.26        0.0550
                235.73         219.24        0.0550
                255.16         219.20    0.0550 /0.0350  Main Channel
                257.16         217.20        0.0350      Main Channel
                303.16         217.20        0.0350      Main Channel
                305.16         219.20    0.0350 /0.0550  Main Channel
                310.74         219.28        0.0550
                321.45         219.27        0.0550
                332.17         219.26        0.0550
                396.46         219.29        0.0550
                782.20         222.91        0.0550
                878.64         227.43        0.0550
                964.36         227.80        0.0550
               1060.79         228.00        0.0550

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50    217.70    .887E+05       7.2         0.31      206.54
       1.00    218.20    .179E+06      22.7         0.48      131.74
       1.50    218.70    .272E+06      44.5         0.62      101.75
       2.00    219.20    .366E+06      71.8         0.75       84.97
       2.59    219.79    .993E+06     136.1         0.52      121.59
       3.17    220.37    .189E+07     258.6         0.52      121.80
       3.76    220.96    .294E+07     434.7         0.56      112.82
       4.35    221.55    .415E+07     665.9         0.61      103.88
       4.93    222.13    .551E+07     955.0         0.66       96.22
       5.52    222.72    .703E+07    1305.1         0.71       89.80
       6.11    223.31    .868E+07    1744.9         0.77       82.91
       6.69    223.89    .104E+08    2261.4         0.83       76.46
       7.28    224.48    .121E+08    2838.0         0.89       71.12
       7.87    225.07    .139E+08    3472.9         0.95       66.63
       8.45    225.65    .157E+08    4165.0         1.01       62.82
       9.04    226.24    .176E+08    4913.5         1.07       59.54
       9.63    226.83    .194E+08    5717.7         1.12       56.68
      10.21    227.41    .214E+08    6577.1         1.17       54.18
      10.80    228.00    .235E+08    6919.5         1.12       56.61

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   134.11    9.75  29.13      2.57      0.53
     OUTFLOW: ID= 1 (6234) *******   114.77   12.00  29.13      2.39      0.58

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| CALIB           |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   1.242 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  17.263
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.236

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  13.3100      4.0635
                         0.9000     1.7152   |  17.8000      5.3537
                         5.1600     1.7685   |  22.3500      6.6446
                         9.6100     3.0976   |  26.0300      7.9060

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100     1.242      9.25      17.26
     OUTFLOW: ID= 1 (9281)    266.100     0.828     13.75      17.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.63
                  TIME SHIFT OF PEAK FLOW         (min)=270.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5781

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-------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5630      0.1745
                         0.1300     0.0819   |   0.6550      0.1995
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                        0.2420     0.0947   |   0.7760      0.2240
                        0.3350     0.1223   |   1.0550      0.2340
                        0.4480     0.1460   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      0.828     13.75      17.26
     OUTFLOW: ID= 1 (5234)    266.100      0.828     14.00      17.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.99
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2259

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-------------------
| CALIB             |
| STANDHYD  (2342)  |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min  |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.23         0.83
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        20.55
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       2.34 (ii)   15.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03          0.039 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      72.10        11.85         16.66
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.16          0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9234)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2342):     1.06   0.039     6.00    16.66
        + ID2= 2 (5234):   266.10   0.828    14.00    17.26
          ================================================
          ID = 3 (9234):   267.16   0.828    14.00    17.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8176)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6234): 18184.56 114.765    12.00    29.13
        + ID2= 2 (9234):   267.16   0.828    14.00    17.26
          ================================================
          ID = 3 (8176): 18451.72 115.500    12.00    28.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2369)  |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.64       340.26
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50

     Length            (m)=    1716.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        52.94
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.56 (ii)   31.36 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.43        18.56         20.782 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.50
     RUNOFF VOLUME    (mm)=      71.10        28.88         32.26
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.40          0.44

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9266)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3000      8.0000
                          0.2000     2.0000   |   3.5000     10.0000
                          1.9000     7.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900     20.782      6.50      32.26
     OUTFLOW: ID= 1 (9266)    441.900      3.151      8.75      32.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.16
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  9.4271

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-------------------
| RESERVOIR (5236)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1380      1.5897
                          1.0220     0.7542   |   3.7950      2.0204
                          1.7530     0.8200   |   4.4970      2.4373
                          2.3290     1.2567   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      3.151      8.75      32.26
     OUTFLOW: ID= 1 (5236)    441.900      2.829     10.75      32.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.77
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.4630

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-------------------
| CALIB             |
| NASHYD    (2362)  |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.386 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.650
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9236) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.386     8.00    18.65
       + ID2= 2 (5236):   441.90   2.829    10.75    32.26
         ================================================
         ID = 3 (9236):   494.49   3.117    10.50    30.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                  0.00         241.54        0.0380
                602.55         227.00        0.0380
               1702.00         224.50        0.0380
               1721.25         223.00        0.0380
               1725.10         222.60        0.0380
               1780.94         222.50        0.0380
               1782.87         222.45        0.0380
               1784.79         222.40    0.0380 /0.0300  Main Channel
               1786.57         221.75        0.0300      Main Channel
               1787.07         220.75        0.0300      Main Channel
               1787.57         220.75        0.0300      Main Channel
               1791.57         220.75        0.0300      Main Channel
               1794.07         221.75        0.0300      Main Channel
               1798.27         222.00        0.0300      Main Channel
               1800.19         222.35    0.0300 /0.0380  Main Channel
               1802.12         222.47        0.0380
               1840.63         223.00        0.0380
               1900.00         225.00        0.0380
               1950.00         226.00        0.0380
               2242.61         240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.80   221.55    .101E+05       5.2         1.14      32.36
       1.60   222.35    .296E+05      18.7         1.40      26.36
       2.64   223.39    .249E+06     151.8         1.35      27.33
       3.68   224.43    .613E+06     512.2         1.85      19.94
       4.71   225.46    .152E+07    1066.8         1.55      23.80
       5.75   226.50    .359E+07    2824.9         1.75      21.16
       6.79   227.54    .663E+07    6528.0         2.18      16.93
       7.83   228.58    .994E+07   12158.6         2.71      13.62
       8.87   229.62    .134E+08   19268.8         3.19      11.58
       9.91   230.66    .170E+08   27785.3         3.63      10.19
      10.94   231.69    .207E+08   37667.1         4.03       9.18
      11.98   232.73    .246E+08   48891.7         4.40       8.40
      13.02   233.77    .287E+08   61448.0         4.75       7.78
      14.06   234.81    .329E+08   75332.7         5.08       7.28
      15.10   235.85    .372E+08   90547.8         5.39       6.85
      16.14   236.89    .417E+08   *******         5.69       6.49
      17.17   237.92    .464E+08   *******         5.98       6.18
      18.21   238.96    .512E+08   *******         6.25       5.91
      19.25   240.00    .561E+08   *******         6.52       5.67

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9236)  494.49     3.12   10.50  30.81      0.48      1.14
     OUTFLOW: ID= 1 (6238)  494.49     3.07   11.00  30.81      0.47      1.14


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| CALIB             |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.99         3.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     177.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        51.62
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.49 (ii)   18.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.28          0.293 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10        28.59         31.57
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.39          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300      0.0785
                          0.0200     0.0364   |   0.3100      0.1005
                          0.0900     0.0393   |   0.3900      0.1220
                          0.1700     0.0616   |   0.4600      0.1429

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)      4.700     0.293      6.25      31.57
     OUTFLOW: ID= 1 (9267)      4.700     0.149      6.75      31.47

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.87
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0570

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-------------------
| CALIB             |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   0.752 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.095
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.220

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100      1.3564
                          0.3100     0.5624   |   6.0400      1.7959
                          1.7500     0.5748   |   7.5800      2.2374
                          3.2600     1.0285   |   8.8300      2.6688

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)     90.200     0.752      7.00      16.09
     OUTFLOW: ID= 1 (9268)     90.200     0.601      9.25      16.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 79.97
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5676

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-------------------
| ADD HYD   (9247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9267):     4.70   0.149     6.75    31.47
       + ID2= 2 (9268):    90.20   0.601     9.25    16.09
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          ================================================
          ID = 3 (9247):    94.90   0.624     9.25    16.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.8780      1.5095
                         0.1960     0.7083   |   4.8600      1.7258
                         1.1230     0.8194   |   5.6680      1.9375
                         2.0920     1.0578   |   6.0680      1.9475
                         2.9010     1.2627   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9247)     94.900     0.624      9.25      16.85
     OUTFLOW: ID= 1 (5238)     94.900     0.243     15.25      16.84

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.93
                TIME SHIFT OF PEAK FLOW         (min)=360.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7140

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-------------------
| CALIB             |
| NASHYD    (2382)  |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   1.255 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  17.656
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.242

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2382):   216.80   1.255     8.25    17.66
        + ID2= 2 (5238):    94.90   0.243    15.25    16.84
          ================================================
          ID = 3 (9238):   311.70   1.310     8.50    17.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6238):   494.49   3.072    11.00    30.81
        + ID2= 2 (9238):   311.70   1.310     8.50    17.41
          ================================================
          ID = 3 (8180):   806.19   4.270    10.75    25.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8176): 18451.72 115.500    12.00    28.96
        + ID2= 2 (8180):   806.19   4.270    10.75    25.63
          ================================================
          ID = 3 (8178): 19257.91 119.582    12.00    28.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                   0.00         222.00        0.0450
                  11.46         221.00        0.0450
                 208.98         221.00        0.0450
                 404.04         220.97        0.0450
                 808.08         220.83        0.0450
                 905.60         220.17        0.0450
                 919.53         219.43        0.0450
                 933.47         219.22        0.0450
                 945.26         219.21    0.0450 /0.0300  Main Channel
                 946.26         217.81        0.0300      Main Channel
                 975.26         217.81        0.0300      Main Channel
                1003.26         217.81        0.0300      Main Channel
                1005.26         219.21    0.0300 /0.0450  Main Channel
                1017.06         219.28        0.0450
                1030.99         219.26        0.0450
                1044.92         219.23        0.0450
                1058.86         219.23        0.0450
                1253.91         219.22        0.0450
                1323.57         221.05        0.0450
                1379.30         222.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.20    218.01    .307E+05         2.2          0.20      227.52
       0.40    218.21    .617E+05         7.1          0.31      143.95
       0.60    218.41    .928E+05        14.0          0.41      110.33
       0.80    218.61    .124E+06        22.6          0.49       91.46
       1.00    218.81    .156E+06        32.8          0.57       79.15
       1.20    219.01    .188E+06        44.5          0.64       70.38
       1.40    219.21    .220E+06        57.5          0.70       63.77
       1.63    219.44    .413E+06        82.5          0.54       83.52
       1.87    219.68    .632E+06       120.9          0.51       87.03
       2.10    219.91    .858E+06       170.0          0.53       84.11
       2.33    220.14    .109E+07       228.7          0.56       79.62
       2.56    220.37    .134E+07       294.4          0.59       76.03
       2.80    220.61    .162E+07       371.1          0.61       72.75
       3.03    220.84    .192E+07       456.8          0.64       70.18
       3.26    221.07    .251E+07       552.1          0.59       75.74
       3.49    221.30    .333E+07       711.8          0.57       78.07
       3.73    221.54    .417E+07       907.0          0.58       76.62
       3.96    221.77    .502E+07      1134.1          0.61       73.70
       4.19    222.00    .587E+07      1390.9          0.64       70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   119.58   12.00  28.82      1.86      0.51
     OUTFLOW: ID= 1 (6240) *******   111.00   13.50  28.82      1.80      0.52


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-------------------
| CALIB             |
| NASHYD    (0240)  |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   0.749 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  12.642
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2407)  |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min  |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.78         71.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     769.85         40.00
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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.95
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.86 (ii)   25.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.37         3.98         4.495 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10        25.39         28.59
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.35          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9273) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.4500      5.4723
                          0.3000     4.6746   |   5.9500      5.8930
                          1.7300     4.7225   |   7.4700      6.3047
                          3.2100     5.1511   |   8.7000      6.7071

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2407)     88.900      4.495      6.25      28.59
     OUTFLOW: ID= 1 (9273)     88.900      0.143     12.25      28.54

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.19
                    TIME SHIFT OF PEAK FLOW         (min)=360.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.2355

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| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0240):   345.47   0.749    12.00    12.64
        + ID2= 2 (9273):    88.90   0.143    12.25    28.54
          ================================================
          ID = 3 (9252):   434.37   0.892    12.00    15.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6240): 19257.91 110.995    13.50    28.82
        + ID2= 2 (9252):   434.37   0.892    12.00    15.90
          ================================================
          ID = 3 (8182): 19692.28 111.844    13.50    28.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (2427) |   Area    (ha)=   5.40   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.249

     PEAK FLOW       (cms)=   0.157 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  28.175
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.385

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9274) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2700      0.0857
                          0.0200     0.0379   |   0.3600      0.1115
                          0.1000     0.0399   |   0.4500      0.1369
                          0.1900     0.0663   |   0.5300      0.1618

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2427)     5.400      0.157      6.25      28.18
     OUTFLOW: ID= 1 (9274)     5.400      0.122      7.00      28.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.44
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0463

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--------------------
| RESERVOIR (5242) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0480      1.0185
                          0.0020     1.0087   |   0.0600      1.0212
                          0.0140     1.0101   |   0.0700      1.0238
                          0.0260     1.0130   |   0.4700      1.0338
                          0.0360     1.0155   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9274)     5.400      0.122      7.00      28.09
     OUTFLOW: ID= 1 (5242)     5.400      0.000     35.00       4.29

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.24
                    TIME SHIFT OF PEAK FLOW         (min)=******
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1490

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--------------------
| CALIB            |
| NASHYD    (2422) |   Area    (ha)= 652.48   Curve Number   (CN)= 51.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.073

     PEAK FLOW       (cms)=   1.196 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  15.126
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.207

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2422):   652.48   1.196    12.75    15.13
        + ID2= 2 (5242):     5.40   0.000    35.00     4.29
          ================================================
          ID = 3 (9242):   657.88   1.197    12.75    15.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8182): 19692.28 111.844    13.50    28.54
        + ID2= 2 (9242):   657.88   1.197    12.75    15.04
          ================================================
          ID = 3 (8184): 20350.16 113.037    13.50    28.10
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6244)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2441.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0450	
2.50	220.10	0.0450	
3.00	220.06	0.0450	
3.64	220.07	0.0450	
7.28	220.08	0.0450	
10.91	220.09	0.0450	
14.55	219.81	0.0450	
18.19	219.29	0.0450	
24.13	219.21	0.0450 /0.0300	Main Channel
24.63	217.81	0.0300	Main Channel
69.13	217.81	0.0300	Main Channel
114.13	217.81	0.0300	Main Channel
115.13	219.21	0.0300 /0.0450	Main Channel
120.06	219.25	0.0450	
123.70	219.32	0.0450	
127.34	219.77	0.0450	
130.98	219.88	0.0450	
134.61	219.99	0.0450	
350.00	220.18	0.0450	
360.18	225.00	0.0450	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	218.16	.108E+06	9.0	0.29	200.52
0.70	218.51	.216E+06	28.4	0.45	126.89
1.05	218.86	.325E+06	55.7	0.59	97.27
1.40	219.21	.434E+06	89.7	0.71	80.65
1.79	219.60	.574E+06	135.9	0.81	70.36
2.17	219.98	.726E+06	190.8	0.90	63.38
2.56	220.37	.111E+07	264.3	0.82	69.82
2.94	220.75	.157E+07	371.7	0.81	70.36
3.33	221.14	.203E+07	503.4	0.85	67.30
3.72	221.53	.250E+07	656.6	0.90	63.40
4.10	221.91	.296E+07	829.6	0.96	59.54
4.49	222.30	.343E+07	1021.1	1.02	56.00
4.87	222.68	.390E+07	1230.2	1.08	52.83
5.26	223.07	.437E+07	1456.2	1.14	50.01
5.65	223.46	.484E+07	1698.4	1.20	47.51
6.03	223.84	.531E+07	1956.3	1.26	45.28
6.42	224.23	.579E+07	2229.3	1.32	43.28
6.80	224.61	.626E+07	2517.0	1.38	41.48
7.19	225.00	.674E+07	2819.2	1.44	39.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8184)	*******	113.04	13.50	28.10	1.59	0.76
OUTFLOW: ID= 1 (6244)	*******	108.54	14.50	28.10	1.56	0.75

CALIB
STANDHYD (2441)
ID= 1 DT=15.0 min

Area (ha)= 91.52
Total Imp(%)= 45.00 Dir. Conn.(%)= 15.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	41.18	50.34
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	781.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	65.46
over (min)		15.00	30.00
Storage Coeff. (min)=		10.95 (ii)	23.62 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	3.02	4.29	5.729 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	71.10	27.83	34.32
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.38	0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2449)
ID= 1 DT=15.0 min

Area (ha)= 143.20
Total Imp(%)= 34.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.69	94.51
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	977.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	57.70
over (min)		15.00	30.00
Storage Coeff. (min)=		12.53 (ii)	25.86 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.11	6.78	9.385 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	71.10	29.89	36.89
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.41	0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9265)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.1600	2.7857
0.4900	1.4537	9.5800	3.4259
2.7800	1.6401	12.0300	4.0179
5.1700	2.2743	14.0100	4.5968

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2449)	143.200	9.385	6.00	36.89
OUTFLOW: ID= 1 (9265)	143.200	4.706	6.75	36.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.15
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 2.1696

ADD HYD (9245)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2441):	91.52	5.729	6.00	34.32
+ ID2= 2 (9265):	143.20	4.706	6.75	36.89
ID = 3 (9245):	234.72	8.656	6.25	35.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5244)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	15.7000	11.1120
	0.7950	7.8678	19.7140	11.9879
	4.5470	8.3178	22.9500	12.8451
	8.4690	9.2829	23.3500	12.8551
	11.7470	10.1128	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9245)	234.720	8.656	6.25	35.89
OUTFLOW: ID= 1 (5244)	234.720	0.588	12.50	35.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.79
TIME SHIFT OF PEAK FLOW (min)=375.00
MAXIMUM STORAGE USED (ha.m.)= 5.8170

CALIB NASHYD (2442) ID= 1 DT=15.0 min			
	Area	(ha)=1674.00	Curve Number (CN)= 62.1
	Ia	(mm)= 5.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.20	

Unit Hyd Qpeak (cms)= 12.991

PEAK FLOW (cms)= 8.741 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 20.720
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.283

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9244)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2442):	1674.00	8.741	9.50	20.72
+ ID2= 2 (5244):	234.72	0.588	12.50	35.88
ID = 3 (9244):	1908.72	9.301	9.75	22.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8186)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6244):	20350.16	108.544	14.50	28.10
+ ID2= 2 (9244):	1908.72	9.301	9.75	22.58
ID = 3 (8186):	22258.88	114.902	14.00	27.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ HYD (8190) DT=15.0 min		
	AREA (ha)=	*******
	TPEAK (hrs)=	0.00
	VOLUME (mm)=	0.00

Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
Comments:

HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
ACTUAL PEAK FLOW: PEAK (0.00) + BASE (*******) = ******* (cms).

TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms	TIME hrs	FLOW cms
0.00	*******	64.00	*******	128.00	*******	192.00	*******	256.00	*******
0.25	*******	64.25	*******	128.25	*******	192.25	*******	256.25	*******
0.50	*******	64.50	*******	128.50	*******	192.50	*******	256.50	*******
0.75	*******	64.75	*******	128.75	*******	192.75	*******	256.75	*******
1.00	*******	65.00	*******	129.00	*******	193.00	*******	257.00	*******
1.25	*******	65.25	*******	129.25	*******	193.25	*******	257.25	*******
1.50	*******	65.50	*******	129.50	*******	193.50	*******	257.50	*******
1.75	*******	65.75	*******	129.75	*******	193.75	*******	257.75	*******
2.00	*******	66.00	*******	130.00	*******	194.00	*******	258.00	*******
2.25	*******	66.25	*******	130.25	*******	194.25	*******	258.25	*******
2.50	*******	66.50	*******	130.50	*******	194.50	*******	258.50	*******
2.75	*******	66.75	*******	130.75	*******	194.75	*******	258.75	*******
3.00	*******	67.00	*******	131.00	*******	195.00	*******	259.00	*******
3.25	*******	67.25	*******	131.25	*******	195.25	*******	259.25	*******
3.50	*******	67.50	*******	131.50	*******	195.50	*******	259.50	*******
3.75	*******	67.75	*******	131.75	*******	195.75	*******	259.75	*******
4.00	*******	68.00	*******	132.00	*******	196.00	*******	260.00	*******
4.25	*******	68.25	*******	132.25	*******	196.25	*******	260.25	*******
4.50	*******	68.50	*******	132.50	*******	196.50	*******	260.50	*******
4.75	*******	68.75	*******	132.75	*******	196.75	*******	260.75	*******
5.00	*******	69.00	*******	133.00	*******	197.00	*******	261.00	*******
5.25	*******	69.25	*******	133.25	*******	197.25	*******	261.25	*******
5.50	*******	69.50	*******	133.50	*******	197.50	*******	261.50	*******
5.75	*******	69.75	*******	133.75	*******	197.75	*******	261.75	*******
6.00	*******	70.00	*******	134.00	*******	198.00	*******	262.00	*******
6.25	*******	70.25	*******	134.25	*******	198.25	*******	262.25	*******
6.50	*******	70.50	*******	134.50	*******	198.50	*******	262.50	*******
6.75	*******	70.75	*******	134.75	*******	198.75	*******	262.75	*******
7.00	*******	71.00	*******	135.00	*******	199.00	*******	263.00	*******
7.25	*******	71.25	*******	135.25	*******	199.25	*******	263.25	*******
7.50	*******	71.50	*******	135.50	*******	199.50	*******	263.50	*******
7.75	*******	71.75	*******	135.75	*******	199.75	*******	263.75	*******
8.00	*******	72.00	*******	136.00	*******	200.00	*******	264.00	*******
8.25	*******	72.25	*******	136.25	*******	200.25	*******	264.25	*******
8.50	*******	72.50	*******	136.50	*******	200.50	*******	264.50	*******
8.75	*******	72.75	*******	136.75	*******	200.75	*******	264.75	*******
9.00	*******	73.00	*******	137.00	*******	201.00	*******	265.00	*******
9.25	*******	73.25	*******	137.25	*******	201.25	*******	265.25	*******
9.50	*******	73.50	*******	137.50	*******	201.50	*******	265.50	*******
9.75	*******	73.75	*******	137.75	*******	201.75	*******	265.75	*******
10.00	*******	74.00	*******	138.00	*******	202.00	*******	266.00	*******
10.25	*******	74.25	*******	138.25	*******	202.25	*******	266.25	*******
10.50	*******	74.50	*******	138.50	*******	202.50	*******	266.50	*******
10.75	*******	74.75	*******	138.75	*******	202.75	*******	266.75	*******
11.00	*******	75.00	*******	139.00	*******	203.00	*******	267.00	*******
11.25	*******	75.25	*******	139.25	*******	203.25	*******	267.25	*******
11.50	*******	75.50	*******	139.50	*******	203.50	*******	267.50	*******
11.75	*******	75.75	*******	139.75	*******	203.75	*******	267.75	*******
12.00	*******	76.00	*******	140.00	*******	204.00	*******	268.00	*******
12.25	*******	76.25	*******	140.25	*******	204.25	*******	268.25	*******
12.50	*******	76.50	*******	140.50	*******	204.50	*******	268.50	*******
12.75	*******	76.75	*******	140.75	*******	204.75	*******	268.75	*******
13.00	*******	77.00	*******	141.00	*******	205.00	*******	269.00	*******
13.25	*******	77.25	*******	141.25	*******	205.25	*******	269.25	*******
13.50	*******	77.50	*******	141.50	*******	205.50	*******	269.50	*******
13.75	*******	77.75	*******	141.75	*******	205.75	*******	269.75	*******
14.00	*******	78.00	*******	142.00	*******	206.00	*******	270.00	*******
14.25	*******	78.25	*******	142.25	*******	206.25	*******	270.25	*******
14.50	*******	78.50	*******	142.50	*******	206.50	*******	270.50	*******
14.75	*******	78.75	*******	142.75	*******	206.75	*******	270.75	*******
15.00	*******	79.00	*******	143.00	*******	207.00	*******	271.00	*******
15.25	*******	79.25	*******	143.25	*******	207.25	*******	271.25	*******
15.50	*******	79.50	*******	143.50	*******	207.50	*******	271.50	*******
15.75	*******	79.75	*******	143.75	*******	207.75	*******	271.75	*******
16.00	*******	80.00	*******	144.00	*******	208.00	*******	272.00	*******
16.25	*******	80.25	*******	144.25	*******	208.25	*******	272.25	*******
16.50	*******	80.50	*******	144.50	*******	208.50	*******	272.50	*******
16.75	*******	80.75	*******	144.75	*******	208.75	*******	272.75	*******
17.00	*******	81.00	*******	145.00	*******	209.00	*******	273.00	*******
17.25	*******	81.25	*******	145.25	*******	209.25	*******	273.25	*******
17.50	*******	81.50	*******	145.50	*******	209.50	*******	273.50	*******
17.75	*******	81.75	*******	145.75	*******	209.75	*******	273.75	*******
18.00	*******	82.00	*******	146.00	*******	210.00	*******	274.00	*******
18.25	*******	82.25	*******	146.25	*******	210.25	*******	274.25	*******
18.50	*******	82.50	*******	146.50	*******	210.50	*******	274.50	*******
18.75	*******	82.75	*******	146.75	*******	210.75	*******	274.75	*******
19.00	*******	83.00	*******	147.00	*******	211.00	*******	275.00	*******
19.25	*******	83.25	*******	147.25	*******	211.25	*******	275.25	*******
19.50	*******	83.50	*******	147.50	*******	211.50	*******	275.50	*******
19.75	*******	83.75	*******	147.75	*******	211.75	*******	275.75	*******
20.00	*******	84.00	*******	148.00	*******	212.00	*******	276.00	*******
20.25	*******	84.25	*******	148.25	*******	212.25	*******	276.25	*******
20.50	*******	84.50	*******	148.50	*******	212.50	*******	276.50	*******
20.75	*******	84.75	*******	148.75	*******	212.75	*******	276.75	*******
21.00	*******	85.00	*******	149.00	*******	213.00	*******	277.00	*******
21.25	*******	85.25	*******	149.25	*******	213.25	*******	277.25	*******
21.50	*******	85.50	*******	149.50	*******	213.50	*******	277.50	*******
21.75	*******	85.75	*******	149.75	*******	213.75	*******	277.75	*******
22.00	*******	86.00	*******	150.00	*******	214.00	*******	278.00	*******
22.25	*******	86.25	*******	150.25	*******	214.25	*******	278.25	*******
22.50	*******	86.50	*******	150.50	*******	214.50	*******	278.50	*******
22.75	*******	86.75	*******	150.75	*******	214.75	*******	278.75	*******
23.00	*******	87.00	*******	151.00	*******	215.00	*******	279.00	*******
23.25	*******	87.25	*******	151.25	*******	215.25	*******	279.25	*******
23.50	*******	87.50	*******	151.50	*******	215.50	*******	279.50	*******
23.75	*******	87.75	*******	151.75	*******	215.75	*******	279.75	*******

24.00 *******	88.00 *******	152.00 *******	216.00 *******	280.00 *******
24.25 *******	88.25 *******	152.25 *******	216.25 *******	280.25 *******
24.50 *******	88.50 *******	152.50 *******	216.50 *******	280.50 *******
24.75 *******	88.75 *******	152.75 *******	216.75 *******	280.75 *******
25.00 *******	89.00 *******	153.00 *******	217.00 *******	281.00 *******
25.25 *******	89.25 *******	153.25 *******	217.25 *******	281.25 *******
25.50 *******	89.50 *******	153.50 *******	217.50 *******	281.50 *******
25.75 *******	89.75 *******	153.75 *******	217.75 *******	281.75 *******
26.00 *******	90.00 *******	154.00 *******	218.00 *******	282.00 *******
26.25 *******	90.25 *******	154.25 *******	218.25 *******	282.25 *******
26.50 *******	90.50 *******	154.50 *******	218.50 *******	282.50 *******
26.75 *******	90.75 *******	154.75 *******	218.75 *******	282.75 *******
27.00 *******	91.00 *******	155.00 *******	219.00 *******	283.00 *******
27.25 *******	91.25 *******	155.25 *******	219.25 *******	283.25 *******
27.50 *******	91.50 *******	155.50 *******	219.50 *******	283.50 *******
27.75 *******	91.75 *******	155.75 *******	219.75 *******	283.75 *******
28.00 *******	92.00 *******	156.00 *******	220.00 *******	284.00 *******
28.25 *******	92.25 *******	156.25 *******	220.25 *******	284.25 *******
28.50 *******	92.50 *******	156.50 *******	220.50 *******	284.50 *******
28.75 *******	92.75 *******	156.75 *******	220.75 *******	284.75 *******
29.00 *******	93.00 *******	157.00 *******	221.00 *******	285.00 *******
29.25 *******	93.25 *******	157.25 *******	221.25 *******	285.25 *******
29.50 *******	93.50 *******	157.50 *******	221.50 *******	285.50 *******
29.75 *******	93.75 *******	157.75 *******	221.75 *******	285.75 *******
30.00 *******	94.00 *******	158.00 *******	222.00 *******	286.00 *******
30.25 *******	94.25 *******	158.25 *******	222.25 *******	286.25 *******
30.50 *******	94.50 *******	158.50 *******	222.50 *******	286.50 *******
30.75 *******	94.75 *******	158.75 *******	222.75 *******	286.75 *******
31.00 *******	95.00 *******	159.00 *******	223.00 *******	287.00 *******
31.25 *******	95.25 *******	159.25 *******	223.25 *******	287.25 *******
31.50 *******	95.50 *******	159.50 *******	223.50 *******	287.50 *******
31.75 *******	95.75 *******	159.75 *******	223.75 *******	287.75 *******
32.00 *******	96.00 *******	160.00 *******	224.00 *******	288.00 *******
32.25 *******	96.25 *******	160.25 *******	224.25 *******	288.25 *******
32.50 *******	96.50 *******	160.50 *******	224.50 *******	288.50 *******
32.75 *******	96.75 *******	160.75 *******	224.75 *******	288.75 *******
33.00 *******	97.00 *******	161.00 *******	225.00 *******	289.00 *******
33.25 *******	97.25 *******	161.25 *******	225.25 *******	289.25 *******
33.50 *******	97.50 *******	161.50 *******	225.50 *******	289.50 *******
33.75 *******	97.75 *******	161.75 *******	225.75 *******	289.75 *******
34.00 *******	98.00 *******	162.00 *******	226.00 *******	290.00 *******
34.25 *******	98.25 *******	162.25 *******	226.25 *******	290.25 *******
34.50 *******	98.50 *******	162.50 *******	226.50 *******	290.50 *******
34.75 *******	98.75 *******	162.75 *******	226.75 *******	290.75 *******
35.00 *******	99.00 *******	163.00 *******	227.00 *******	291.00 *******
35.25 *******	99.25 *******	163.25 *******	227.25 *******	291.25 *******
35.50 *******	99.50 *******	163.50 *******	227.50 *******	291.50 *******
35.75 *******	99.75 *******	163.75 *******	227.75 *******	291.75 *******
36.00 *******	100.00 *******	164.00 *******	228.00 *******	292.00 *******
36.25 *******	100.25 *******	164.25 *******	228.25 *******	292.25 *******
36.50 *******	100.50 *******	164.50 *******	228.50 *******	292.50 *******
36.75 *******	100.75 *******	164.75 *******	228.75 *******	292.75 *******
37.00 *******	101.00 *******	165.00 *******	229.00 *******	293.00 *******
37.25 *******	101.25 *******	165.25 *******	229.25 *******	293.25 *******
37.50 *******	101.50 *******	165.50 *******	229.50 *******	293.50 *******
37.75 *******	101.75 *******	165.75 *******	229.75 *******	293.75 *******
38.00 *******	102.00 *******	166.00 *******	230.00 *******	294.00 *******
38.25 *******	102.25 *******	166.25 *******	230.25 *******	294.25 *******
38.50 *******	102.50 *******	166.50 *******	230.50 *******	294.50 *******
38.75 *******	102.75 *******	166.75 *******	230.75 *******	294.75 *******
39.00 *******	103.00 *******	167.00 *******	231.00 *******	295.00 *******
39.25 *******	103.25 *******	167.25 *******	231.25 *******	295.25 *******
39.50 *******	103.50 *******	167.50 *******	231.50 *******	295.50 *******
39.75 *******	103.75 *******	167.75 *******	231.75 *******	295.75 *******
40.00 *******	104.00 *******	168.00 *******	232.00 *******	296.00 *******
40.25 *******	104.25 *******	168.25 *******	232.25 *******	296.25 *******
40.50 *******	104.50 *******	168.50 *******	232.50 *******	296.50 *******
40.75 *******	104.75 *******	168.75 *******	232.75 *******	296.75 *******
41.00 *******	105.00 *******	169.00 *******	233.00 *******	297.00 *******
41.25 *******	105.25 *******	169.25 *******	233.25 *******	297.25 *******
41.50 *******	105.50 *******	169.50 *******	233.50 *******	297.50 *******
41.75 *******	105.75 *******	169.75 *******	233.75 *******	297.75 *******
42.00 *******	106.00 *******	170.00 *******	234.00 *******	298.00 *******
42.25 *******	106.25 *******	170.25 *******	234.25 *******	298.25 *******
42.50 *******	106.50 *******	170.50 *******	234.50 *******	298.50 *******
42.75 *******	106.75 *******	170.75 *******	234.75 *******	298.75 *******
43.00 *******	107.00 *******	171.00 *******	235.00 *******	299.00 *******
43.25 *******	107.25 *******	171.25 *******	235.25 *******	299.25 *******
43.50 *******	107.50 *******	171.50 *******	235.50 *******	299.50 *******
43.75 *******	107.75 *******	171.75 *******	235.75 *******	299.75 *******
44.00 *******	108.00 *******	172.00 *******	236.00 *******	300.00 *******
44.25 *******	108.25 *******	172.25 *******	236.25 *******	300.25 *******
44.50 *******	108.50 *******	172.50 *******	236.50 *******	300.50 *******
44.75 *******	108.75 *******	172.75 *******	236.75 *******	300.75 *******

45.00 *******	109.00 *******	173.00 *******	237.00 *******	301.00 *******
45.25 *******	109.25 *******	173.25 *******	237.25 *******	301.25 *******
45.50 *******	109.50 *******	173.50 *******	237.50 *******	301.50 *******
45.75 *******	109.75 *******	173.75 *******	237.75 *******	301.75 *******
46.00 *******	110.00 *******	174.00 *******	238.00 *******	302.00 *******
46.25 *******	110.25 *******	174.25 *******	238.25 *******	302.25 *******
46.50 *******	110.50 *******	174.50 *******	238.50 *******	302.50 *******
46.75 *******	110.75 *******	174.75 *******	238.75 *******	302.75 *******
47.00 *******	111.00 *******	175.00 *******	239.00 *******	303.00 *******
47.25 *******	111.25 *******	175.25 *******	239.25 *******	303.25 *******
47.50 *******	111.50 *******	175.50 *******	239.50 *******	303.50 *******
47.75 *******	111.75 *******	175.75 *******	239.75 *******	303.75 *******
48.00 *******	112.00 *******	176.00 *******	240.00 *******	304.00 *******
48.25 *******	112.25 *******	176.25 *******	240.25 *******	304.25 *******
48.50 *******	112.50 *******	176.50 *******	240.50 *******	304.50 *******
48.75 *******	112.75 *******	176.75 *******	240.75 *******	304.75 *******
49.00 *******	113.00 *******	177.00 *******	241.00 *******	305.00 *******
49.25 *******	113.25 *******	177.25 *******	241.25 *******	305.25 *******
49.50 *******	113.50 *******	177.50 *******	241.50 *******	305.50 *******
49.75 *******	113.75 *******	177.75 *******	241.75 *******	305.75 *******
50.00 *******	114.00 *******	178.00 *******	242.00 *******	306.00 *******
50.25 *******	114.25 *******	178.25 *******	242.25 *******	306.25 *******
50.50 *******	114.50 *******	178.50 *******	242.50 *******	306.50 *******
50.75 *******	114.75 *******	178.75 *******	242.75 *******	306.75 *******
51.00 *******	115.00 *******	179.00 *******	243.00 *******	307.00 *******
51.25 *******	115.25 *******	179.25 *******	243.25 *******	307.25 *******
51.50 *******	115.50 *******	179.50 *******	243.50 *******	307.50 *******
51.75 *******	115.75 *******	179.75 *******	243.75 *******	307.75 *******
52.00 *******	116.00 *******	180.00 *******	244.00 *******	308.00 *******
52.25 *******	116.25 *******	180.25 *******	244.25 *******	308.25 *******
52.50 *******	116.50 *******	180.50 *******	244.50 *******	308.50 *******
52.75 *******	116.75 *******	180.75 *******	244.75 *******	308.75 *******
53.00 *******	117.00 *******	181.00 *******	245.00 *******	309.00 *******
53.25 *******	117.25 *******	181.25 *******	245.25 *******	309.25 *******
53.50 *******	117.50 *******	181.50 *******	245.50 *******	309.50 *******
53.75 *******	117.75 *******	181.75 *******	245.75 *******	309.75 *******
54.00 *******	118.00 *******	182.00 *******	246.00 *******	310.00 *******
54.25 *******	118.25 *******	182.25 *******	246.25 *******	310.25 *******
54.50 *******	118.50 *******	182.50 *******	246.50 *******	310.50 *******
54.75 *******	118.75 *******	182.75 *******	246.75 *******	310.75 *******
55.00 *******	119.00 *******	183.00 *******	247.00 *******	311.00 *******
55.25 *******	119.25 *******	183.25 *******	247.25 *******	311.25 *******
55.50 *******	119.50 *******	183.50 *******	247.50 *******	311.50 *******
55.75 *******	119.75 *******	183.75 *******	247.75 *******	311.75 *******
56.00 *******	120.00 *******	184.00 *******	248.00 *******	312.00 *******
56.25 *******	120.25 *******	184.25 *******	248.25 *******	312.25 *******
56.50 *******	120.50 *******	184.50 *******	248.50 *******	312.50 *******
56.75 *******	120.75 *******	184.75 *******	248.75 *******	312.75 *******
57.00 *******	121.00 *******	185.00 *******	249.00 *******	313.00 *******
57.25 *******	121.25 *******	185.25 *******	249.25 *******	313.25 *******
57.50 *******	121.50 *******	185.50 *******	249.50 *******	313.50 *******
57.75 *******	121.75 *******	185.75 *******	249.75 *******	313.75 *******
58.00 *******	122.00 *******	186.00 *******	250.00 *******	314.00 *******
58.25 *******	122.25 *******	186.25 *******	250.25 *******	314.25 *******
58.50 *******	122.50 *******	186.50 *******	250.50 *******	314.50 *******
58.75 *******	122.75 *******	186.75 *******	250.75 *******	314.75 *******
59.00 *******	123.00 *******	187.00 *******	251.00 *******	315.00 *******
59.25 *******	123.25 *******	187.25 *******	251.25 *******	315.25 *******
59.50 *******	123.50 *******	187.50 *******	251.50 *******	315.50 *******
59.75 *******	123.75 *******	187.75 *******	251.75 *******	315.75 *******
60.00 *******	124.00 *******	188.00 *******	252.00 *******	316.00 *******
60.25 *******	124.25 *******	188.25 *******	252.25 *******	316.25 *******
60.50 *******	124.50 *******	188.50 *******	252.50 *******	316.50 *******
60.75 *******	124.75 *******	188.75 *******	252.75 *******	316.75 *******
61.00 *******	125.00 *******	189.00 *******	253.00 *******	317.00 *******
61.25 *******	125.25 *******	189.25 *******	253.25 *******	317.25 *******
61.50 *******	125.50 *******	189.50 *******	253.50 *******	317.50 *******
61.75 *******	125.75 *******	189.75 *******	253.75 *******	317.75 *******
62.00 *******	126.00 *******	190.00 *******	254.00 *******	318.00 *******
62.25 *******	126.25 *******	190.25 *******	254.25 *******	318.25 *******
62.50 *******	126.50 *******	190.50 *******	254.50 *******	318.50 *******
62.75 *******	126.75 *******	190.75 *******	254.75 *******	
63.00 *******	127.00 *******	191.00 *******	255.00 *******	
63.25 *******	127.25 *******	191.25 *******	255.25 *******	
63.50 *******	127.50 *******	191.50 *******	255.50 *******	
63.75 *******	127.75 *******	191.75 *******	255.75 *******	

ADD HYD (8188)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8186):	22258.88	114.902	14.00	27.63
+ ID2= 2 (8190):	20350.16	108.544	14.50	28.10

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          ================================================
          ID = 3 (8188): 42609.04 223.362    14.50    27.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   3.894 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  20.035
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.98       125.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1254.64        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        66.94
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.55 (ii)   27.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.94        10.17         14.338 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25            6.00
     RUNOFF VOLUME    (mm)=      71.10        28.08           35.39
     TOTAL RAINFALL   (mm)=      73.10        73.10           73.10
     RUNOFF COEFFICIENT   =       0.97         0.38            0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.1800      6.2621
                          0.8000     2.9957   |  12.5050      7.1218
                          3.0350     3.4813   |  14.4090      7.9633
                          5.6510     4.4353   |  14.8090      7.9733
                          7.7470     5.2683   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    236.120     14.338      6.00      35.39
     OUTFLOW: ID= 1 (5446)    236.120      5.138      7.00      35.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.83
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.2593

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--------------------
| ADD HYD   (8192) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4462):  1238.89   3.894    12.00    20.04
        + ID2= 2 (5446):   236.12   5.138     7.00    35.39
          ================================================
          ID = 3 (8192):  1475.01   7.364     7.25    22.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8188): 42609.04 223.362    14.50    27.85
        + ID2= 2 (8192):  1475.01   7.364     7.25    22.49
          ================================================
          ID = 3 (8194): 44084.05 227.586    14.50    27.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.538 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.364
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   1.870 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.362
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.306 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  14.532
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   1.830 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.534
     TOTAL RAINFALL   (mm)=  73.100
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     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.537 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  12.320
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.537     6.50    12.32
       + ID2= 2 (0436):   187.51   1.830     7.00    16.53
         ================================================
         ID = 3 (8206):   244.15   2.351     6.75    15.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                   0.00         256.00        0.0600
                   9.23         255.50        0.0600
                  27.69         255.00        0.0600
                  50.77         254.90        0.0600
                  64.62         254.85        0.0600
                  78.47         252.26        0.0600
                  96.93         249.44        0.0600
                 129.24         245.94        0.0600
                 145.40         245.76        0.0600
                 146.20         245.80    0.0600 /0.0350  Main Channel
                 146.70         245.30        0.0350      Main Channel
                 147.70         245.30        0.0350      Main Channel
                 148.20         245.80    0.0350 /0.0600  Main Channel
                 150.01         245.78        0.0600
                 152.32         245.79        0.0600
                 163.86         246.72        0.0600
                 175.40         249.07        0.0600
                 186.94         253.15        0.0600
                 196.17         255.38        0.0600
                 228.48         255.55        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50    245.80    .221E+04       0.9         1.02      40.44
       1.01    246.31    .352E+05      14.0         0.99      41.77
       1.53    246.83    .841E+05      47.3         1.39      29.61
       2.04    247.34    .144E+06     102.0         1.76      23.49
       2.55    247.85    .213E+06     177.3         2.07      19.99
       3.07    248.37    .291E+06     274.4         2.34      17.66
       3.58    248.88    .378E+06     394.6         2.58      15.97
       4.09    249.39    .474E+06     541.4         2.83      14.60
       4.61    249.91    .578E+06     719.9         3.08      13.38
       5.12    250.42    .688E+06     923.8         3.33      12.40
       5.63    250.93    .803E+06    1153.3         3.56      11.61
       6.14    251.44    .925E+06    1408.6         3.77      10.95
       6.66    251.96    .105E+07    1690.6         3.98      10.38
       7.17    252.47    .119E+07    2002.3         4.18       9.88
       7.68    252.98    .133E+07    2345.4         4.38       9.43
       8.20    253.50    .147E+07    2710.1         4.56       9.05
       8.71    254.01    .162E+07    3101.0         4.73       8.72
       9.22    254.52    .178E+07    3521.8         4.90       8.43
       9.74    255.04    .195E+07    3467.6         4.39       9.39
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8206)  244.15     2.35    6.75  15.56      0.56      1.02
     OUTFLOW: ID= 1 (6438)  244.15     2.06    7.75  15.56      0.54      1.02


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--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   1.306     6.75    14.53
       + ID2= 2 (6438):   244.15   2.063     7.75    15.56
         ================================================
         ID = 3 (8208):   374.85   3.183     7.25    15.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   1.870     7.50    19.36
       + ID2= 2 (8208):   374.85   3.183     7.25    15.20
         ================================================
         ID = 3 (8210):   601.20   5.052     7.50    16.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.714 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.687
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   1.425 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.354
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.224

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.582 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.436
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   2.322 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  19.908
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   0.900 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  18.121
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   0.900     6.50    18.12
       + ID2= 2 (0426):   247.17   2.322     7.25    19.91
         ================================================
         ID = 3 (8198):   296.74   3.036     6.75    19.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4281.0) ------>
               Distance      Elevation       Manning
                   0.00         246.54        0.0900
                   8.80         246.29        0.0900
                  30.78         246.03        0.0900
                  41.78         243.97        0.0900
                  63.77         237.16        0.0900
                  85.76         232.53        0.0900
                  96.75         230.16        0.0900
                 109.94         228.40        0.0900
                 112.14         228.28    0.0900 /0.0450  Main Channel
                 112.84         228.00        0.0450      Main Channel
                 113.34         227.50        0.0450      Main Channel
                 114.34         227.50        0.0450      Main Channel
                 114.84         228.00        0.0450      Main Channel
                 116.54         228.29    0.0450 /0.0900  Main Channel
                 118.74         228.40        0.0900
                 120.94         228.52        0.0900
                 149.52         229.51        0.0900
                 169.31         230.69        0.0900
                 186.00         234.27        0.0900
                 217.69         243.56        0.0900

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.78   228.28    .205E+04       1.6          0.97      21.60
        1.58   229.08    .202E+05      16.6          1.02      20.37
        2.39   229.89    .665E+05      64.8          1.22      17.11
        3.19   230.69    .133E+06     158.1          1.49      14.05
        4.00   231.50    .213E+06     308.6          1.82      11.48
        4.80   232.30    .299E+06     504.9          2.11       9.89
        5.61   233.11    .394E+06     746.6          2.37       8.79
        6.41   233.91    .496E+06    1034.5          2.61       7.99
        7.21   234.71    .605E+06    1373.3          2.84       7.35
        8.02   235.52    .722E+06    1763.3          3.06       6.82
        8.82   236.32    .844E+06    2202.0          3.27       6.39
        9.63   237.13    .974E+06    2690.5          3.46       6.03
       10.43   237.93    .111E+07    3239.5          3.66       5.71
       11.23   238.73    .125E+07    3839.0          3.84       5.43
       12.04   239.54    .140E+07    4489.1          4.03       5.18
       12.84   240.34    .155E+07    5190.5          4.20       4.97
       13.65   241.15    .170E+07    5943.8          4.36       4.78
       14.45   241.95    .187E+07    6749.8          4.53       4.61
       15.26   242.76    .204E+07    7609.4          4.68       4.46

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     3.04    6.75  19.61      0.86      0.97
     OUTFLOW: ID= 1 (6428)  296.74     2.92    7.25  19.61      0.85      0.97

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.582     6.50    14.44
       + ID2= 2 (6428):   296.74   2.916     7.25    19.61
         ================================================
         ID = 3 (8200):   347.27   3.410     7.25    18.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   1.425     6.50    16.35
       + ID2= 2 (8200):   347.27   3.410     7.25    18.86
         ================================================
         ID = 3 (8202):   458.91   4.703     7.00    18.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4321.0) ------>
               Distance      Elevation       Manning
                   0.00         221.00        0.0600
                  15.29         219.85        0.0600
                  45.86         219.86        0.0600
                  76.44         219.96        0.0600
                 110.84         220.23        0.0600
                 112.00         220.15        0.0600
                 114.66         220.09        0.0600
                 118.48         219.73        0.0600
                 120.80         219.70    0.0600 /0.0350  Main Channel
                 121.30         219.20        0.0350      Main Channel
                 122.30         219.20        0.0350      Main Channel
                 122.80         219.70    0.0350 /0.0600  Main Channel
                 129.95         220.11        0.0600
                 175.81         220.24        0.0600
                 214.03         220.55        0.0600
                 252.25         220.61        0.0600
                 290.47         220.70        0.0600
                 328.69         221.04        0.0600
                 347.80         221.08        0.0600
                 378.37         221.04        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.08   219.28    .185E+03       0.0          0.23     149.38
        0.17   219.37    .399E+03       0.1          0.34     100.62
        0.25   219.45    .641E+03       0.1          0.42      80.98
        0.33   219.53    .911E+03       0.2          0.49      69.79
        0.42   219.62    .121E+04       0.3          0.55      62.35
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      0.50   219.70    .154E+04       0.5          0.60      56.91
      0.61   219.81    .267E+04       0.7          0.56      61.28
      0.71   219.91    .901E+04       1.3          0.30     112.96
      0.82   220.02    .249E+05       3.4          0.28     122.71
      0.92   220.12    .452E+05       6.8          0.31     109.98
      1.03   220.23    .747E+05      12.2          0.33     102.05
      1.14   220.34    .112E+06      21.3          0.39      87.59
      1.24   220.44    .153E+06      33.0          0.44      77.01
      1.35   220.55    .196E+06      47.2          0.49      69.22
      1.46   220.66    .248E+06      62.3          0.51      66.48
      1.56   220.76    .310E+06      83.4          0.55      62.06
      1.67   220.87    .376E+06     108.8          0.59      57.56
      1.77   220.97    .444E+06     137.7          0.64      53.77
      1.88   221.08    .517E+06     163.6          0.65      52.70

                              <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     4.70    7.00  18.25      0.86      0.29
     OUTFLOW: ID= 1 (6432)  458.91     3.07    9.25  18.25      0.80      0.28


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6432):   114.21   0.714     8.00    15.69
       + ID2= 2 (6432):   458.91   3.071     9.25    18.25
         ================================================
         ID = 3 (8204):   573.12   3.717     9.00    17.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   3.717     9.00    17.74
       + ID2= 2 (8210):   601.20   5.052     7.50    16.77
         ================================================
         ID = 3 (8212):  1174.32   8.390     8.00    17.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4421.0) ------>
               Distance      Elevation       Manning
                   0.00         221.00        0.0350
                  26.73         220.80        0.0350
                  53.47         220.60        0.0350
                  66.83         220.40        0.0350
                  80.20         220.20        0.0350
                 347.52         220.00        0.0350
                 354.21         219.59        0.0350
                 360.89         219.50        0.0350
                 367.57         219.08        0.0350
                 368.76         219.00    0.0350 /0.0300  Main Channel
                 369.26         218.50        0.0300      Main Channel
                 374.26         218.50        0.0300      Main Channel
                 374.76         219.00    0.0300 /0.0350  Main Channel
                 380.94         220.33        0.0350
                 387.62         219.62        0.0350
                 394.31         219.23        0.0350
                 454.45         219.07        0.0350
                 514.60         219.09        0.0350
                 660.00         219.19        0.0350
                 661.63         221.00        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.12   218.62    .100E+04       0.2          0.28      92.89
       0.25   218.75    .205E+04       0.6          0.43      60.09
       0.37   218.87    .315E+04       1.1          0.55      46.99
       0.50   219.00    .430E+04       1.8          0.66      39.67
       0.63   219.13    .141E+05       3.4          0.37      69.99
       0.77   219.27    .652E+05      13.7          0.33      79.14
       0.90   219.40    .124E+06      35.5          0.45      58.02
       1.03   219.53    .183E+06      65.7          0.56      46.45
       1.17   219.67    .245E+06     103.8          0.66      39.30
       1.30   219.80    .307E+06     149.3          0.76      34.30
       1.43   219.93    .371E+06     201.6          0.85      30.65
       1.57   220.07    .440E+06     256.5          0.91      28.56
       1.70   220.20    .541E+06     325.7          0.94      27.70
       1.83   220.33    .663E+06     415.2          0.98      26.62
       1.97   220.47    .787E+06     520.3          1.03      25.21
       2.10   220.60    .913E+06     638.5          1.09      23.82
       2.23   220.73    .104E+07     767.2          1.15      22.62
       2.37   220.87    .117E+07     908.0          1.21      21.54
       2.50   221.00    .131E+07    1060.7          1.27      20.57

                              <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32     8.39    8.00  17.24      0.70      0.35
     OUTFLOW: ID= 1 (6442) 1174.32     7.28    9.50  17.24      0.68      0.35


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--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6442):   117.26   0.538     8.00    11.36
       + ID2= 2 (6442):  1174.32   7.285     9.50    17.24
         ================================================
         ID = 3 (8214):  1291.58   7.748     9.50    16.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 44084.05 227.586    14.50    27.67
       + ID2= 2 (8214):  1291.58   7.748     9.50    16.71
         ================================================
         ID = 3 (8196): 45375.62 231.812    14.00    27.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   1.705 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.158
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0444):   221.65   1.705     7.50    17.16
       + ID2= 2 (8196): 45375.62 231.812    14.00    27.36
         ================================================
         ID = 3 (8216): 45597.28 232.228    14.00    27.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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```
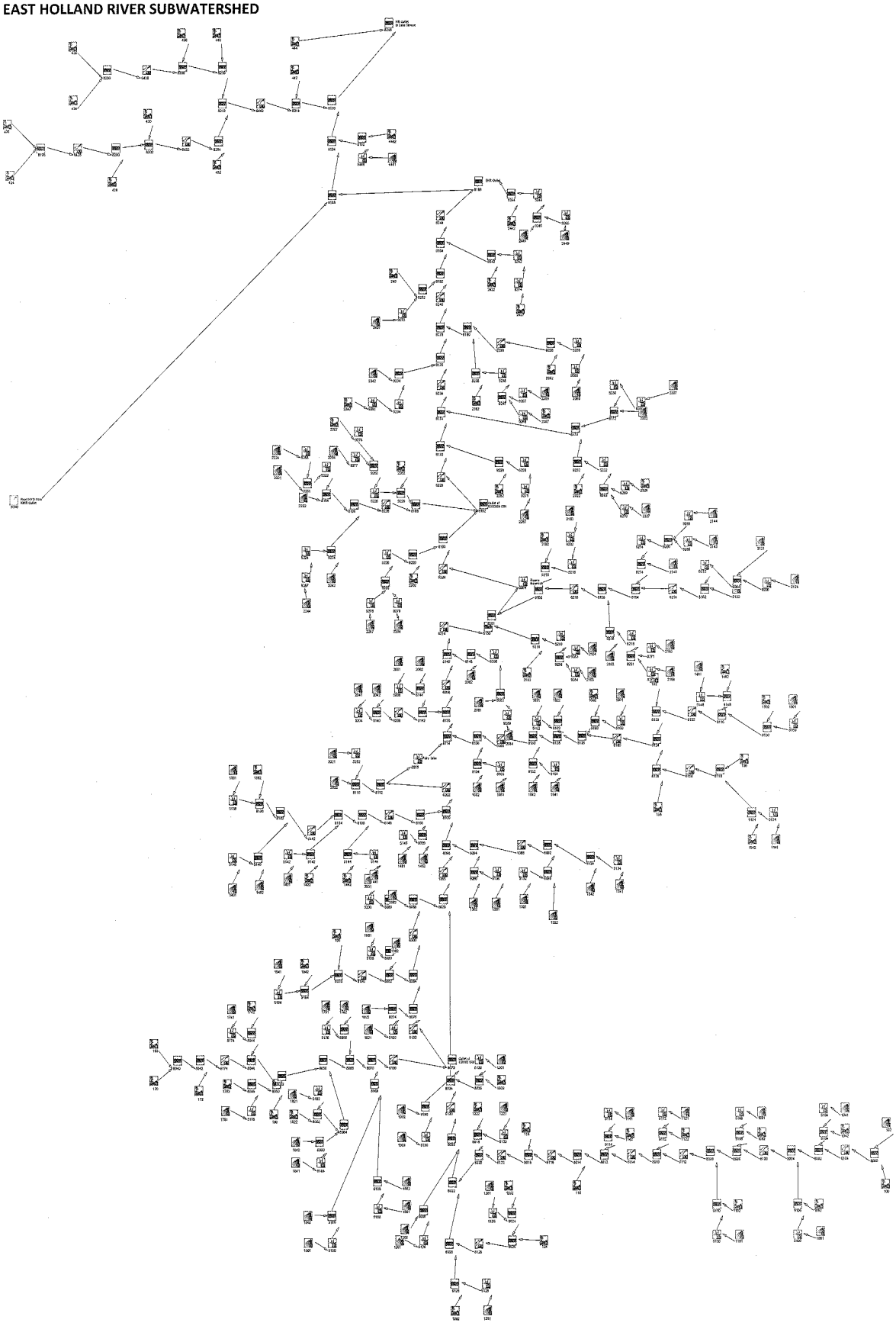

EAST HOLLAND RIVER SUBWATERSHED



```
=============================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\b18f9d7e-4227-4676-9f98-8e2612e3c8a8\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\b18f9d7e-4227-4676-9f98-8e2612e3c8a8\Scenario.sum


DATE: 08/29/2012                          TIME: 01:58:21

USER:


COMMENTS: _____________________________________________________


-------------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              b18f9d7e-4227-4676-9f98-8e2612e3c8a8\8170567d
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
                0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
                0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
                1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
                1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
                1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
                1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
                2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
                2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
                2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
                2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
                3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

-------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       157.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.98 (ii)   20.90 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     12.63         9.33        18.880 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        49.52          60.64
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.61           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        82.16
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.93 (ii)   26.50 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     14.60        17.32         25.737 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        40.05          48.97
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.50           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300      6.6504
                          0.4310     3.5677   |   9.1580      7.5825
                          1.6680     3.8178   |  10.9790      8.5125
                          3.5970     4.8509   |  11.3790      8.5225
                          5.3070     5.7381   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640     25.737      6.00      48.97
     OUTFLOW: ID= 1 (5166)    293.640      8.741      7.00      48.96

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.96
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.4082

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1662):   141.06  18.880     6.00    60.64
       + ID2= 2 (5166):   293.64   8.741     7.00    48.96
         ================================================
         ID = 3 (8134):   434.70  19.285     6.00    52.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
```

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--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.48         93.87
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     895.73         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         56.71
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.42 (ii)    24.84 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      4.90          6.76          9.183 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80         34.56         42.08
     TOTAL RAINFALL   (mm)=     80.80         80.80         80.80
     RUNOFF COEFFICIENT   =      0.98          0.43          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86         33.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     871.36         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        109.65
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.24 (ii)    21.55 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     14.55          4.97         17.813 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80         43.84         62.37
     TOTAL RAINFALL   (mm)=     80.80         80.80         80.80
     RUNOFF COEFFICIENT   =      0.98          0.54          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.4260      4.5513
                          0.3860     1.9228   |   9.2330      4.9251
                          3.3700     2.2339   |   9.9990      5.2982
                          4.5710     3.3613   |  10.3990      5.3082
                          5.7170     4.0568   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890     17.813      6.00      62.37
     OUTFLOW: ID= 1 (5164)    113.890      4.904      6.75      62.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.53
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.6077
```

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--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35   9.183     6.00    42.08
        + ID2= 2 (5164):   113.89   4.904     6.75    62.36
          ================================================
          ID = 3 (8132):   234.24  13.055     6.25    51.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.418 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.498
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1481) |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02         32.73
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     641.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         13.68
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      9.35 (ii)    33.05 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.68          0.74          2.978 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=     78.80          9.95         21.65
     TOTAL RAINFALL   (mm)=     80.80         80.80         80.80
     RUNOFF COEFFICIENT   =      0.98          0.12          0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.1310      1.6343
                          0.2090     0.7802   |   5.1870      1.8598
                          1.1960     0.9062   |   6.0380      2.0805
                          2.2280     1.1562   |   6.4380      2.0905
                          3.0910     1.3741   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750     2.978      6.00      21.65
     OUTFLOW: ID= 1 (5148)     61.750     0.491      7.25      21.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.49
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
```

```
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8175
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   1.333 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.994
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.111

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   1.333     7.75     8.99
       + ID2= 2 (5148):    61.75   0.491     7.25    21.64
         ================================================
         ID = 3 (9148):   417.89   1.813     7.50    10.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.07         0.09
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=     32.66        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66         8.82
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     1.57 (ii)   29.82 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.00          0.008 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80         6.57          17.29
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.08           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  16.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0110     0.0042
                         0.0010     0.0020   |   0.0140     0.0049
                         0.0030     0.0023   |   0.0160     0.0054
                         0.0060     0.0030   |   0.4160     0.0154
                         0.0080     0.0036   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1501)    0.160     0.008      6.00      17.29
     OUTFLOW: ID= 1 (5150)    0.160     0.001      7.25      14.30
```

```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.20
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0016
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.314 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   4.323
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.053

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.314     6.75     4.32
       + ID2= 2 (5150):     0.16   0.001     7.25    14.30
         ================================================
         ID = 3 (9150):   105.88   0.315     6.75     4.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   1.813     7.50    10.86
       + ID2= 2 (9150):   105.88   0.315     6.75     4.34
         ================================================
         ID = 3 (8116):   523.77   2.095     7.25     9.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1521.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0500
                 15.34         286.87        0.0500
                 46.03         284.84        0.0500
                 88.22         283.07        0.0500
                126.57         282.11        0.0500
                153.42         280.34        0.0500
                157.26         280.07        0.0500
                161.09         279.72        0.0500
                167.76         278.94    0.0500 /0.0300  Main Channel
                168.01         278.60        0.0300      Main Channel
                168.76         278.60        0.0300      Main Channel
                169.51         278.60        0.0300      Main Channel
                169.76         278.90    0.0300 /0.0500  Main Channel
                173.76         279.40        0.0500
                180.27         279.69        0.0500
                184.11         279.93        0.0500
                218.62         281.86        0.0500
                260.82         283.20        0.0500
                360.54         289.25        0.0500
                379.72         289.80        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    278.90    .114E+04         0.4          0.80       45.70
      0.87    279.47    .932E+04         4.2          0.98       37.22
      1.45    280.05    .353E+05        17.5          1.09       33.68
      2.02    280.62    .831E+05        47.8          1.26       29.01
      2.59    281.19    .155E+06       102.9          1.46       25.06
      3.17    281.77    .250E+06       189.3          1.66       22.03
```

```
       3.74   282.34    .375E+06     298.5          1.75      20.91
       4.32   282.92    .547E+06     456.5          1.83      19.98
       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     2.09    7.25   9.54      0.56      0.87
     OUTFLOW: ID= 1 (6152)  523.77     1.89    8.25   9.54      0.52      0.86


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--------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   1.418     7.00    22.50
       + ID2= 2 (6152):   523.77   1.886     8.25     9.54
         ================================================
         ID = 3 (8122):   648.14   3.206     8.00    12.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   2.076 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  23.854
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.812 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  14.566
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        11.46
               over (min)       15.00        45.00
     Storage Coeff.  (min)=       5.60 (ii)   31.04 (ii)

     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.21         0.05          2.231 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      78.80        10.85          58.41
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.13           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  31.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7460      0.3544
                          0.0380     0.1987   |   0.9370      0.3839
                          0.2160     0.2386   |   1.0900      0.4129
                          0.4020     0.2749   |   1.4900      0.4229
                          0.5580     0.3133   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      2.231      6.00      58.41
     OUTFLOW: ID= 1 (5154)     11.150      0.724      6.25      58.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.44
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3603

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--------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   1.079 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.054
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.149

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   1.079     7.25    12.05
       + ID2= 2 (5154):    11.15   0.724     6.25    58.30
         ================================================
         ID = 3 (9154):   200.32   1.587     6.50    14.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.812     6.75    14.57
       + ID2= 2 (9154):   200.32   1.587     6.50    14.63
         ================================================
         ID = 3 (8118):   283.81   2.391     6.50    14.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6158) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1581.0) ------>

Distance	Elevation	Manning	
0.00	290.00	0.0400	
19.20	288.88	0.0400	
48.00	288.26	0.0400	
119.99	283.68	0.0400	
167.99	282.07	0.0400	
196.79	281.32	0.0400	
210.79	280.90	0.0400	
219.79	280.38	0.0400 /0.0300	Main Channel
220.04	279.65	0.0300	Main Channel
220.79	279.65	0.0300	Main Channel
221.54	279.65	0.0300	Main Channel
221.79	280.39	0.0300 /0.0400	Main Channel
225.79	280.59	0.0400	
235.19	280.88	0.0400	
254.39	281.50	0.0400	
273.58	282.56	0.0400	
302.38	283.42	0.0400	
359.98	284.03	0.0400	
436.77	289.37	0.0400	
475.17	290.37	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8118)	283.81	2.39	6.50	14.61	0.80	1.15
OUTFLOW: ID= 1 (6158)	283.81	2.21	7.25	14.61	0.79	1.15

ADD HYD (8120)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0158):	178.59	2.076	7.25	23.85
+	ID2= 2 (6158):	283.81	2.207	7.25	14.61
	ID = 3 (8120):	462.40	4.283	7.25	18.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8124)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8120):	462.40	4.283	7.25	18.18
+	ID2= 2 (8122):	648.14	3.206	8.00	12.03
	ID = 3 (8124):	1110.54	7.328	7.50	14.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (6160) |

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1601.0) ------>

Distance	Elevation	Manning	
0.00	261.02	0.0400	
29.89	254.30	0.0400	
40.75	252.58	0.0400	
62.49	251.30	0.0400	
114.11	250.94	0.0400	
130.41	248.58	0.0400	
141.28	247.50	0.0400	
154.86	246.87	0.0400	
155.20	246.70	0.0400	
160.20	246.30	0.0400 /0.0300	Main Channel
160.30	245.30	0.0300	Main Channel
165.20	245.30	0.0300	Main Channel
165.30	246.30	0.0300 /0.0400	Main Channel
168.45	246.96	0.0400	
195.62	249.20	0.0400	
203.77	250.82	0.0400	
225.50	256.78	0.0400	
244.52	261.14	0.0400	
255.39	261.95	0.0400	
268.97	261.92	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.120E+05	2.9	1.18	68.31
1.00	246.30	.242E+05	8.5	1.70	47.47
1.92	247.22	.825E+05	31.7	1.86	43.34
2.84	248.14	.248E+06	102.5	2.00	40.39
3.76	249.06	.506E+06	247.7	2.37	34.03
4.68	249.98	.832E+06	486.8	2.83	28.49
5.60	250.90	.121E+07	814.9	3.27	24.71
6.52	251.82	.180E+07	1157.1	3.11	25.97
7.44	252.74	.253E+07	1840.2	3.52	22.92
8.36	253.66	.331E+07	2727.1	3.98	20.25
9.29	254.59	.414E+07	3782.6	4.43	18.22
10.21	255.51	.499E+07	5010.7	4.86	16.61
11.13	256.43	.589E+07	6397.4	5.26	15.33
12.05	257.35	.681E+07	7932.8	5.64	14.31
12.97	258.27	.777E+07	9621.2	5.99	13.46
13.89	259.19	.877E+07	11469.4	6.33	12.74
14.81	260.11	.980E+07	13478.4	6.66	12.12
15.73	261.03	.109E+08	15651.7	6.97	11.58
16.65	261.95	.120E+08	17492.5	7.07	11.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8124)	1110.54	7.33	7.50	14.59	0.90	1.56
OUTFLOW: ID= 1 (6160)	1110.54	6.62	8.50	14.59	0.83	1.48

CALIB STANDHYD (1601)	ID= 1 DT=15.0 min	Area (ha)= 19.03	Total Imp(%)= 75.00	Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.27	4.76
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	356.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	45.81
over (min)		15.00	30.00
Storage Coeff. (min)=		6.57 (ii)	21.19 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.05

		TOTALS
PEAK FLOW	(cms)=	3.813 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	61.97
TOTAL RAINFALL	(mm)=	80.80
RUNOFF COEFFICIENT	=	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.6 Ia = Dep. Storage (Above)

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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5160) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.2730      0.6034
                         0.0640     0.3377   |   1.5980      0.6540
                         0.3690     0.4055   |   1.8600      0.7037
                         0.6870     0.4676   |   2.2600      0.7137
                         0.9520     0.5332   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1601)     19.030     3.813      6.00      61.97
     OUTFLOW: ID= 1 (5160)     19.030     1.294      6.25      61.90

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.94
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6135

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-------------------
| CALIB             |
| NASHYD    (1602) |   Area    (ha)= 299.79   Curve Number   (CN)= 60.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.42

     Unit Hyd Qpeak  (cms)=   3.592

     PEAK FLOW       (cms)=   2.502 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.499
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.291

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1602):   299.79   2.502     8.00    23.50
       + ID2= 2 (5160):    19.03   1.294     6.25    61.90
         ================================================
         ID = 3 (9160):   318.82   3.100     6.75    25.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8126) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6160):  1110.54   6.624     8.50    14.59
       + ID2= 2 (9160):   318.82   3.100     6.75    25.79
         ================================================
         ID = 3 (8126):  1429.36   9.369     8.25    17.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1621) |   Area    (ha)=  46.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  20.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.73         25.34
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     554.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         53.51
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.56 (ii)   22.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.41          1.81          3.537 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         24.48         35.34
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.30          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5162) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0820      1.1997
                         0.1560     0.5629   |   3.8700      1.3716
                         0.8930     0.6512   |   4.5050      1.5398
                         1.6620     0.8407   |   4.9050      1.5498
                         2.3060     1.0035   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1621)     46.070     3.537      6.00      35.34
     OUTFLOW: ID= 1 (5162)     46.070     1.309      6.75      35.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.00
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7628

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-------------------
| CALIB             |
| STANDHYD  (1622) |   Area    (ha)= 144.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.46        106.61
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     980.03         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         23.12
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      12.06 (ii)   31.27 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.73          4.16          5.449 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      78.80         21.07         27.42
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.26          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1622):   144.07   5.449     6.00    27.42
       + ID2= 2 (5162):    46.07   1.309     6.75    35.33
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          ID = 3 (9162):   190.14   6.326     6.50    29.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8126):  1429.36   9.369     8.25    17.09
       + ID2= 2 (9162):   190.14   6.326     6.50    29.34
         ================================================
         ID = 3 (8128):  1619.50  11.529     6.50    18.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8128):  1619.50  11.529     6.50    18.53
       + ID2= 2 (8132):   234.24  13.055     6.25    51.94
         ================================================
         ID = 3 (8130):  1853.74  22.677     6.25    22.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1661.0) ------>
               Distance      Elevation       Manning
                   0.00         248.36        0.0500
                  41.67         246.98        0.0500
                  95.82         244.93        0.0500
                 149.98         242.42        0.0500
                 191.64         241.88        0.0500
                 224.97         239.90        0.0500
                 229.13         239.35        0.0500
                 233.30         237.77        0.0500
                 237.47         236.57        0.0500
                 240.63         235.60    0.0500 /0.0300  Main Channel
                 241.63         234.10        0.0300      Main Channel
                 247.13         234.10        0.0300      Main Channel
                 247.53         235.60    0.0300 /0.0500  Main Channel
                 254.13         236.25        0.0500
                 266.63         236.77        0.0500
                 283.29         237.84        0.0500
                 291.63         238.89        0.0500
                 329.12         244.66        0.0500
                 370.78         249.55        0.0500
                 412.44         253.17        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)       (m/s)      (min)
      0.75    234.85   .130E+05        6.0         1.36      36.45
      1.50    235.60   .276E+05       18.1         1.95      25.41
      2.25    236.35   .544E+05       40.0         2.18      22.69
      3.00    237.10   .117E+06       80.1         2.04      24.32
      3.75    237.85   .213E+06      148.9         2.07      23.89
      4.50    238.60   .334E+06      255.1         2.27      21.85
      5.25    239.35   .473E+06      395.8         2.49      19.90
      6.00    240.10   .631E+06      563.8         2.65      18.66
      6.75    240.85   .824E+06      773.2         2.79      17.77
      7.50    241.60   .106E+07     1037.9         2.92      16.97
      8.26    242.36   .135E+07     1326.7         2.92      16.94
      9.01    243.11   .173E+07     1758.5         3.01      16.44
      9.76    243.86   .217E+07     2285.9         3.13      15.81
     10.51    244.61   .265E+07     2909.5         3.26      15.17
     11.26    245.36   .318E+07     3610.1         3.37      14.67
     12.01    246.11   .377E+07     4417.4         3.48      14.21
     12.76    246.86   .441E+07     5348.0         3.60      13.75
     13.51    247.61   .512E+07     6394.0         3.71      13.34
     14.26    248.36   .589E+07     7580.3         3.82      12.95

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (8130) 1853.74    22.68    6.25  22.75      1.66      1.99
     OUTFLOW: ID= 1 (6166) 1853.74    20.22    6.75  22.75      1.57      1.97

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-------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6166):  1853.74  20.219     6.75    22.75
       + ID2= 2 (8134):   434.70  19.285     6.00    52.75
         ================================================
         ID = 3 (8136):  2288.44  34.994     6.50    28.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)= 107.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  27.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.29         59.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     845.85         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         83.60
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.04 (ii)    22.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.03          6.61         11.313 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         40.73         51.01
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.50          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.1480      2.8069
                         0.3630     1.2717   |   6.4200      3.2412
                         1.5670     1.4796   |   7.4640      3.6910
                         2.7880     1.9296   |   7.8640      3.7010
                         3.8580     2.3404   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)    107.320     11.313      6.00      51.01
     OUTFLOW: ID= 1 (5202)    107.320      4.362      6.75      51.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.56
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.5421

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-------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 361.21
|ID= 1 DT=10.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  36.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     216.73        144.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1551.79         40.00
     Mannings n          =      0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=     106.66       110.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     15.88 (ii)   26.15 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     27.37        20.06        40.472 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80        44.82        57.05
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.55         0.71


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  40.472     6.00    57.05
       + ID2= 2 (5202):   107.32   4.362     6.75    51.00
         ================================================
         ID = 3 (8110):   468.53  41.367     6.00    55.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.18       358.82
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1762.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        20.93
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     17.15 (ii)   37.14 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.53        11.62        14.506 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50         6.50
     RUNOFF VOLUME    (mm)=     78.80        19.53        24.86
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.24         0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   2.384 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.530
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   2.384     9.25    12.53
       + ID2= 2 (0102):   466.00  14.506     6.50    24.86
         ================================================
         ID = 3 (8000):  1159.84  16.049     6.50    17.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                 0.00         330.16        0.0450
                50.03         328.36        0.0450
                89.34         326.33        0.0450
               117.94         324.30        0.0450
               160.82         322.75        0.0450
               178.34         319.96        0.0450
               183.34         319.81        0.0450
               184.34         319.38    0.0450 /0.0300  Main Channel
               185.09         318.78        0.0300      Main Channel
               185.84         318.72        0.0300      Main Channel
               186.84         319.32    0.0300 /0.0450  Main Channel
               193.84         319.70        0.0450
               198.84         320.38        0.0450
               200.13         320.81        0.0450
               218.00         322.49        0.0450
               239.44         323.49        0.0450
               250.17         323.96        0.0450
               275.18         325.20        0.0450
               310.92         326.47        0.0450
               353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30    319.02    .624E+03       0.1         0.45       73.00
      0.60    319.32    .181E+04       0.6         0.67       49.46
      1.23    319.95    .128E+05       4.9         0.77       43.38
      1.86    320.58    .396E+05      19.1         0.96       34.50
      2.48    321.20    .757E+05      43.5         1.15       28.98
      3.11    321.83    .125E+06      81.2         1.30       25.58
      3.74    322.46    .187E+06     135.9         1.45       22.92
      4.37    323.09    .269E+06     195.6         1.45       22.90
      5.00    323.72    .387E+06     287.8         1.48       22.44
      5.63    324.35    .545E+06     428.4         1.56       21.22
      6.25    324.97    .735E+06     630.5         1.71       19.42
      6.88    325.60    .952E+06     876.1         1.83       18.12
      7.51    326.23    .120E+07    1177.0         1.95       17.03
      8.14    326.86    .149E+07    1554.4         2.08       15.93
      8.77    327.49    .179E+07    2009.7         2.23       14.88
      9.40    328.12    .213E+07    2533.9         2.37       13.99
     10.02    328.74    .249E+07    3112.6         2.49       13.31
     10.65    329.37    .288E+07    3760.9         2.60       12.75
     11.28    330.00    .330E+07    4494.8         2.71       12.23

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84    16.05    6.50  17.48      1.72      0.91
     OUTFLOW: ID= 1 (6104) 1159.84    11.71    6.75  17.48      1.53      0.85


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--------------------
| CALIB            |
| STANDHYD  (1041) |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      66.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        14.06
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```
            over (min)       15.00        30.00
     Storage Coeff.  (min)=      2.41 (ii)   25.86 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.00          0.142 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        13.20         59.10
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.16          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450     0.0213
                         0.0020     0.0120   |   0.0560     0.0231
                         0.0130     0.0144   |   0.0660     0.0248
                         0.0240     0.0165   |   0.4660     0.0348
                         0.0340     0.0189   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)     0.670     0.142      6.00      59.10
     OUTFLOW: ID= 1 (5104)     0.670     0.046      6.25      56.85

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.81
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0226

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   2.648 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.653
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1042):   527.14   2.648     8.00    13.65
        + ID2= 2 (5104):     0.67   0.046     6.25    56.85
          ================================================
          ID = 3 (9104):   527.81   2.659     8.00    13.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6104):  1159.84  11.706     6.75    17.48
        + ID2= 2 (9104):   527.81   2.659     8.00    13.71
          ================================================
          ID = 3 (8002):  1687.65  14.006     6.75    16.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1061) |   Area    (ha)=  32.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         64.30
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       7.70 (ii)   20.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.41          0.95          5.008 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         28.60         54.20
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.35          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580     0.9744
                         0.1090     0.5252   |   2.7090     1.0694
                         0.6250     0.6260   |   3.1540     1.1625
                         1.1640     0.7386   |   3.5540     1.1725
                         1.6140     0.8505   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)    32.260     5.008      6.00      54.20
     OUTFLOW: ID= 1 (5106)    32.260     1.655      6.50      54.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.05
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.8729

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   2.126 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.606
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1062):   227.27   2.126     7.50    21.61
        + ID2= 2 (5106):    32.26   1.655     6.50    54.16
          ================================================
          ID = 3 (9106):   259.53   3.487     6.50    25.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65  14.006     6.75    16.30
       + ID2= 2 (9106):   259.53   3.487     6.50    25.65
         ================================================
         ID = 3 (8004):  1947.18  17.463     6.75    17.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1081.0) ------>
              Distance      Elevation       Manning
                  0.00         326.06        0.0400
                 12.06         325.74        0.0400
                 30.15         324.28        0.0400
                 59.27         320.35        0.0400
                 72.37         317.60        0.0400
                 87.45         314.52        0.0400
                 93.48         313.91        0.0400
                105.54         313.55        0.0400
                106.17         313.40    0.0400 /0.0300  Main Channel
                110.62         313.04        0.0300      Main Channel
                110.82         312.97        0.0300      Main Channel
                111.57         313.08        0.0300      Main Channel
                111.67         313.48    0.0300 /0.0400  Main Channel
                129.66         316.62        0.0400
                150.77         318.95        0.0400
                180.92         319.61        0.0400
                205.04         321.23        0.0400
                232.18         322.09        0.0400
                268.37         322.31        0.0400
                298.52         326.00        0.0400

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   313.40    .244E+04        0.7         0.59      58.83
      1.09   314.06    .214E+05       10.4         1.01      34.24
      1.76   314.73    .600E+05       40.2         1.39      24.89
      2.42   315.39    .109E+06       92.1         1.75      19.80
      3.08   316.05    .169E+06      166.5         2.05      16.88
      3.75   316.72    .237E+06      264.4         2.31      14.97
      4.41   317.38    .318E+06      386.3         2.52      13.72
      5.07   318.04    .411E+06      539.3         2.72      12.71
      5.74   318.71    .517E+06      725.5         2.91      11.88
      6.40   319.37    .642E+06      909.2         2.94      11.77
      7.06   320.03    .806E+06     1179.3         3.04      11.38
      7.72   320.69    .989E+06     1515.9         3.18      10.87
      8.39   321.36    .119E+07     1895.5         3.30      10.49
      9.05   322.02    .143E+07     2310.2         3.36      10.30
      9.71   322.68    .172E+07     2763.2         3.33      10.39
     10.38   323.35    .205E+07     3477.6         3.53       9.81
     11.04   324.01    .238E+07     4284.3         3.73       9.27
     11.70   324.67    .274E+07     5154.0         3.91       8.85
     12.37   325.34    .311E+07     6104.0         4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8004) 1947.18    17.46    6.75  17.55      1.25      1.08
    OUTFLOW: ID= 1 (6108) 1947.18    15.48    7.50  17.55      1.20      1.06


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.61        10.20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     521.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        10.94

                over (min)       15.00        45.00
     Storage Coeff.  (min)=       8.26 (ii)   34.18 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.53         0.18          7.600 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      78.80        10.38         58.27
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.13          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  30.2    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7300      1.2970
                          0.1380     0.7271   |   3.4270      1.4050
                          0.7910     0.8733   |   3.9900      1.5110
                          1.4720     1.0061   |   4.3900      1.5210
                          2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1081)     40.810     7.600      6.00       58.27
    OUTFLOW: ID= 1 (5108)     40.810     2.518      6.25       58.24

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.13
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2595

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.762 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.296
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.115

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.762     7.25      9.30
       + ID2= 2 (5108):    40.81   2.518     6.25     58.24
         ================================================
         ID = 3 (9108):   207.05   3.109     6.25     18.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18  15.485     7.50    17.55
       + ID2= 2 (9108):   207.05   3.109     6.25    18.94
         ================================================
         ID = 3 (8006):  2154.23  17.380     7.25    17.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1101) |   Area    (ha)=  60.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07        18.90
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     637.55        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        55.81
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.31 (ii)   22.82 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.56         1.39          9.435 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        25.53         54.83
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.32          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   4.0780     1.8615
                          0.2060     1.0120   |   5.1210     2.0372
                          1.1810     1.2083   |   5.9610     2.2096
                          2.2000     1.4181   |   6.3610     2.2196
                          3.0510     1.6293   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970     9.435      6.00      54.83
     OUTFLOW: ID= 1 (5110)     60.970     3.172      6.50      54.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.62
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6821

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   2.044 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.356
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1102):   262.95   2.044     8.00    20.36
        + ID2= 2 (5110):    60.97   3.172     6.50    54.81
          ================================================
          ID = 3 (9110):   323.92   4.807     6.50    26.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8006):  2154.23  17.380     7.25    17.68
        + ID2= 2 (9110):   323.92   4.807     6.50    26.84
          ================================================
          ID = 3 (8008):  2478.15  21.243     7.25    18.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1121.0) ------>
               Distance      Elevation       Manning
                  0.00         320.59        0.0400
                 13.48         317.93        0.0400
                 40.45         311.52        0.0400
                 64.04         307.68        0.0400
                 74.15         307.01        0.0400
                 91.00         307.22        0.0400
                107.86         305.21        0.0400
                111.23         304.86        0.0400
                113.32         304.60    0.0400 /0.0300  Main Channel
                117.77         304.24        0.0300      Main Channel
                117.97         304.17        0.0300      Main Channel
                118.72         304.28        0.0300      Main Channel
                118.82         304.68    0.0300 /0.0400  Main Channel
                124.71         304.76        0.0400
                171.90         306.30        0.0400
                205.60         307.24        0.0400
                239.31         308.24        0.0400
                262.90         310.64        0.0400
                289.86         314.34        0.0400
                333.68         317.66        0.0400

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.43   304.60    .372E+04       0.6         0.54       97.65
       1.12   305.29    .463E+05      12.5         0.85       61.89
       1.80   305.97    .149E+06      53.0         1.13       46.85
       2.49   306.66    .311E+06     134.2         1.37       38.62
       3.18   307.35    .554E+06     261.6         1.50       35.27
       3.87   308.04    .894E+06     490.7         1.74       30.37
       4.55   308.72    .129E+07     833.0         2.05       25.75
       5.24   309.41    .171E+07    1269.8         2.36       22.39
       5.93   310.10    .215E+07    1789.0         2.64       20.01
       6.62   310.79    .261E+07    2392.7         2.90       18.21
       7.30   311.47    .310E+07    3087.8         3.16       16.74
       7.99   312.16    .361E+07    3873.6         3.40       15.52
       8.68   312.85    .413E+07    4741.0         3.64       14.52
       9.37   313.54    .467E+07    5689.3         3.86       13.69
      10.05   314.22    .523E+07    6718.4         4.07       12.97
      10.74   314.91    .581E+07    7770.7         4.24       12.46
      11.43   315.60    .641E+07    8897.5         4.40       12.01
      12.12   316.29    .704E+07   10113.2         4.55       11.61
      12.80   316.97    .770E+07   11420.1         4.70       11.24

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15    21.24    7.25  18.88      1.27      0.90
     OUTFLOW: ID= 1 (6112) 2478.15    17.50    8.25  18.88      1.20      0.88

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48         4.48
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     257.68        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        18.08
```

```
            over (min)       15.00         30.00
     Storage Coeff.  (min)=       5.41 (ii)   26.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.71          0.16          0.807 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         12.25         28.89
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.15          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660      0.2787
                         0.0340     0.1406   |   0.8360      0.3122
                         0.1930     0.1653   |   0.9740      0.3450
                         0.3590     0.2034   |   1.3740      0.3550
                         0.4980     0.2383   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)    9.960      0.807      6.00       28.89
     OUTFLOW: ID= 1 (5112)    9.960      0.170      6.75       28.78

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.05
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1630

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1122) |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   1.009 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=   8.963
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.111

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1122):   404.93   1.009     9.00     8.96
        + ID2= 2 (5112):     9.96   0.170     6.75    28.78
          ================================================
          ID = 3 (9112):   414.89   1.058     8.25     9.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6112):  2478.15  17.500     8.25    18.88
        + ID2= 2 (9112):   414.89   1.058     8.25     9.44
          ================================================
          ID = 3 (8010):  2893.04  18.559     8.25    17.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1141.0) ------>
               Distance      Elevation       Manning
                   0.00         312.27        0.0500
                  14.07         309.70        0.0500
                  28.14         306.51        0.0500
                  35.17         305.81        0.0500
                  42.20         304.95        0.0500
                  52.75         304.24        0.0500
                  77.37         303.61        0.0500
                  98.47         301.33        0.0500
                 131.76         300.40    0.0500 /0.0300  Main Channel
                 136.21         300.04        0.0300      Main Channel
                 136.41         299.97        0.0300      Main Channel
                 137.16         300.08        0.0300      Main Channel
                 137.26         300.48    0.0300 /0.0500  Main Channel
                 140.68         300.53        0.0500
                 179.36         302.20        0.0500
                 214.53         303.82        0.0500
                 242.66         305.27        0.0500
                 288.38         307.66        0.0500
                 316.52         311.76        0.0500
                 348.17         313.48        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43    300.40    .366E+04        0.7         0.59      88.31
      1.05    301.02    .505E+05       12.1         0.75      69.49
      1.68    301.65    .165E+06       52.7         0.99      52.28
      2.30    302.27    .324E+06      130.3         1.26      41.40
      2.93    302.90    .520E+06      247.1         1.48      35.08
      3.55    303.52    .754E+06      406.8         1.68      30.91
      4.18    304.15    .104E+07      586.1         1.76      29.55
      4.80    304.77    .138E+07      856.0         1.93      26.96
      5.43    305.40    .177E+07     1201.1         2.12      24.56
      6.05    306.02    .219E+07     1612.2         2.30      22.63
      6.68    306.65    .264E+07     2090.6         2.47      21.07
      7.30    307.27    .313E+07     2653.0         2.64      19.65
      7.93    307.90    .364E+07     3303.9         2.83      18.36
      8.55    308.52    .417E+07     4053.9         3.03      17.14
      9.18    309.15    .471E+07     4871.9         3.22      16.12
      9.80    309.77    .527E+07     5756.2         3.41      15.25
     10.43    310.40    .584E+07     6699.8         3.58      14.52
     11.05    311.02    .642E+07     7710.5         3.74      13.89
     11.68    311.65    .702E+07     8788.5         3.90      13.32

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04    18.56    8.25  17.53      1.15      0.78
     OUTFLOW: ID= 1 (6114) 2893.04    16.23    9.75  17.53      1.12      0.77

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-------------------
| CALIB            |
| STANDHYD  (1141) |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.75         10.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     360.09         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         47.44
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       6.61 (ii)   21.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.80          0.69          1.238 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         20.61         29.34
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.26          0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
```

```
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  43.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5114) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.3010      0.5065
                         0.0660     0.2376   |   1.6340      0.5791
                         0.3770     0.2749   |   1.9020      0.6501
                         0.7020     0.3549   |   2.3020      0.6601
                         0.9730     0.4237   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1141)     19.450      1.238      6.00      29.34
     OUTFLOW: ID= 1 (5114)     19.450      0.430      6.75      29.29

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.76
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2897

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1142) |   Area    (ha)= 268.19   Curve Number   (CN)= 51.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.197

     PEAK FLOW       (cms)=   2.073 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.967
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1142):   268.19   2.073     7.50    17.97
        + ID2= 2 (5114):    19.45   0.430     6.75    29.29
          ================================================
          ID = 3 (9114):   287.64   2.417     7.00    18.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6114):  2893.04  16.234     9.75    17.53
        + ID2= 2 (9114):   287.64   2.417     7.00    18.73
          ================================================
          ID = 3 (8012):  3180.68  18.013     9.50    17.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   2.988 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.903
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0116):   206.43   2.988     7.00    25.90
        + ID2= 2 (8012):  3180.68  18.013     9.50    17.64
          ================================================
          ID = 3 (8014):  3387.11  19.883     9.25    18.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1181.0) ------>
               Distance      Elevation       Manning
                  0.00         307.18        0.0450
                 24.89         299.75        0.0450
                 37.34         296.39        0.0450
                 71.57         292.75        0.0450
                 96.46         291.12        0.0450
                108.90         289.43        0.0450
                112.02         288.86        0.0450
                115.13         288.46        0.0450
                117.24         288.32    0.0450 /0.0350  Main Channel
                117.49         288.15        0.0350      Main Channel
                118.24         288.00        0.0350      Main Channel
                118.99         288.20        0.0350      Main Channel
                119.24         288.36    0.0350 /0.0450  Main Channel
                121.35         288.40        0.0450
                149.35         289.36        0.0450
                171.14         290.47        0.0450
                208.47         293.14        0.0450
                236.48         295.17        0.0450
                280.04         299.48        0.0450
                308.04         307.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.32   288.32    .116E+04        0.2        0.62       81.92
      1.30   289.30    .631E+05       22.2        1.07       47.43
      2.29   290.29    .218E+06      117.5        1.64       30.95
      3.27   291.27    .448E+06      314.6        2.15       23.72
      4.25   292.25    .756E+06      625.6        2.53       20.13
      5.24   293.24    .115E+07     1093.2        2.91       17.50
      6.22   294.22    .161E+07     1731.6        3.28       15.50
      7.20   295.20    .214E+07     2547.4        3.63       14.01
      8.19   296.19    .274E+07     3584.9        4.00       12.72
      9.17   297.17    .338E+07     4859.1        4.39       11.60
     10.15   298.15    .407E+07     6341.5        4.76       10.70
     11.13   299.13    .480E+07     8024.6        5.11        9.97
     12.12   300.12    .556E+07    10006.6        5.49        9.27
     13.10   301.10    .635E+07    12244.6        5.89        8.64
     14.08   302.08    .716E+07    14681.7        6.26        8.13
     15.07   303.07    .799E+07    17316.5        6.62        7.69
     16.05   304.05    .884E+07    20148.1        6.96        7.31
     17.03   305.03    .971E+07    23176.2        7.29        6.98
     18.02   306.02    .106E+08    26400.8        7.61        6.69

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11    19.88    9.25  18.14      1.20      1.00
     OUTFLOW: ID= 1 (6118) 3387.11    19.17   10.00  18.14      1.16      0.97

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200
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```
     PEAK FLOW       (cms)=   2.109 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  14.747
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0118):   340.53   2.109     7.75    14.75
       + ID2= 2 (6118):  3387.11  19.174    10.00    18.14
         ================================================
         ID = 3 (8016):  3727.64  20.817    10.00    17.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   259.80    .626E+04        2.5          1.23      41.35
        1.41   260.71    .462E+05       21.8          1.44      35.27
        2.31   261.61    .149E+06       79.6          1.63      31.19
        3.22   262.52    .340E+06      200.1          1.80      28.34
        4.12   263.42    .636E+06      446.8          2.15      23.71
        5.03   264.33    .995E+06      819.9          2.52      20.23
        5.93   265.23    .141E+07     1337.0          2.90      17.56
        6.84   266.14    .187E+07     1984.8          3.25      15.67
        7.74   267.04    .237E+07     2766.0          3.57      14.26
        8.65   267.95    .292E+07     3596.9          3.76      13.53
        9.55   268.85    .355E+07     4575.4          3.93      12.95
       10.46   269.76    .427E+07     5814.9          4.16      12.23
       11.36   270.66    .503E+07     7319.0          4.44      11.46
       12.27   271.57    .584E+07     9009.7          4.71      10.81
       13.17   272.47    .670E+07    10886.3          4.96      10.26
       14.08   273.38    .761E+07    12893.2          5.17       9.84
       14.98   274.28    .858E+07    15098.1          5.37       9.48
       15.89   275.19    .961E+07    17527.6          5.57       9.14
       16.79   276.09    .107E+08    20190.3          5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    20.82   10.00  17.83      1.36      1.43
     OUTFLOW: ID= 1 (6122) 3727.64    20.23   10.50  17.83      1.32      1.42


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| CALIB           |
| STANDHYD  (1221) |   Area    (ha)= 117.91
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```
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88         66.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     886.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         21.62
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      11.35 (ii)    31.09 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.53          2.42          5.529 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      78.80         16.07          26.11
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.20           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  36.4    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.8880      3.0390
                         0.3990     1.4100   |   9.9040      3.4850
                         2.2850     1.6269   |  11.5290      3.9214
                         4.2550     2.1164   |  11.9290      3.9314
                         5.9010     2.5338   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      5.529      6.00      26.11
     OUTFLOW: ID= 1 (5122)    117.910      1.956      7.00      26.10

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.38
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.5926

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-------------------
| CALIB           |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   1.457 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  14.181
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1222):   246.95   1.457     7.75    14.18
       + ID2= 2 (5122):   117.91   1.956     7.00    26.10
         ================================================
         ID = 3 (8018):   364.86   3.357     7.00    18.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  20.234    10.50    17.83
       + ID2= 2 (8018):   364.86   3.357     7.00    18.03
         ================================================
         ID = 3 (8020):  4092.50  21.682    10.50    17.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.07         32.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     578.45         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         19.51
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.79 (ii)   29.35 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.39          1.19          4.110 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         18.66          34.29
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.23           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  48.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.3570      1.2179
                           0.1700     0.5264   |   4.2160      1.4221
                           0.9720     0.5968   |   4.9080      1.6217
                           1.8110     0.8165   |   5.3080      1.6317
                           2.5120     0.9954   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.190     4.110      6.00      34.29
     OUTFLOW: ID= 1 (5126)     50.190     1.576      6.50      34.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.36
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7567

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--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.509

     PEAK FLOW       (cms)=   1.300 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.412
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   1.300     6.50    21.41
       + ID2= 2 (5126):    50.19   1.576     6.50    34.28
         ================================================
         ID = 3 (8024):   133.52   2.877     6.50    26.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.279 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.547
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   1.279     6.50    13.55
       + ID2= 2 (8024):   133.52   2.877     6.50    26.25
         ================================================
         ID = 3 (8026):   254.95   4.155     6.50    20.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1281.0) ------>
              Distance      Elevation       Manning
                 0.00         270.58        0.0400
                 7.71         270.36        0.0400
                15.43         269.48        0.0400
                23.14         265.88        0.0400
                42.43         261.83        0.0400
                61.71         258.31        0.0400
                75.21         256.62        0.0400
                90.64         255.35        0.0400
                92.49         255.00    0.0400 /0.0300  Main Channel
                93.49         254.00        0.0300      Main Channel
                94.49         253.90        0.0300      Main Channel
                94.99         253.80        0.0300      Main Channel
                95.49         253.70        0.0300      Main Channel
                95.99         253.80        0.0300      Main Channel
                98.49         255.00    0.0300 /0.0400  Main Channel
               100.28         255.44        0.0400
               134.99         257.45        0.0400
               148.49         259.67        0.0400
               167.77         263.42        0.0400
               190.92         270.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.65   254.35    .439E+04        2.0         1.24       36.10
      1.30   255.00    .131E+05        9.4         1.92       23.39
      2.18   255.88    .433E+05       37.0         2.30       19.54
      3.06   256.76    .131E+06      113.3         2.34       19.20
      3.95   257.65    .273E+06      273.8         2.70       16.64
      4.83   258.53    .453E+06      538.5         3.21       14.01
      5.71   259.41    .658E+06      902.9         3.70       12.14
      6.59   260.29    .886E+06     1368.4         4.16       10.79
      7.48   261.18    .114E+07     1936.3         4.59        9.79
      8.36   262.06    .141E+07     2610.9         4.99        9.01
      9.24   262.94    .171E+07     3398.7         5.37        8.36
     10.12   263.82    .202E+07     4309.6         5.75        7.81
```

```
      11.01   264.71    .235E+07    5347.5          6.13       7.33
      11.89   265.59    .270E+07    6501.0          6.48       6.93
      12.77   266.47    .307E+07    7808.6          6.86       6.55
      13.65   267.35    .345E+07    9250.5          7.23       6.21
      14.54   268.24    .384E+07   10808.3          7.59       5.92
      15.42   269.12    .424E+07   12482.5          7.94       5.66
      16.30   270.00    .466E+07   14127.4          8.18       5.49

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (8026)  254.95     4.16    6.50  20.20      0.84      1.39
    OUTFLOW: ID= 1 (6128)  254.95     3.43    7.25  20.20      0.77      1.33


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.93         27.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     610.30         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         55.68
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.07 (ii)    22.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.17          2.06        5.460 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         26.00        41.32
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.32         0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7380      1.5139
                         0.1890     0.7401   |   4.6930      1.7113
                         1.0830     0.8643   |   5.4630      1.9045
                         2.0160     1.0853   |   5.8630      1.9045
                         2.7960     1.2819   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1281)    55.870      5.460      6.00      41.32
     OUTFLOW: ID= 1 (5128)    55.870      2.014      6.50      41.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.88
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0935

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   5.093

     PEAK FLOW       (cms)=   3.065 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  24.306
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.301
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1282):   184.36   3.065     6.75    24.31
        + ID2= 2 (5128):    55.87   2.014     6.50    41.30
          ================================================
          ID = 3 (9128):   240.23   5.062     6.50    28.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6128):   254.95   3.432     7.25    20.20
        + ID2= 2 (9128):   240.23   5.062     6.50    28.26
          ================================================
          ID = 3 (8028):   495.18   8.073     7.00    24.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8020):  4092.50  21.682    10.50    17.85
        + ID2= 2 (8028):   495.18   8.073     7.00    24.11
          ================================================
          ID = 3 (8022):  4587.68  24.304    10.25    18.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.36         96.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1084.28         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         45.71
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      12.81 (ii)   27.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.92          5.31        12.202 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         21.57        34.16
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.27         0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.7960      4.5929
                         0.5970     2.1554   |  14.8120      5.2509
                         3.4170     2.4937   |  17.2430      5.8948
                         6.3630     3.2187   |  17.6430      5.9048
```

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                        8.8260     3.8422   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)    176.350     12.202      6.00      34.16
     OUTFLOW: ID= 1 (5120)    176.350      4.726      6.75      34.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.73
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.8382

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--------------------
| CALIB            |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39         40.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     686.39         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         44.85
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.74 (ii)    24.48 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.56          2.30          4.987 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         21.39          32.87
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.26           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1202):    70.67   4.987     6.00    32.87
        + ID2= 2 (5120):   176.35   4.726     6.75    34.16
          ================================================
          ID = 3 (8030):   247.02   6.852     6.50    33.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8032) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8022):  4587.68  24.304    10.25    18.52
        + ID2= 2 (8030):   247.02   6.852     6.50    33.79
          ================================================
          ID = 3 (8032):  4834.70  25.389    10.00    19.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                   0.00         257.18        0.0350
                  62.45         254.70        0.0350
                 109.29         252.74        0.0350
                 150.92         251.55        0.0350
                 192.56         248.96        0.0350
                 239.39         247.16        0.0350
                 291.84         246.00        0.0350
                 296.84         245.00        0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60        0.0300      Main Channel
                 301.84         244.60        0.0300      Main Channel
                 303.44         244.60        0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00        0.0350
                 309.84         246.00        0.0350
                 317.46         247.22        0.0350
                 348.68         254.83        0.0350
                 359.09         256.70        0.0350
                 452.76         258.23        0.0350
                 515.22         258.33        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)      (min)
      0.40    245.00    .870E+04         1.2          0.64     124.12
      1.04    245.64    .468E+05         9.5          0.96      81.81
      1.68    246.28    .109E+06        25.6          1.11      70.86
      2.32    246.92    .257E+06        63.5          1.17      67.51
      2.96    247.56    .498E+06       142.7          1.36      58.18
      3.61    248.21    .800E+06       266.7          1.58      50.01
      4.25    248.85    .116E+07       437.4          1.78      44.24
      4.89    249.49    .157E+07       669.1          2.01      39.20
      5.53    250.13    .203E+07       954.9          2.23      35.36
      6.17    250.77    .252E+07      1294.4          2.43      32.42
      6.81    251.41    .305E+07      1689.6          2.62      30.07
      7.45    252.05    .363E+07      2090.7          2.73      28.93
      8.09    252.69    .429E+07      2553.1          2.82      27.98
      8.73    253.33    .501E+07      3138.4          2.96      26.60
      9.37    253.97    .579E+07      3803.8          3.11      25.36
     10.02    254.62    .662E+07      4549.3          3.25      24.25
     10.66    255.26    .751E+07      5364.9          3.38      23.32
     11.30    255.90    .845E+07      6265.7          3.51      22.49
     11.94    256.54    .946E+07      7260.1          3.63      21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70    25.39   10.00  19.30      1.68      1.11
     OUTFLOW: ID= 1 (6130) 4834.70    23.78   11.00  19.30      1.60      1.09

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--------------------
| CALIB            |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93        115.27
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1461.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        101.88
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      15.32 (ii)    25.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      32.18         14.78         41.822 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         44.71          60.73
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.55           0.75

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |  18.6040      9.7083
                        1.1320     5.3237   |  22.6740     10.8355
                        6.6360     6.1006   |  30.4650     12.2155
                       10.3780     7.2341   |  31.8650     12.2255
                       14.1960     8.4233   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    320.200     41.822      6.00      60.73
     OUTFLOW: ID= 1 (5130)    320.200     16.531      6.75      60.73

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.53
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  9.2611

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-------------------
| CALIB           |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   1.734 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  40.524
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.502

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):    65.86   1.734     6.75    40.52
       + ID2= 2 (5130):   320.20  16.531     6.75    60.73
         ================================================
         ID = 3 (8036):   386.06  18.265     6.75    57.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.70  23.779    11.00    19.30
       + ID2= 2 (8036):   386.06  18.265     6.75    57.28
         ================================================
         ID = 3 (8034):  5220.76  27.601     7.25    22.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        58.09
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      4.83 (ii)   18.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.53         0.29          0.712 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        25.89          40.17
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.32           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4580      0.1865
                         0.0230     0.0917    |   0.5750      0.2106
                         0.1330     0.1071    |   0.6700      0.2341
                         0.2470     0.1341    |   1.0700      0.2441
                         0.3430     0.1582    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)     6.850     0.712      6.00      40.17
     OUTFLOW: ID= 1 (5186)     6.850     0.242      6.50      40.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.02
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1335

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-------------------
| CALIB           |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32       196.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1516.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        48.82
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      15.67 (ii)   29.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      16.80        10.99         23.593 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        24.04         36.64
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.30          0.45


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1862):   344.94  23.593     6.00    36.64
       + ID2= 2 (5186):     6.85   0.242     6.50    40.03
         ================================================
         ID = 3 (9186):   351.79  23.615     6.00    36.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      86.41        40.00
```

```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       127.97
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      2.81 (ii)   12.50 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.08         0.228 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00         6.00
     RUNOFF VOLUME    (mm)=     78.80        38.78        57.18
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.48         0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750      0.0357
                          0.0040     0.0200   |   0.0940      0.0386
                          0.0220     0.0240   |   0.1100      0.0416
                          0.0410     0.0277   |   0.5100      0.0516
                          0.0560     0.0315   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)     1.120      0.228      6.00      57.18
     OUTFLOW: ID= 1 (5188)     1.120      0.067      6.25      56.05

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.30
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0344

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--------------------
| CALIB            |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.04       181.37
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1431.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        53.35
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     15.13 (ii)   28.89 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     16.52        11.32        23.564 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80        27.68        40.46
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.34         0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1882):   307.41  23.564     6.00    40.46
       + ID2= 2 (5188):     1.12   0.067     6.25    56.05
         ================================================
         ID = 3 (9188):   308.53  23.593     6.00    40.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9186):   351.79  23.615     6.00    36.70
       + ID2= 2 (9188):   308.53  23.593     6.00    40.52
         ================================================
         ID = 3 (8068):   660.32  47.208     6.00    38.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        50.21
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.17 (ii)   25.26 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      4.59         4.22         7.214 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     78.80        24.15        33.44
     TOTAL RAINFALL   (mm)=     80.80        80.80        80.80
     RUNOFF COEFFICIENT   =      0.98         0.30         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7800      2.5656
                          0.3790     1.0207   |   7.3720      3.0829
                          1.6240     1.1939   |   8.7710      3.5956
                          3.0930     1.6631   |   9.1710      3.6056
                          4.3530     2.1032   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800      7.214      6.00      33.44
     OUTFLOW: ID= 1 (5182)    111.800      2.963      6.75      33.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.08
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.6292

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966

     PEAK FLOW       (cms)=   0.529 (i)
     TIME TO PEAK    (hrs)=   7.000
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     RUNOFF VOLUME    (mm)=  21.172
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.262

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8062) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.529     7.00    21.17
       + ID2= 2 (5182):   111.80   2.963     6.75    33.44
         ================================================
         ID = 3 (8062):   156.20   3.486     6.75    29.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1841) |   Area    (ha)= 145.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.63        75.44
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        68.88
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.08 (ii)   24.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.48         6.64        10.660 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        29.19         38.62
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.36          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.9270     2.3472
                         0.2980     1.0088   |   7.4630     2.7585
                         1.6660     1.1775   |   8.7490     3.1642
                         3.1100     1.4809   |   9.1490     3.1742
                         4.4100     1.8897   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    145.070     10.660      6.00      38.62
     OUTFLOW: ID= 1 (5184)    145.070      5.204      6.75      38.61

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.82
                   TIME SHIFT OF PEAK FLOW          (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.1717

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| CALIB             |
| STANDHYD  (1842) |   Area    (ha)= 117.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.33        68.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     884.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        59.50
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.34 (ii)   24.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.80         5.17          8.039 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        27.50         36.22
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.34          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8060) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   117.45   8.039     6.00    36.22
       + ID2= 2 (5184):   145.07   5.204     6.75    38.61
         ================================================
         ID = 3 (8060):   262.52  11.310     6.25    37.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8064) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.52  11.310     6.25    37.54
       + ID2= 2 (8062):   156.20   3.486     6.75    29.95
         ================================================
         ID = 3 (8064):   418.72  13.822     6.25    34.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1781) |   Area    (ha)=  55.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  13.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.65        33.86
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     608.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        95.13
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.06 (ii)   19.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.86         4.56          5.155 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        43.11         47.75
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.53          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5178)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.1870	0.7248
	0.1880	0.3394	9.3670	0.8313
	1.7260	0.4003	10.7440	0.9285
	3.2000	0.4933	11.1440	0.9385
	4.6710	0.6039	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1781)	55.500	5.155	6.25	47.75
OUTFLOW: ID= 1 (5178)	55.500	4.411	6.25	47.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 85.57
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.6178

CALIB				
NASHYD (1782)	Area (ha)= 219.91	Curve Number (CN)= 77.6		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.76			

Unit Hyd Qpeak (cms)= 4.921

PEAK FLOW (cms)= 4.976 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 37.944
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.470

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8046)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1782):	219.91	4.976	6.75	37.94
+ ID2= 2 (5178):	55.50	4.411	6.25	47.74
ID = 3 (8046):	275.41	9.089	6.50	39.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0180)	Area (ha)= 226.65	Curve Number (CN)= 65.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 1.17			

Unit Hyd Qpeak (cms)= 3.299

PEAK FLOW (cms)= 2.512 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 26.812
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.332

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8050)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0180):	226.65	2.512	7.75	26.81
+ ID2= 2 (8046):	275.41	9.089	6.50	39.92
ID = 3 (8050):	502.06	11.210	6.50	34.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1741)	Area (ha)= 56.30			
ID= 1 DT=15.0 min	Total Imp(%)= 35.00	Dir. Conn.(%)= 18.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.70	36.60
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	612.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	59.79
over (min)	15.00	30.00
Storage Coeff. (min)=	9.09 (ii)	22.24 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.09	0.04

		TOTALS
PEAK FLOW (cms)=	2.60	2.93	4.458 (iii)
TIME TO PEAK (hrs)=	6.00	6.25	6.00
RUNOFF VOLUME (mm)=	78.80	31.06	39.65
TOTAL RAINFALL (mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT =	0.98	0.38	0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5174)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.1370	1.3070
	0.0580	0.5427	1.4280	1.5354
	0.3290	0.6196	1.6620	1.7593
	0.6130	0.8627	2.0620	1.7693
	0.8510	1.0621	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1741)	56.300	4.458	6.00	39.65
OUTFLOW: ID= 1 (5174)	56.300	1.050	7.00	39.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.55
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 1.2370

CALIB				
NASHYD (1742)	Area (ha)= 82.80	Curve Number (CN)= 71.0		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.69			

Unit Hyd Qpeak (cms)= 2.055

PEAK FLOW (cms)= 1.665 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 31.433
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.389

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8044)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1742):	82.80	1.665	6.75	31.43
+ ID2= 2 (5174):	56.30	1.050	7.00	39.61
ID = 3 (8044):	139.10	2.696	7.00	34.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0172)	Area (ha)= 202.23	Curve Number (CN)= 78.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.89				

Unit Hyd Qpeak (cms)= 3.875

PEAK FLOW (cms)= 4.110 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 38.497
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.476

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0168)	Area (ha)= 247.13	Curve Number (CN)= 52.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.75				

Unit Hyd Qpeak (cms)= 5.611

PEAK FLOW (cms)= 2.601 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 18.230
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.226

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0170)	Area (ha)= 166.91	Curve Number (CN)= 65.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.80				

Unit Hyd Qpeak (cms)= 3.553

PEAK FLOW (cms)= 2.489 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 26.647
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.330

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8040)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0168):	247.13	2.601	7.00	18.23
+ ID2= 2 (0170):	166.91	2.489	7.00	26.65
ID = 3 (8040):	414.04	5.090	7.00	21.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8042)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0172):	202.23	4.110	7.00	38.50
+ ID2= 2 (8040):	414.04	5.090	7.00	21.62
ID = 3 (8042):	616.27	9.200	7.00	27.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6174)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1741.0) ------>

Distance	Elevation	Manning	
0.00	296.00	0.0450	
13.36	288.94	0.0450	
26.71	288.64	0.0450	
51.19	287.96	0.0450	
73.45	287.32	0.0450	
86.81	286.48	0.0450	
102.39	285.08	0.0450	
110.73	282.76	0.0450	
115.73	281.06	0.0450 /0.0350	Main Channel
115.74	280.35	0.0350	Main Channel
120.73	280.35	0.0350	Main Channel
120.74	281.10	0.0350 /0.0450	Main Channel
125.74	282.64	0.0450	
135.78	286.87	0.0450	
149.13	289.58	0.0450	
162.49	292.29	0.0450	
175.84	293.95	0.0450	
195.88	295.13	0.0450	
213.68	296.02	0.0450	
220.36	296.09	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	281.06	.136E+05	6.0	1.69	37.89
1.50	281.85	.358E+05	22.5	2.42	26.43
2.28	282.63	.726E+05	53.8	2.85	22.47
3.07	283.42	.124E+06	104.1	3.24	19.79
3.86	284.21	.189E+06	176.7	3.60	17.81
4.64	284.99	.268E+06	274.9	3.94	16.26
5.43	285.78	.369E+06	390.8	4.07	15.73
6.21	286.56	.501E+06	551.6	4.23	15.15
7.00	287.35	.674E+06	750.5	4.28	14.97
7.79	288.14	.920E+06	993.3	4.15	15.44
8.57	288.92	.126E+07	1361.5	4.14	15.47
9.36	289.71	.167E+07	1986.0	4.56	14.04
10.15	290.50	.210E+07	2739.7	5.02	12.76
10.93	291.28	.254E+07	3615.0	5.47	11.70
11.72	292.07	.300E+07	4608.8	5.91	10.83
12.50	292.85	.347E+07	5693.3	6.30	10.16
13.29	293.64	.397E+07	6892.9	6.67	9.60
14.08	294.43	.450E+07	8150.4	6.97	9.19
14.86	295.21	.506E+07	9525.0	7.23	8.86

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8042)	616.27	9.20	7.00	27.16	0.86	1.80
OUTFLOW:	ID= 1 (6174)	616.27	8.48	7.75	27.16	0.83	1.77

ADD HYD (8048)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6174):	616.27	8.476	7.75	27.16
+ ID2= 2 (8044):	139.10	2.696	7.00	34.74
ID = 3 (8048):	755.37	10.888	7.50	28.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8052)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8048):	755.37	10.888	7.50	28.56
+ ID2= 2 (8050):	502.06	11.210	6.50	34.00
ID = 3 (8052):	1257.43	19.451	7.00	30.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8058)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.43  19.451     7.00    30.73
       + ID2= 2 (8064):   418.72  13.822     6.25    34.71
         ================================================
         ID = 3 (8058):  1676.15  32.073     6.50    31.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        47.86
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.49 (ii)   26.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.14         6.97         8.715 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        26.29         32.07
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.33          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        76.51
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.71 (ii)   20.62 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.66         2.59         4.318 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        31.83         41.69
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.39          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640      1.3175
                         0.1650     0.6418   |   4.0090      1.4908
                         0.9450     0.7489   |   4.7720      1.6604
                         1.7610     0.9426   |   5.1720      1.6704
                         2.4420     1.1144   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      4.318      6.00      41.69
     OUTFLOW: ID= 1 (5176)     48.800      1.734      6.75      41.67

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.15
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9502

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| ADD HYD   (8056) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (1762):   162.00   8.715     6.25    32.07
       + ID2= 2 (5176):    48.80   1.734     6.75    41.67
         ================================================
         ID = 3 (8056):   210.80   9.902     6.25    34.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (8056):   210.80   9.902     6.25    34.29
       + ID2= 2 (8058):  1676.15  32.073     6.50    31.72
         ================================================
         ID = 3 (8066):  1886.95  39.971     6.50    32.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (8066):  1886.95  39.971     6.50    32.01
       + ID2= 2 (8068):   660.32  47.208     6.00    38.49
         ================================================
         ID = 3 (8070):  2547.27  78.882     6.25    33.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (1901.0) ------>
              Distance      Elevation       Manning
                 0.00         261.34        0.0600
                19.76         261.64        0.0600
                59.28         261.29        0.0600
                79.04         261.09        0.0600
               103.74         255.99        0.0600
               153.13         253.42        0.0600
               192.65         252.78        0.0600
               212.29         249.80        0.0600
               217.29         249.50    0.0600 /0.0350  Main Channel
               217.30         249.05        0.0350      Main Channel
               222.29         249.05        0.0350      Main Channel
               222.30         249.50    0.0350 /0.0600  Main Channel
               227.30         249.80        0.0600
               232.17         252.31        0.0600
               276.63         253.53        0.0600
               326.03         256.97        0.0600
               355.67         257.30        0.0600
               400.12         260.08        0.0600
               469.28         261.25        0.0600
               489.04         262.53        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.45   249.50    .436E+04       1.0         0.43      75.97
```

```
      1.07   250.12    .205E+05       5.4          0.51      62.96
      1.70   250.75    .451E+05      14.8          0.64      50.78
      2.32   251.37    .762E+05      29.2          0.74      43.46
      2.94   251.99    .114E+06      49.1          0.84      38.61
      3.57   252.62    .161E+06      70.2          0.85      38.18
      4.19   253.24    .248E+06      93.4          0.73      44.29
      4.81   253.86    .398E+06     154.9          0.76      42.79
      5.44   254.49    .576E+06     246.1          0.83      38.99
      6.06   255.11    .779E+06     362.7          0.90      35.79
      6.68   255.73    .101E+07     506.5          0.98      33.15
      7.30   256.35    .126E+07     687.6          1.06      30.52
      7.93   256.98    .153E+07     902.8          1.15      28.18
      8.55   257.60    .183E+07    1114.3          1.18      27.39
      9.17   258.22    .216E+07    1407.8          1.26      25.55
      9.80   258.85    .250E+07    1735.4          1.35      24.03
     10.42   259.47    .286E+07    2097.5          1.42      22.73
     11.04   260.09    .324E+07    2492.3          1.49      21.63
     11.67   260.72    .364E+07    2837.8          1.51      21.39

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8070) 2547.27    78.88    6.25  33.69      3.80      0.80
    OUTFLOW: ID= 1 (6190) 2547.27    55.51    6.50  33.69      3.13      0.84


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       7.82         5.67
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     299.89        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     106.66       107.45
              over (min)       15.00        30.00
    Storage Coeff.  (min)=       5.92 (ii)   16.32 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
    PEAK FLOW       (cms)=       1.17         0.93         1.794 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25          6.00
    RUNOFF VOLUME    (mm)=      78.80        42.44         53.71
    TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
    RUNOFF COEFFICIENT   =       0.98         0.53          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9030     0.3849
                          0.0460     0.1975   |   1.1330     0.4289
                          0.2610     0.2331   |   1.3190     0.4720
                          0.4870     0.2836   |   1.7190     0.4820
                          0.6750     0.3308   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1901)     13.490      1.794      6.00      53.71
    OUTFLOW: ID= 1 (5190)     13.490      0.713      6.50      53.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.72
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3398

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--------------------
| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
```

```
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=     142.74       131.76
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=    1352.77        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     106.66        93.54
              over (min)       15.00        30.00
    Storage Coeff.  (min)=      14.63 (ii)   25.62 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
    PEAK FLOW       (cms)=      16.76        15.54        26.790 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25          6.00
    RUNOFF VOLUME    (mm)=      78.80        40.46         51.19
    TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
    RUNOFF COEFFICIENT   =       0.98         0.50          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9190) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1902):   274.50  26.790     6.00    51.19
       + ID2= 2 (5190):    13.49   0.713     6.50    53.63
         ================================================
         ID = 3 (9190):   287.99  26.934     6.00    51.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):  2547.27  55.512     6.50    33.69
       + ID2= 2 (9190):   287.99  26.934     6.00    51.31
         ================================================
         ID = 3 (8072):  2835.26  73.708     6.25    35.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1921.0) ------>
              Distance      Elevation       Manning
                 0.00         264.40        0.0500
                 3.64         263.94        0.0500
                14.54         261.05        0.0500
                29.08         256.78        0.0500
                36.36         254.96        0.0500
                50.90         252.20        0.0500
                65.44         249.78        0.0500
                76.35         246.86        0.0500
                77.24         245.90        0.0500
                82.24         245.45    0.0500 /0.0350  Main Channel
                82.25         244.90        0.0350      Main Channel
                87.25         244.90        0.0350      Main Channel
                87.26         245.45    0.0350 /0.0500  Main Channel
                94.53         246.89        0.0500
               170.87         247.16        0.0500
               218.13         248.69        0.0500
               265.40         249.22        0.0500
               301.75         250.78        0.0500
               338.11         253.47        0.0500
               359.92         264.00        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
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DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8072)	2835.26	73.71	6.25	35.48	2.64	0.89
OUTFLOW: ID= 1 (6192)	2835.26	60.49	7.00	35.48	2.55	0.87

CALIB					
STANDHYD (1921)	Area (ha)= 72.27				
ID= 1 DT=15.0 min	Total Imp(%)= 42.00	Dir. Conn.(%)= 19.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.35	41.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	694.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	58.95
over (min)		15.00	30.00
Storage Coeff. (min)=		9.80 (ii)	23.02 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.04

		TOTALS
PEAK FLOW	(cms)=	3.46	3.25	5.499 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	27.88	37.56
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.35	0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5192)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.1390	1.4346
	0.2060	0.7072	3.8730	1.6637
	0.9550	0.8170	4.8310	1.9184
	1.7940	1.0081	5.2310	1.9284
	2.4250	1.1871	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1921)	72.270	5.499	6.00	37.56
OUTFLOW: ID= 1 (5192)	72.270	2.362	6.75	37.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.96
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.1870

CALIB		
STANDHYD (1922)	Area (ha)= 174.34	
ID= 1 DT=15.0 min	Total Imp(%)= 39.00	Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.99	106.35
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1078.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	55.16
over (min)		15.00	30.00
Storage Coeff. (min)=		12.77 (ii)	26.34 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	7.23	7.21	11.725 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	27.12	36.43
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.34	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8074)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1922):	174.34	11.725	6.00	36.43
	+ ID2= 2 (5192):	72.27	2.362	6.75	37.54
	ID = 3 (8074):	246.61	12.126	6.25	36.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8076)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6192):	2835.26	60.489	7.00	35.48
	+ ID2= 2 (8074):	246.61	12.126	6.25	36.75
	ID = 3 (8076):	3081.87	67.752	6.75	35.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0196)	Area (ha)= 41.47	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.24		

Unit Hyd Qpeak (cms)= 2.950

PEAK FLOW (cms)= 1.731 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 28.561
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.353

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (1941)	Area (ha)= 0.76	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 15.00

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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.34         0.42
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      71.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        91.39
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       2.50 (ii)   13.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.08          0.111 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      78.80        38.48          44.52
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.48           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0510     0.0197
                          0.0030     0.0093   |   0.0640     0.0226
                          0.0150     0.0107   |   0.0740     0.0253
                          0.0270     0.0138   |   0.4740     0.0353
                          0.0380     0.0165   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)     0.760      0.111      6.00      44.52
     OUTFLOW: ID= 1 (5194)     0.760      0.034      6.50      43.51

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.31
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0157

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--------------------
| CALIB            |
| NASHYD    (1942) |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   4.975 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  30.123
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1942):   255.33   4.975     6.75    30.12
        + ID2= 2 (5194):     0.76   0.034     6.50    43.51
          ================================================
          ID = 3 (9194):   256.09   5.005     6.75    30.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0196):    41.47   1.731     6.00    28.56
        + ID2= 2 (9194):   256.09   5.005     6.75    30.16
          ================================================
          ID = 3 (8078):   297.56   6.379     6.50    29.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1981.0) ------>
               Distance      Elevation       Manning
                   0.00         267.15        0.0500
                  22.99         265.94        0.0500
                  51.73         261.39        0.0500
                  74.72         258.75        0.0500
                  94.83         257.79        0.0500
                 114.95         254.36        0.0500
                 126.44         254.06        0.0500
                 132.19         253.68        0.0500
                 135.06         253.35        0.0500
                 137.94         252.93    0.0500 /0.0300  Main Channel
                 140.81         252.41        0.0300      Main Channel
                 143.69         251.89        0.0300      Main Channel
                 146.56         252.51        0.0300      Main Channel
                 149.43         253.36    0.0300 /0.0500  Main Channel
                 158.05         255.89        0.0500
                 172.42         256.25        0.0500
                 204.03         259.15        0.0500
                 229.90         260.36        0.0500
                 252.89         260.46        0.0500
                 284.50         260.45        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.35    252.24    .111E+04        0.6        0.97       31.07
      0.69    252.58    .442E+04        3.8        1.55       19.42
      1.04    252.93    .974E+04       11.1        2.06       14.65
      1.51    253.40    .203E+05       31.2        2.77       10.87
      1.98    253.87    .357E+05       65.0        3.30        9.14
      2.45    254.34    .596E+05      112.9        3.43        8.80
      2.92    254.81    .935E+05      186.8        3.62        8.34
      3.39    255.28    .131E+06      282.1        3.89        7.75
      3.86    255.75    .172E+06      398.2        4.18        7.22
      4.33    256.22    .221E+06      527.0        4.31        6.99
      4.80    256.69    .282E+06      697.3        4.47        6.75
      5.27    257.16    .350E+06      898.5        4.64        6.50
      5.74    257.63    .425E+06     1131.4        4.82        6.26
      6.21    258.10    .508E+06     1367.4        4.88        6.19
      6.68    258.57    .603E+06     1635.6        4.91        6.14
      7.15    259.04    .709E+06     1977.2        5.04        5.98
      7.62    259.51    .826E+06     2360.5        5.17        5.83
      8.09    259.98    .954E+06     2790.7        5.29        5.70
      8.56    260.45    .110E+07     3179.6        5.25        5.74

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     6.38    6.50  29.94      0.82      1.70
     OUTFLOW: ID= 1 (6198)  297.56     6.14    6.75  29.94      0.80      1.69

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| CALIB            |
| STANDHYD  (1981) |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.98        83.97
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     999.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        63.32
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.20 (ii)   25.04 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.67         6.71        10.891 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80        28.88        38.36
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.98         0.36         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.9910      3.4957
                         0.4390     1.7800   |  13.3530      3.9512
                         2.6180     2.0449   |  15.3540      4.3979
                         5.1680     2.5932   |  15.7540      4.4079
                         7.9230     3.0040   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950     10.891      6.00      38.36
     OUTFLOW: ID= 1 (5198)    149.950      4.924      6.75      38.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.21
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.5648

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-------------------
| CALIB            |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12        192.49
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1266.52         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         25.36
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      14.06 (ii)   32.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.80          8.05         9.390 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50         6.50
     RUNOFF VOLUME    (mm)=      78.80         24.18        29.09
     TOTAL RAINFALL   (mm)=      80.80         80.80        80.80
     RUNOFF COEFFICIENT   =       0.98          0.30         0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   240.61   9.390     6.50    29.09
        + ID2= 2 (5198):   149.95   4.924     6.75    38.36
          ================================================
          ID = 3 (8080):   390.56  14.052     6.50    32.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   6.137     6.75    29.94
        + ID2= 2 (8080):   390.56  14.052     6.50    32.65
          ================================================
          ID = 3 (8082):   688.12  19.849     6.50    31.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.87  67.752     6.75    35.58
        + ID2= 2 (8082):   688.12  19.849     6.50    31.48
          ================================================
          ID = 3 (8084):  3769.99  85.860     6.75    34.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2001.0) ------>
               Distance      Elevation       Manning
                  0.00         252.47        0.0500
                 10.38         252.29        0.0500
                 20.76         252.28        0.0500
                 41.52         247.66        0.0500
                 62.28         247.47        0.0500
                 80.45         247.34        0.0500
                 90.83         246.85        0.0500
                103.81         245.51        0.0500
                106.00         244.50        0.0500
                108.99         244.05    0.0500 /0.0300  Main Channel
                109.00         243.50        0.0300      Main Channel
                114.00         243.50        0.0300      Main Channel
                114.01         244.05    0.0300 /0.0500  Main Channel
                118.99         244.50        0.0500
                132.36         245.09        0.0500
                150.52         245.83        0.0500
                199.83         249.24        0.0500
                207.62         250.16        0.0500
                236.16         253.11        0.0500
                256.92         253.83        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28   243.77    .365E+04       0.7         0.54       81.42
      0.55   244.05    .730E+04       2.2         0.81       54.59
      1.05   244.55    .197E+05       7.2         0.97       45.51
      1.54   245.04    .463E+05      17.2         0.99       44.76
      2.04   245.54    .895E+05      34.8         1.03       42.81
      2.53   246.03    .152E+06      62.8         1.09       40.43
      3.03   246.53    .232E+06     104.7         1.20       36.91
      3.52   247.02    .328E+06     159.7         1.29       34.19
      4.02   247.52    .450E+06     223.4         1.32       33.56
      4.51   248.01    .627E+06     326.9         1.38       31.99
      5.01   248.51    .820E+06     463.0         1.50       29.52
      5.50   249.00    .103E+07     626.0         1.62       27.30
      6.00   249.50    .124E+07     820.1         1.75       25.24
      6.49   249.99    .147E+07    1044.4         1.89       23.42
      6.99   250.49    .170E+07    1292.6         2.01       21.95
      7.48   250.98    .195E+07    1565.6         2.13       20.71
      7.98   251.48    .220E+07    1864.5         2.25       19.65
      8.47   251.97    .246E+07    2189.4         2.36       18.73
      8.97   252.47    .274E+07    2427.5         2.35       18.80

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
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     INFLOW : ID= 2 (8084) 3769.99    85.86    6.75  34.83      2.80      1.15
     OUTFLOW: ID= 1 (6200) 3769.99    70.39    7.25  34.83      2.62      1.11


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| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54        22.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.17        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        93.99
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.36 (ii)   19.32 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.12         3.09          4.142 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        40.65         47.89
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.50          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7210      1.0525
                          0.1450     0.4892   |   3.4130      1.1947
                          0.7930     0.5722   |   4.0030      1.3346
                          1.4410     0.7540   |   4.4030      1.3446
                          2.0370     0.8927   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480      4.142      6.00      47.89
     OUTFLOW: ID= 1 (5200)     42.480      1.982      6.50      47.87

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.84
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8950

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--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56        50.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     696.61        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        71.53
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.82 (ii)   22.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.38         4.85          5.661 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        36.82         42.28
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.46          0.52


***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   5.661     6.25    42.28
        + ID2= 2 (5200):    42.48   1.982     6.50    47.87
          ================================================
          ID = 3 (8086):   115.27   7.146     6.25    44.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  70.393     7.25    34.83
        + ID2= 2 (8086):   115.27   7.146     6.25    44.34
          ================================================
          ID = 3 (8088):  3885.26  73.095     7.25    35.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76  27.601     7.25    22.11
        + ID2= 2 (8088):  3885.26  73.095     7.25    35.11
          ================================================
          ID = 3 (8038):  9106.02 100.696     7.25    27.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (1362.0) ------>
                Distance      Elevation       Manning
                    0.00         252.00        0.0400
                    2.35         244.60        0.0400
                   39.94         243.14        0.0400
                   58.74         242.65        0.0400
                   91.63         242.03        0.0400
                  101.03         241.69        0.0400
                  103.38         241.66        0.0400
                  105.73         240.76        0.0400
                  105.93         240.59        0.0400
                  109.18         240.28    0.0400 /0.0300  Main Channel
                  110.43         239.81        0.0300      Main Channel
                  111.68         239.81        0.0300      Main Channel
                  113.43         240.09    0.0300 /0.0400  Main Channel
                  118.43         240.50        0.0400
                  138.62         241.68        0.0400
                  152.72         241.60        0.0400
                  166.82         242.68        0.0400
                  185.62         249.09        0.0400
                  197.36         251.00        0.0400
                  232.61         252.28        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.28   240.09    .118E+04       0.1         0.20     142.09
       0.91   240.72    .114E+05       2.4         0.35      79.92
       1.53   241.34    .352E+05       9.4         0.45      62.17
```

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       2.16   241.97    .831E+05      22.8          0.46      60.69
       2.79   242.60    .172E+06      54.2          0.53      52.74
       3.41   243.22    .297E+06     111.4          0.63      44.49
       4.04   243.85    .445E+06     194.1          0.74      38.22
       4.67   244.48    .612E+06     301.1          0.83      33.88
       5.29   245.10    .793E+06     443.0          0.94      29.82
       5.92   245.73    .976E+06     611.3          1.06      26.60
       6.55   246.36    .116E+07     802.0          1.17      24.12
       7.18   246.99    .135E+07    1014.0          1.27      22.16
       7.80   247.61    .154E+07    1246.2          1.37      20.56
       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02   100.70    7.25  27.66      3.30      0.61
     OUTFLOW: ID= 1 (1365) 9106.02    84.06    8.00  27.66      3.12      0.58


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| CALIB            |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96         68.94
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1180.11         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         92.20
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      13.48 (ii)    24.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      21.67          8.16      26.904 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      78.80         36.79       56.11
     TOTAL RAINFALL   (mm)=      80.80         80.80       80.80
     RUNOFF COEFFICIENT   =       0.98          0.46        0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9970     7.9437
                          0.9210     5.2645   |  12.4650     8.5839
                          3.2690     5.3433   |  16.9060     9.2236
                          6.3980     5.6925   |  17.3060     9.2336
                          7.1860     6.8155   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)    208.900     26.904      6.00      56.11
     OUTFLOW: ID= 1 (5132)    208.900      6.970      6.75      56.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.91
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  6.5192

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--------------------
| CALIB            |
| STANDHYD  (1322) |   Area    (ha)=  81.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
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```
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32         51.62
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     739.10         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         54.46
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.18 (ii)    23.82 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.10          3.64       7.384 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=      78.80         30.00       42.20
     TOTAL RAINFALL   (mm)=      80.80         80.80       80.80
     RUNOFF COEFFICIENT   =       0.98          0.37        0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):    81.94   7.384     6.00    42.20
       + ID2= 2 (5132):   208.90   6.970     6.75    56.11
         ================================================
         ID = 3 (8090):   290.84  10.422     6.50    52.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84         57.32
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     804.82         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         43.36
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.71 (ii)    25.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.66          3.09       8.572 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=      78.80         23.62       39.07
     TOTAL RAINFALL   (mm)=      80.80         80.80       80.80
     RUNOFF COEFFICIENT   =       0.98          0.29        0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64         41.15
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     626.05         40.00
```

```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        23.48
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.21 (ii)   28.31 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.01         1.86          4.158 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        22.42          33.70
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.28           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1250      1.0755
                          0.1070     0.6119   |   1.7570      1.1641
                          0.4130     0.6225   |   2.3860      1.2526
                          0.8380     0.7018   |   2.7860      1.2626
                          0.9790     0.8884   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790      4.158      6.00       33.70
     OUTFLOW: ID= 1 (5134)     58.790      1.062      7.00       33.67

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.53
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9962

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--------------------
| ADD HYD   (9134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1342):    97.16   8.572     6.00     39.07
       + ID2= 2 (5134):    58.79   1.062     7.00     33.67
         ==============================================
         ID = 3 (9134):   155.95   8.664     6.00     37.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8090):   290.84  10.422     6.50     52.19
       + ID2= 2 (9134):   155.95   8.664     6.00     37.04
         ==============================================
         ID = 3 (8092):   446.79  16.689     6.00     46.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                   0.00         262.81        0.0400
                  37.23         260.54        0.0400
                  79.12         256.98        0.0400
                 111.70         254.74        0.0400
                 172.20         252.76        0.0400
                 251.32         248.82        0.0400
                 255.97         248.75        0.0400
                 260.43         248.76        0.0400
                 265.43         248.49        0.0400
                 268.68         248.18    0.0400 /0.0300  Main Channel
                 269.93         247.71        0.0300      Main Channel
                 271.18         247.71        0.0300      Main Channel
                 272.93         247.99        0.0300      Main Channel
                 277.93         248.40    0.0300 /0.0400  Main Channel
                 283.90         248.88        0.0400
                 307.17         249.60        0.0400
                 321.13         251.59        0.0400
                 363.01         257.08        0.0400
                 400.25         257.58        0.0400
                 460.75         261.91        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.47    248.18    .881E+04       1.3         0.76      114.66
       1.19    248.90    .742E+05      17.3         1.22       71.44
       1.92    249.63    .278E+06      78.3         1.48       59.26
       2.64    250.35    .589E+06     210.3         1.87       46.69
       3.36    251.07    .974E+06     414.3         2.23       39.19
       4.08    251.79    .143E+07     696.2         2.55       34.32
       4.81    252.52    .197E+07    1063.0         2.83       30.86
       5.53    253.24    .259E+07    1505.7         3.06       28.62
       6.25    253.96    .331E+07    2051.3         3.26       26.85
       6.97    254.68    .413E+07    2720.9         3.46       25.30
       7.70    255.41    .504E+07    3584.5         3.73       23.43
       8.42    256.13    .601E+07    4580.9         4.00       21.87
       9.14    256.85    .704E+07    5707.9         4.25       20.57
       9.86    257.57    .818E+07    6636.1         4.26       20.53
      10.59    258.30    .945E+07    8115.0         4.50       19.42
      11.31    259.02    .108E+08    9759.2         4.74       18.45
      12.03    259.74    .122E+08   11569.5         4.96       17.61
      12.75    260.46    .137E+08   13550.6         5.18       16.87
      13.48    261.19    .153E+08   15636.4         5.37       16.29

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79    16.69    6.00  46.90      1.16      1.20
     OUTFLOW: ID= 1 (1366)  446.79     8.82    7.50  46.90      0.81      0.93

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--------------------
| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67       275.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1574.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        53.45
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      16.02 (ii)   29.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.91        16.93         22.492 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      78.80        30.14          36.95
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.37           0.46

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.34         63.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     968.23         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         88.68
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.97 (ii)    23.19 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      9.62          7.40          14.370 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80         36.68          48.89
     TOTAL RAINFALL   (mm)=     80.80         80.80          80.80
     RUNOFF COEFFICIENT   =      0.98          0.45           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.7060      4.3486
                          0.3100     2.4365   |   5.9200      5.0324
                          1.7670     2.5993   |   7.0820      5.7151
                          3.4020     2.8510   |   7.4820      5.7251
                          4.0310     3.5962   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620     14.370      6.00      48.89
     OUTFLOW: ID= 1 (5136)    140.620      4.023      7.00      48.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.99
                TIME SHIFT OF PEAK FLOW          (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.6177

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--------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   371.79  22.492     6.25    36.95
       + ID2= 2 (5136):   140.62   4.023     7.00    48.88
         ================================================
         ID = 3 (8096):   512.41  25.912     6.25    40.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.79   8.816     7.50    46.90
       + ID2= 2 (8096):   512.41  25.912     6.25    40.22
         ================================================
         ID = 3 (8094):   959.20  31.109     6.25    43.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.02  84.063     8.00    27.66
       + ID2= 2 (8094):   959.20  31.109     6.25    43.33
         ================================================

          ID = 3 (8098): 10065.22 100.447     7.75    29.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.78         39.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     801.00         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         17.89
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     10.68 (ii)    31.98 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.09          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.02          1.19           8.504 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=     78.80         12.54          35.07
     TOTAL RAINFALL   (mm)=     80.80         80.80          80.80
     RUNOFF COEFFICIENT   =      0.98          0.16           0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.4380      2.7648
                          0.3260     1.4281   |   8.0830      3.0750
                          1.8650     1.6876   |   9.4100      3.3790
                          3.4730     2.0447   |   9.8100      3.3890
                          4.8170     2.3809   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)     96.240     8.504      6.00      35.07
     OUTFLOW: ID= 1 (5138)     96.240     2.259      6.75      35.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.56
                TIME SHIFT OF PEAK FLOW          (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.7956

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   1.309 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   9.703
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.120

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1382):   318.55   1.309     7.75     9.70
       + ID2= 2 (5138):    96.24   2.259     6.75    35.06
         ================================================
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          ID = 3 (9138):   414.79   3.461     6.75    15.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1402)  |   Area    (ha)= 131.22
|ID= 1 DT=15.0 min  |   Total Imp(%)=  29.00   Dir. Conn.(%)=  21.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.05         93.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     935.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         12.70
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      11.72 (ii)    36.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.55          1.87          7.298 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      78.80         12.88          26.73
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.16           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1401)  |   Area    (ha)=  27.37
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.32         15.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     427.16         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         15.19
               over (min)       15.00         45.00
     Storage Coeff.  (min)=       7.33 (ii)    30.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.44          0.40          2.605 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      78.80         14.01          35.39
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.17           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5140) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8310     0.7127
                         0.0930     0.3344   |   2.2990     0.8148
                         0.5300     0.3869   |   2.6760     0.9148
                         0.9880     0.4994   |   3.0760     0.9248
                         1.3700     0.5962   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)

     INFLOW : ID= 2 (1401)     27.370      2.605      6.00      35.39
     OUTFLOW: ID= 1 (5140)     27.370      0.820      6.50      35.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.47
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4592

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-------------------
| ADD HYD   (9140) |
|   1 +  2 = 3     |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1402):   131.22   7.298     6.00    26.73
        + ID2= 2 (5140):    27.37   0.820     6.50    35.36
          ================================================
          ID = 3 (9140):   158.59   7.402     6.00    28.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9138):   414.79   3.461     6.75    15.59
        + ID2= 2 (9140):   158.59   7.402     6.00    28.22
          ================================================
          ID = 3 (8102):   573.38   8.363     6.00    19.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                   0.00         295.50        0.0400
                   7.25         295.36        0.0400
                  14.50         295.22        0.0400
                  21.75         295.22        0.0400
                  29.00         294.23        0.0400
                  52.56         286.45        0.0400
                  67.06         281.44        0.0400
                  77.94         278.28        0.0400
                  82.81         277.20    0.0400 /0.0300  Main Channel
                  83.21         276.80        0.0300      Main Channel
                  88.81         276.80        0.0300      Main Channel
                  96.41         276.80        0.0300      Main Channel
                  96.81         277.20    0.0300 /0.0400  Main Channel
                 103.31         278.96        0.0400
                 108.75         280.16        0.0400
                 117.81         282.73        0.0400
                 135.94         290.30        0.0400
                 159.50         292.14        0.0400
                 174.00         293.07        0.0400
                 179.44         293.37        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)       (m/s)       (min)
      0.40   277.20    .238E+05        6.9          1.27       57.28
      1.25   278.05    .889E+05       50.9          2.50       29.13
      2.10   278.90    .179E+06      133.4          3.26       22.36
      2.95   279.75    .293E+06      256.7          3.83       19.03
      3.80   280.60    .432E+06      426.0          4.31       16.90
      4.66   281.46    .593E+06      644.3          4.75       15.35
      5.51   282.31    .776E+06      915.3          5.16       14.12
      6.36   283.16    .978E+06     1242.2          5.55       13.12
      7.21   284.01    .120E+07     1626.2          5.94       12.27
      8.06   284.86    .143E+07     2065.6          6.30       11.57
      8.91   285.71    .169E+07     2562.4          6.64       10.97
      9.76   286.56    .196E+07     3118.0          6.97       10.46
     10.61   287.41    .224E+07     3733.3          7.28       10.02
     11.46   288.26    .255E+07     4411.9          7.57        9.62
     12.31   289.11    .287E+07     5155.6          7.86        9.27
     13.17   289.97    .321E+07     5966.6          8.14        8.96
     14.02   290.82    .357E+07     6705.0          8.22        8.87
     14.87   291.67    .398E+07     7494.3          8.24        8.85
     15.72   292.52    .444E+07     8405.3          8.28        8.80
```

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                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.38     8.36    6.00  19.08      0.43      1.29
     OUTFLOW: ID= 1 (6142)  573.38     5.25    7.25  19.08      0.30      1.27


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--------------------
| CALIB            |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.40         38.37
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     682.01         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         73.73
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.70 (ii)   21.78 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.64          3.83          5.077 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         31.37          38.49
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.39           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6670      1.8169
                          0.2360     0.8525   |   5.8600      2.0773
                          1.3520     0.9863   |   6.8220      2.3321
                          2.5180     1.2732   |   7.2220      2.3421
                          3.4920     1.5199   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770      5.077      6.00      38.49
     OUTFLOW: ID= 1 (5142)     69.770      2.261      6.75      38.47

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.54
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2181

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1422) |   Area    (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   3.170 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  24.073
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1422):   326.77   3.170     7.75    24.07
        + ID2= 2 (5142):    69.77   2.261     6.75    38.47
          ================================================
          ID = 3 (9142):   396.54   5.133     7.00    26.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6142):   573.38   5.250     7.25    19.08
        + ID2= 2 (9142):   396.54   5.133     7.00    26.61
          ================================================
          ID = 3 (8104):   969.92  10.342     7.00    22.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          3.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     204.78         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         95.87
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       4.71 (ii)   15.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.27          0.52          0.613 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         40.28          46.06
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.50           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4210      0.1639
                          0.0210     0.0769   |   0.5290      0.1874
                          0.1220     0.0890   |   0.6150      0.2104
                          0.2270     0.1148   |   1.0150      0.2204
                          0.3150     0.1371   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)      6.290      0.613      6.00      46.06
     OUTFLOW: ID= 1 (5144)      6.290      0.285      6.50      45.92

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.39
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1313

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--------------------
| CALIB            |
| NASHYD    (1442) |   Area    (ha)= 129.40   Curve Number   (CN)= 74.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70
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     Unit Hyd Qpeak  (cms)=   3.147

     PEAK FLOW       (cms)=   2.884 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  35.090
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1442):   129.40   2.884     6.75    35.09
       + ID2= 2 (5144):     6.29   0.285     6.50    45.92
         ================================================
         ID = 3 (9144):   135.69   3.163     6.75    35.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8104):   969.92  10.342     7.00    22.16
       + ID2= 2 (9144):   135.69   3.163     6.75    35.59
         ================================================
         ID = 3 (8106):  1105.61  13.439     7.00    23.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                   0.00         262.00        0.0350
                  39.58         257.13        0.0350
                 123.69         257.51        0.0350
                 183.07         256.83        0.0350
                 202.86         255.73        0.0350
                 212.75         254.73        0.0350
                 222.65         252.86        0.0350
                 232.44         250.70    0.0350 /0.0300  Main Channel
                 236.44         250.20        0.0300      Main Channel
                 236.84         249.80        0.0300      Main Channel
                 242.44         249.80        0.0300      Main Channel
                 250.04         249.80        0.0300      Main Channel
                 250.44         250.20        0.0300      Main Channel
                 252.33         250.57    0.0300 /0.0350  Main Channel
                 286.97         253.52        0.0350
                 331.50         255.80        0.0350
                 380.98         255.55        0.0350
                 445.30         258.40        0.0350
                 455.19         259.82        0.0350
                 489.83         262.22        0.0350

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.39   250.19    .169E+05       5.4         1.04      52.00
       0.77   250.57    .373E+05      16.6         1.44      37.46
       1.44   251.24    .911E+05      60.3         2.14      25.19
       2.11   251.91    .169E+06     136.3         2.61      20.64
       2.79   252.59    .270E+06     249.7         2.99      18.05
       3.46   253.26    .396E+06     405.4         3.31      16.28
       4.13   253.93    .549E+06     603.3         3.56      15.15
       4.80   254.60    .737E+06     857.8         3.77      14.31
       5.48   255.28    .963E+06    1174.6         3.95      13.67
       6.15   255.95    .128E+07    1449.5         3.66      14.74
       6.82   256.62    .173E+07    2046.4         3.83      14.07
       7.49   257.29    .227E+07    2665.2         3.81      14.17
       8.17   257.97    .310E+07    3705.2         3.87      13.93
       8.84   258.64    .400E+07    5127.4         4.15      12.99
       9.51   259.31    .492E+07    6858.6         4.51      11.95
      10.18   259.98    .587E+07    8815.5         4.86      11.09
      10.86   260.66    .684E+07   10954.6         5.18      10.41
      11.53   261.33    .785E+07   13324.3         5.49       9.82
      12.20   262.00    .890E+07   15923.2         5.79       9.31

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61    13.44    7.00  23.81      0.66      1.30
     OUTFLOW: ID= 1 (6146) 1105.61    11.69    7.75  23.81      0.60      1.23


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--------------------
| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      35.91         76.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     864.95         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         77.56
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.19 (ii)    23.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.52          7.84          9.195 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      78.80         39.23          44.38
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.49           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.65         51.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     745.16         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         84.79
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.23 (ii)    21.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.31          5.97          7.189 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         40.50          46.63
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.50           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5146) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.9200      2.5813
                         0.2820     0.8782   |  11.0570      3.0328
                         2.5360     1.0372   |  12.9860      3.4993
                         4.7880     1.7148   |  13.3860      3.5093
                         6.7570     2.1134   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     83.290      7.189      6.00      46.63
     OUTFLOW: ID= 1 (5146)     83.290      4.081      6.50      46.62

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.77
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5279

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| ADD HYD   (8099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1462):   112.22   9.195     6.25    44.38
       + ID2= 2 (5146):    83.29   4.081     6.50    46.62
         ================================================
         ID = 3 (8099):   195.51  12.636     6.25    45.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8108) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6146):  1105.61  11.693     7.75    23.81
       + ID2= 2 (8099):   195.51  12.636     6.25    45.33
         ================================================
         ID = 3 (8108):  1301.12  16.094     7.25    27.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8098): 10065.22 100.447     7.75    29.15
       + ID2= 2 (8108):  1301.12  16.094     7.25    27.04
         ================================================
         ID = 3 (8100): 11366.34 115.330     7.75    28.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                   0.00         245.48        0.0400
                  29.68         242.80        0.0400
                  74.20         240.39        0.0400
                 155.81         237.12        0.0400
                 200.33         234.48        0.0400
                 244.85         234.67        0.0400
                 259.69         233.96        0.0400
                 274.53         233.84        0.0400
                 281.68         233.40        0.0400
                 285.78         232.40    0.0400 /0.0300  Main Channel
                 286.78         231.40        0.0300      Main Channel
                 296.78         231.40        0.0300      Main Channel
                 299.78         232.40    0.0300 /0.0400  Main Channel
                 311.62         233.74        0.0400
                 333.88         234.34        0.0400
                 497.11         235.32        0.0400
                 571.31         237.32        0.0400
                 675.18         239.10        0.0400
                 704.86         242.71        0.0400
                 734.54         242.62        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50    231.90    .221E+05       4.7         0.85      78.67
       1.00    232.40    .482E+05      15.3         1.28      52.40
       1.60    233.00    .913E+05      38.3         1.68      39.77
       2.20    233.60    .154E+06      72.9         1.90      35.24
       2.80    234.20    .278E+06     124.2         1.79      37.30
       3.40    234.80    .599E+06     214.3         1.44      46.59
       4.01    235.41    .125E+07     445.0         1.43      46.90
       4.61    236.01    .205E+07     838.4         1.64      40.81
       5.21    236.61    .293E+07    1361.6         1.86      35.89
       5.81    237.21    .389E+07    2011.2         2.08      32.23
       6.41    237.81    .494E+07    2753.5         2.24      29.91
       7.01    238.41    .612E+07    3635.0         2.39      28.04
       7.61    239.01    .741E+07    4672.5         2.53      26.43
       8.21    239.61    .880E+07    5999.3         2.74      24.44
       8.82    240.22    .102E+08    7510.0         2.94      22.72
       9.42    240.82    .117E+08    9201.9         3.15      21.23
      10.02    241.42    .132E+08   11059.7         3.35      19.95
      10.62    242.02    .148E+08   13073.4         3.54      18.87
      11.22    242.62    .164E+08   15242.1         3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8100) *******   115.33    7.75  28.91      2.70      1.81
     OUTFLOW: ID= 1 (6202) *******   107.68    8.50  28.91      2.61      1.83


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| ADD HYD   (8112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6202): 11366.34 107.680     8.50    28.91
       + ID2= 2 (8110):   468.53  41.367     6.00    55.67
         ================================================
         ID = 3 (8112): 11834.87 113.592     8.25    29.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******     19.2100
                         2.8500     0.5200   |  *******     24.7300
                         8.1800     1.2600   |  *******     30.8600
                        15.0900     2.1100   |  *******     37.6100
                        23.2700     3.3900   |  *******     41.2200
                        32.5300     4.7800   |  *******     48.9000
                        36.5100     5.3900   |  *******     66.4700
                        42.7600     6.3700   |  *******    100.1200
                        53.8500     8.1300   |  *******    140.4100
                        91.7300    14.3200   |  *******    140.4200

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********    113.592      8.25      29.97
     OUTFLOW: ID= 1 (5555)  ********    110.767      8.75      29.97

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.51
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 17.5861

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| ADD HYD   (8114) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5555): 11834.87 110.767     8.75    29.97
       + ID2= 2 (8136):  2288.44  34.994     6.50    28.45
         ================================================
         ID = 3 (8114): 14123.31 131.798     8.50    29.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  49.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88        11.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     576.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       166.27
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.77 (ii)   17.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.47         3.00          8.509 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        51.92         65.36
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.64          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.5640      2.4459
                          0.1690     0.8986   |   4.2460      2.7624
                          1.3810     1.2959   |   4.8070      3.0770
                          2.2440     1.6904   |   5.2070      3.0870
                          2.8510     2.0623   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840     8.509      6.00      65.36
     OUTFLOW: ID= 1 (5206)     49.840     2.322      6.75      65.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.29
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.7660

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--------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45        81.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1226.65        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       116.18
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.79 (ii)   23.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      21.18        12.40         29.347 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        46.65         60.15
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.58          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  29.347     6.00    60.15
        + ID2= 2 (5206):    49.84   2.322     6.75    65.33
          ================================================
          ID = 3 (8144):   275.54  30.105     6.00    61.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66       132.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        54.48
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.50 (ii)   27.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.93         8.72         15.379 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        28.60         39.14
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.35          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.0280      5.1901
                          0.5340     2.0405   |  16.1840      5.6427
                          3.0020     2.3552   |  19.0840      6.7700
                          5.5440     3.8411   |  19.4840      6.7800
                          8.4130     4.5335   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900     15.379      6.00      39.14
     OUTFLOW: ID= 1 (5204)    209.900      5.473      6.75      39.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.59
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.8363

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--------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86        44.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     873.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        90.08
               over (min)       15.00        30.00
```

```
     Storage Coeff.  (min)=      11.25 (ii)   22.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.38         5.39        12.834 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        34.87         49.80
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.43          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  61.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   114.52  12.834     6.00    49.80
       + ID2= 2 (5204):   209.90   5.473     6.75    39.14
         ================================================
         ID = 3 (8140):   324.42  13.334     6.00    42.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2061.0) ------>
              Distance      Elevation       Manning
                 0.00         253.07        0.0350
                13.98         252.89        0.0350
                27.95         251.99        0.0350
                34.94         252.18        0.0350
                41.93         252.02        0.0350
                73.38         250.35        0.0350
                94.34         247.09        0.0350
               111.81         244.79        0.0350
               115.31         244.24        0.0350
               117.55         244.20    0.0350 /0.0300  Main Channel
               118.80         243.60        0.0300      Main Channel
               122.30         243.60        0.0300      Main Channel
               122.55         244.60    0.0300 /0.0350  Main Channel
               146.76         244.74        0.0350
               164.23         247.26        0.0350
               213.15         248.92        0.0350
               241.10         249.51        0.0350
               272.55         250.87        0.0350
               300.50         252.26        0.0350
               345.93         253.67        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   243.90    .310E+04       1.4          1.23      36.25
      0.60   244.20    .676E+04       4.6          1.81      24.64
      1.12   244.72    .221E+05      17.1          2.07      21.60
      1.64   245.24    .754E+05      64.1          2.28      19.60
      2.17   245.77    .139E+06     149.8          2.88      15.50
      2.69   246.29    .214E+06     273.3          3.43      13.04
      3.21   246.81    .299E+06     436.1          3.91      11.43
      3.73   247.33    .395E+06     632.6          4.30      10.40
      4.25   247.85    .511E+06     836.4          4.39      10.18
      4.77   248.37    .653E+06    1114.9          4.58       9.76
      5.30   248.90    .822E+06    1472.1          4.81       9.30
      5.82   249.42    .102E+07    1872.2          4.91       9.10
      6.34   249.94    .126E+07    2444.6          5.22       8.56
      6.86   250.46    .151E+07    3113.1          5.52       8.09
      7.38   250.98    .180E+07    3843.5          5.74       7.79
      7.90   251.50    .211E+07    4717.8          6.00       7.45
      8.43   252.03    .245E+07    5701.4          6.24       7.16
      8.95   252.55    .284E+07    6727.5          6.36       7.03
      9.47   253.07    .326E+07    7885.3          6.48       6.90

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.42    13.33    6.00  42.90      0.97      1.99
     OUTFLOW: ID= 1 (6206)  324.42    10.91    6.50  42.90      0.86      1.94

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| ADD HYD   (8142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.42  10.914     6.50    42.90
       + ID2= 2 (8144):   275.54  30.105     6.00    61.09
         ================================================
         ID = 3 (8142):   599.96  35.502     6.00    51.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.31 131.798     8.50    29.72
       + ID2= 2 (8142):   599.96  35.502     6.00    51.25
         ================================================
         ID = 3 (8138): 14723.27 140.381     8.25    30.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2081.0) ------>
              Distance      Elevation       Manning
                 0.00         249.19        0.1000
                73.11         244.13        0.1000
               121.86         243.39        0.1000
               243.71         240.01        0.1000
               353.38         238.75        0.1000
               450.87         235.40        0.1000
               499.61         231.40        0.1000
               511.80         230.96        0.1000
               523.98         230.12        0.1000
               534.50         227.80    0.1000 /0.0500  Main Channel
               536.50         226.70        0.0500      Main Channel
               546.50         226.70        0.0500      Main Channel
               548.50         227.80    0.0500 /0.1000  Main Channel
               572.72         230.25        0.1000
               682.40         230.50        0.1000
               804.25         233.95        0.1000
               926.11         235.83        0.1000
              1047.96         240.70        0.1000
              1145.45         243.26        0.1000
              1206.38         247.03        0.1000

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.55   227.25    .111E+05       2.0          0.33      92.44
      1.10   227.80    .242E+05       6.5          0.50      61.56
      2.23   228.93    .700E+05      26.0          0.68      44.91
      3.36   230.06    .150E+06      60.8          0.74      41.04
      4.49   231.19    .446E+06     130.8          0.54      56.83
      5.62   232.32    .925E+06     287.4          0.57      53.66
      6.76   233.46    .152E+07     522.9          0.63      48.32
      7.89   234.59    .223E+07     827.2          0.68      44.91
      9.02   235.72    .312E+07    1219.5          0.72      42.61
     10.15   236.85    .418E+07    1780.6          0.78      39.11
     11.28   237.98    .537E+07    2479.2          0.85      36.07
     12.41   239.11    .669E+07    3282.9          0.90      33.95
     13.54   240.24    .824E+07    4228.6          0.94      32.47
     14.67   241.37    .997E+07    5384.6          0.99      30.87
     15.81   242.51    .119E+08    6698.4          1.03      29.56
     16.94   243.64    .140E+08    8235.2          1.08      28.25
     18.07   244.77    .162E+08   10104.2          1.14      26.73
     19.20   245.90    .185E+08   12251.5          1.21      25.21
     20.33   247.03    .209E+08   14597.0          1.28      23.89

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
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                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******   140.38    8.25  30.60      4.56      0.54
     OUTFLOW: ID= 1 (6208) *******   125.01    9.25  30.60      4.41      0.55


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| CALIB             |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       116.83
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      16.70 (ii)   26.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      32.49        22.21        46.933 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        43.35         56.47
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.54          0.70


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.39       136.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        67.52
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.49 (ii)   26.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.45        11.44         16.724 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        35.65         44.28
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.44          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.00        14.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        89.27
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.08 (ii)   20.27 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.08         1.77         11.253 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        47.71         69.47
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.59          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.8000      1.5745
                         0.1900     0.9984   |   3.7500      1.7809
                         1.0900     1.1991   |   4.7100      1.9291
                         2.0200     1.3813   |   5.4800      2.0745

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000     11.253      6.00      69.47
     OUTFLOW: ID= 1 (9289)     56.000      4.253      6.25      69.45

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.79
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.8912

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| ADD HYD   (9262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2081):   209.70  16.724     6.00    44.28
      + ID2= 2 (9289):    56.00   4.253     6.25    69.45
        ================================================
        ID = 3 (9262):   265.70  19.943     6.25    49.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  16.8530      8.3371
                         0.8360     4.7353   |  21.1630      9.3975
                         4.7810     5.1070   |  25.1140     10.4406
                         8.9050     6.2484   |  25.5140     10.4506
                        12.6070     7.1796   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700     19.943      6.25      49.58
     OUTFLOW: ID= 1 (5208)    265.700      8.016      7.00      49.58

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.19
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  6.0029

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| ADD HYD   (8148) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2082):   426.60  46.933     6.00    56.47
      + ID2= 2 (5208):   265.70   8.016     7.00    49.58
        ================================================
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          ID = 3 (8148):   692.30  47.333     6.00    53.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8146) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.27 125.007     9.25    30.60
        + ID2= 2 (8148):   692.30  47.333     6.00    53.82
          ============================================
          ID = 3 (8146): 15415.57 130.153     8.75    31.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                   0.00         241.81        0.0800
                  28.43         241.78        0.0800
                  85.30         237.04        0.0800
                 149.27         231.32        0.0800
                 170.60         230.10        0.0800
                 255.89         229.37        0.0800
                 277.22         228.68        0.0800
                 284.33         228.42        0.0800
                 291.43         228.16        0.0800
                 297.76         227.00    0.0800 /0.0350  Main Channel
                 298.76         225.00        0.0350      Main Channel
                 312.76         225.00        0.0350      Main Channel
                 313.76         227.00    0.0350 /0.0800  Main Channel
                 326.97         229.50        0.0800
                 348.30         230.29        0.0800
                 376.73         229.76        0.0800
                 490.46         235.75        0.0800
                 568.65         236.24        0.0800
                 661.06         241.85        0.0800
                 703.71         246.04        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.67   225.67    .141E+05       6.6         0.69      35.86
       1.33   226.33    .289E+05      20.4         1.04      23.65
       2.00   227.00    .443E+05      39.3         1.31      18.81
       2.93   227.93    .730E+05      77.8         1.57      15.64
       3.85   228.85    .123E+06     131.1         1.57      15.65
       4.78   229.78    .228E+06     205.6         1.33      18.51
       5.70   230.70    .503E+06     356.7         1.05      23.49
       6.63   231.63    .846E+06     608.7         1.06      23.17
       7.55   232.55    .123E+07     946.4         1.14      21.65
       8.48   233.48    .165E+07    1367.0         1.22      20.13
       9.41   234.41    .211E+07    1871.8         1.31      18.80
      10.33   235.33    .261E+07    2463.2         1.40      17.65
      11.26   236.26    .317E+07    2999.4         1.40      17.63
      12.18   237.18    .384E+07    3848.3         1.48      16.63
      13.11   238.11    .454E+07    4806.0         1.56      15.75
      14.03   239.03    .528E+07    5876.9         1.64      14.97
      14.96   239.96    .605E+07    7062.7         1.72      14.29
      15.88   240.88    .687E+07    8365.0         1.80      13.68
      16.81   241.81    .771E+07    9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   130.15    8.75  31.64      3.84      1.57
     OUTFLOW: ID= 1 (6210) *******   129.71    9.50  31.64      3.83      1.57


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| CALIB             |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     140.67         52.03
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=    1133.43         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         85.42
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.69 (ii)    18.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      32.11          6.55         36.463 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      79.80         46.23         69.06
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.99          0.57          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.5000      8.0000
                         0.3000     2.0000   |   3.5000     10.0000
                         0.9000     5.0000   |   4.5000     13.0000
                         2.0000     7.5000   |   5.5000     14.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2104)    192.700     36.463      6.00      69.06
     OUTFLOW: ID= 1 (9283)    192.700      3.127      7.25      69.05

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.58
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  9.2541

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-------------------
| CALIB             |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.33          7.77
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     272.03         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        103.34
               over (min)       15.00         15.00
     Storage Coeff.  (min)=       4.54 (ii)    11.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.32          1.76          2.080 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00          6.00
     RUNOFF VOLUME    (mm)=      79.80         51.64         54.46
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.99          0.64          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9284) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5600      0.2067
                          0.0400     0.1045   |   0.7400      0.2572
                          0.2200     0.1166   |   0.9300      0.3046
                          0.4000     0.1670   |   1.0900      0.3510

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2103)     11.100      2.080      6.00      54.46
     OUTFLOW: ID= 1 (9284)     11.100      0.739      6.25      54.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.54
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2587

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-------------------
| ADD HYD   (9258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9283):   192.70   3.127     7.25    69.05
       + ID2= 2 (9284):    11.10   0.739     6.25    54.40
         ================================================
         ID = 3 (9258):   203.80   3.622     6.75    68.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0060      0.0024
                          0.0020     0.0013   |   0.0080      0.0027
                          0.0030     0.0017   |   0.0090      0.0031
                          0.0050     0.0020   |   0.4090      0.0131

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      3.622      6.75      68.25
     OUTFLOW: ID= 1 (5210)    203.800      3.612      6.75      68.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.75
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0936

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-------------------
| CALIB            |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.266 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  40.870
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2102):    14.38   0.266     7.25    40.87
       + ID2= 2 (5210):   203.80   3.612     6.75    68.25
         ================================================
         ID = 3 (9210):   218.18   3.875     7.00    66.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6210): 15415.57 129.714     9.50    31.64
       + ID2= 2 (9210):   218.18   3.875     7.00    66.45
         ================================================
         ID = 3 (8150): 15633.75 132.737     9.50    32.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.77          5.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     615.85         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        233.15
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.12 (ii)   16.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      10.81          1.83        12.066 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         52.81         72.04
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.65          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.30          1.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     171.27         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         63.04
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       4.23 (ii)   17.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.90          0.10          0.963 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         34.20         65.42
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.42          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2200      0.1226
                          0.0100     0.0778   |   0.2900      0.1387
                          0.0800     0.0934   |   0.3700      0.1503
                          0.1600     0.1076   |   0.4300      0.1616
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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)    4.400     0.963      6.00      65.42
     OUTFLOW: ID= 1 (9290)    4.400     0.353      6.25      64.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.65
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1524

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--------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89  12.066     6.00    72.04
       + ID2= 2 (9290):     4.40   0.353     6.25    64.97
         ================================================
         ID = 3 (9264):    61.29  12.269     6.00    71.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.1000      2.1402
                          0.2080     1.2793   |   5.1480      2.2661
                          1.1880     1.5546   |   5.9930      2.3900
                          2.2120     1.7255   |   6.3930      2.4000
                          3.0680     1.9336   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9264)    61.290    12.269      6.00      71.53
     OUTFLOW: ID= 1 (5212)    61.290     4.365      6.50      71.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.58
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2167

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| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.46       189.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1334.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        56.94
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.51 (ii)   27.91 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     14.03        12.91        22.168 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     78.80        34.51         45.14
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.43          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.1    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.3600      4.9180
                          0.9100     2.4658   |  17.8700      6.1368
```

```
                          5.1800     2.7404   |  22.4400      7.2882
                          9.6400     3.9605   |  26.1200      8.4139

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2122)    267.100    22.168      6.00      45.14
     OUTFLOW: ID= 1 (9312)    267.100    11.595      6.50      45.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.30
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.5566

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--------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5212):    61.29   4.365     6.50    71.51
       + ID2= 2 (9312):   267.10  11.595     6.50    45.14
         ================================================
         ID = 3 (8152):   328.39  15.960     6.50    50.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (2141.0) ------>
              Distance      Elevation       Manning
                 0.00         259.29        0.0500
                15.33         258.91        0.0500
                38.33         258.57        0.0500
                65.16         257.93        0.0500
                95.82         253.44        0.0500
               111.15         251.21        0.0500
               130.32         249.67        0.0500
               149.48         248.51        0.0500
               150.66         248.50    0.0500 /0.0370  Main Channel
               150.81         247.50        0.0370      Main Channel
               154.66         247.50        0.0370      Main Channel
               155.66         248.50    0.0370 /0.0500  Main Channel
               160.98         248.50        0.0500
               187.81         249.78        0.0500
               199.31         252.13        0.0500
               245.30         254.04        0.0500
               264.46         253.99        0.0500
               298.96         255.23        0.0500
               329.62         257.02        0.0500
               379.45         258.82        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   248.00    .648E+04        2.1         1.00       52.30
      1.00   248.50    .139E+05        6.4         1.44       36.35
      1.61   249.11    .570E+05       22.6         1.24       42.01
      2.21   249.71    .143E+06       63.6         1.39       37.61
      2.82   250.32    .263E+06      142.9         1.70       30.69
      3.43   250.93    .403E+06      257.2         2.00       26.11
      4.04   251.54    .562E+06      410.4         2.29       22.82
      4.64   252.14    .735E+06      601.3         2.56       20.37
      5.25   252.75    .933E+06      791.0         2.66       19.67
      5.86   253.36    .117E+07     1038.0         2.79       18.74
      6.46   253.96    .144E+07     1344.4         2.93       17.82
      7.07   254.57    .178E+07     1664.1         2.93       17.83
      7.68   255.18    .217E+07     2140.2         3.10       16.87
      8.28   255.78    .259E+07     2722.9         3.30       15.83
      8.89   256.39    .304E+07     3387.1         3.50       14.94
      9.50   257.00    .351E+07     4132.7         3.69       14.16
     10.11   257.61    .402E+07     4913.0         3.83       13.64
     10.71   258.21    .458E+07     5648.3         3.87       13.50
     11.32   258.82    .521E+07     6343.1         3.82       13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.39    15.96    6.50   50.06      1.36      1.32
     OUTFLOW: ID= 1 (6214)  328.39    11.91    7.25   50.06      1.21      1.36

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| CALIB            |
| STANDHYD  (2144) |   Area    (ha)=  93.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.82        23.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     787.82        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        64.78
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.58 (ii)   23.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      16.02         1.98        17.283 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80        35.09        65.69
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.98         0.43         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9285) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6500      2.6150
                          0.3200     1.6583   |   6.2300      2.9579
                          1.8100     1.9916   |   7.8200      3.2041
                          3.3600     2.2943   |   9.1000      3.4456

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2144)     93.100     17.283      6.00      65.69
     OUTFLOW: ID= 1 (9285)     93.100      6.224      6.50      65.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.01
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.0214

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--------------------
| CALIB            |
| STANDHYD  (2143) |   Area    (ha)= 158.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.16       117.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1027.29        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        71.14
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.40 (ii)   24.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.32        10.66        12.053 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.25
     RUNOFF VOLUME    (mm)=      78.80        37.49        41.21
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.98         0.46         0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9200      2.8224
                          0.5400     1.3792   |  10.5900      3.5534
                          3.0700     1.5175   |  13.3000      4.2519
                          5.7200     2.2534   |  15.4900      4.9349

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2143)    158.300     12.053      6.25      41.21
     OUTFLOW: ID= 1 (9286)    158.300      6.361      6.75      41.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.77
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.4403

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--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9285):    93.10   6.224     6.50    65.67
        + ID2= 2 (9286):   158.30   6.361     6.75    41.20
          ================================================
          ID = 3 (9260):   251.40  12.265     6.50    50.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5370      0.9877
                          0.1280     0.4635   |   3.1860      1.1293
                          0.5900     0.5362   |   3.7090      1.2678
                          1.3690     0.6921   |   3.9980      1.2778
                          1.8980     0.8262   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9260)    251.400     12.265      6.50      50.27
     OUTFLOW: ID= 1 (5214)    251.400     12.455      6.75      50.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=101.55
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.6030

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2142) |   Area    (ha)=  65.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.70        47.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     661.01        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        24.14
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.52 (ii)   28.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.66         2.22         3.031 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80        21.44        27.18
     TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
     RUNOFF COEFFICIENT   =       0.98         0.27         0.34
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2142):    65.54   3.031     6.00    27.18
       + ID2= 2 (5214):   251.40  12.455     6.75    50.26
         ================================================
         ID = 3 (9214):   316.94  13.920     6.75    45.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6214):   328.39  11.913     7.25    50.06
       + ID2= 2 (9214):   316.94  13.920     6.75    45.49
         ================================================
         ID = 3 (8154):   645.33  24.281     6.75    47.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2163) |   Area    (ha)=  69.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.82        50.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     681.66        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        85.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.70 (ii)   21.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.58         5.99          6.525 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        43.92         47.06
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.54          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9271) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4900      1.2605
                          0.2400     0.6230   |   4.6600      1.5808
                          1.3500     0.6885   |   5.8600      1.8854
                          2.5200     1.0102   |   6.8200      2.1832

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2163)     69.700      6.525      6.25      47.06
     OUTFLOW: ID= 1 (9271)     69.700      3.430      6.75      47.05

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.57
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.2715

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--------------------
| CALIB            |
| STANDHYD  (2169) |   Area    (ha)=   3.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05         2.45
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     152.75        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        70.57
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       3.95 (ii)   16.25 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.26          0.281 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        35.71         40.01
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.44          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1800      0.0659
                          0.0100     0.0333   |   0.2400      0.0820
                          0.0700     0.0372   |   0.3000      0.0971
                          0.1300     0.0532   |   0.3500      0.1119

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2169)     3.500      0.281      6.25      40.01
     OUTFLOW: ID= 1 (9272)     3.500      0.146      6.50      39.77

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.06
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0583

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--------------------
| ADD HYD   (9251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9271):    69.70   3.430     6.75    47.05
       + ID2= 2 (9272):     3.50   0.146     6.50    39.77
         ================================================
         ID = 3 (9251):    73.20   3.574     6.75    46.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5216) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7400      2.4559
                          0.1890     1.6831   |   4.6960      2.6646
                          1.0830     1.7903   |   5.4670      2.8688
```

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                        2.0170     2.0202   |   5.8670      2.8788
                        2.7980     2.2179   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9251)     73.200      3.574      6.75      46.70
     OUTFLOW: ID= 1 (5216)     73.200      1.258      8.25      46.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.21
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.8398

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--------------------
| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51        58.06
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        59.98
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.81 (ii)   22.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.28         4.60          5.035 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        33.59         36.76
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.42          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570      5.035      6.25      36.76
     OUTFLOW: ID= 1 (9316)     72.570      4.033      6.50      36.76

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 80.10
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3340

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5216):    73.20   1.258     8.25     46.67
       + ID2= 2 (9316):    72.57   4.033     6.50     36.76
         ================================================
         ID = 3 (9216):   145.77   4.084     6.50     41.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8156) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8154):    645.33  24.281     6.75     47.81
       + ID2= 2 (9216):    145.77   4.084     6.50     41.74
         ================================================
         ID = 3 (8156):    791.10  27.724     6.75     46.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2181.0) ------>
               Distance      Elevation       Manning
                   0.00         256.38        0.0450
                   7.70         254.85        0.0450
                  15.40         253.20        0.0450
                  19.25         252.29        0.0450
                  23.10         251.17        0.0450
                  78.94         236.16        0.0450
                  80.87         235.80        0.0450
                  82.79         235.45        0.0450
                  84.57         234.60    0.0450 /0.0300  Main Channel
                  85.07         233.60        0.0300      Main Channel
                  88.57         233.60        0.0300      Main Channel
                  93.57         233.60        0.0300      Main Channel
                  94.07         234.60    0.0300 /0.0450  Main Channel
                  96.27         235.13        0.0450
                  98.19         235.20        0.0450
                 100.12         235.32        0.0450
                 138.63         239.95        0.0450
                 180.98         244.80        0.0450
                 188.69         245.00        0.0450
                 190.61         256.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       1.00   234.60    .181E+05       6.0          0.66      50.64
       2.13   235.73    .518E+05      23.8          0.93      36.27
       3.25   236.85    .119E+06      60.0          1.02      33.03
       4.38   237.98    .217E+06     120.6          1.12      29.99
       5.51   239.11    .346E+06     210.5          1.23      27.39
       6.63   240.23    .506E+06     334.1          1.33      25.22
       7.76   241.36    .697E+06     495.6          1.43      23.44
       8.88   242.48    .920E+06     699.8          1.53      21.91
      10.01   243.61    .117E+07     950.8          1.63      20.59
      11.14   244.74    .146E+07    1252.5          1.73      19.45
      12.26   245.86    .178E+07    1619.6          1.83      18.37
      13.39   246.99    .212E+07    2078.5          1.97      17.01
      14.52   248.12    .247E+07    2589.0          2.11      15.88
      15.64   249.24    .282E+07    3149.7          2.25      14.94
      16.77   250.37    .319E+07    3759.8          2.37      14.14
      17.89   251.49    .356E+07    4419.5          2.50      13.44
      19.02   252.62    .395E+07    5126.4          2.61      12.84
      20.15   253.75    .435E+07    5871.6          2.72      12.34
      21.27   254.87    .476E+07    6663.2          2.82      11.89

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10    27.72    6.75  46.69      2.25      0.93
     OUTFLOW: ID= 1 (6218)  791.10    21.03    7.25  46.69      1.96      0.87


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--------------------
| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25        54.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     679.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        83.92
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.68 (ii)   21.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
```

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                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.23         6.28          6.690 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        45.19         47.54
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.56          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.5000      3.5000
                         0.8000     0.1000   |   6.0000      4.0000
                         1.1000     2.0000   |   6.5000      4.5000
                         2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2183)     69.300     6.690      6.25      47.54
     OUTFLOW: ID= 1 (9282)     69.300     1.045      7.50      47.54

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.61
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6501

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-------------------
| RESERVOIR (5218) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.5090      1.7553
                         0.2280     0.8236   |   5.6620      2.0069
                         1.3060     0.9528   |   6.5910      2.2530
                         2.4320     1.2300   |   6.9910      2.2630
                         3.3740     1.4683   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9282)     69.300     1.045      7.50      47.54
     OUTFLOW: ID= 1 (5218)     69.300     1.010      9.25      47.53

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.66
                TIME SHIFT OF PEAK FLOW         (min)=105.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9173

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-------------------
| CALIB            |
| NASHYD    (2182) |   Area    (ha)=  82.95   Curve Number   (CN)= 67.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   1.786

     PEAK FLOW       (cms)=   1.353 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.748
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.356

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9218) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2182):    82.95   1.353     7.00    28.75
       + ID2= 2 (5218):    69.30   1.010     9.25    47.53
         ================================================
         ID = 3 (9218):   152.25   1.990     8.50    37.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6218):   791.10  21.034     7.25    46.69
       + ID2= 2 (9218):   152.25   1.990     8.50    37.30
         ================================================
         ID = 3 (8158):   943.35  22.542     7.25    45.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.75 132.737     9.50    32.13
       + ID2= 2 (8158):   943.35  22.542     7.25    45.18
         ================================================
         ID = 3 (8151): 16577.10 147.742     8.50    32.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  33.0100      0.6700
                         2.6400     0.0500   |  37.4800      0.7800
                         4.8300     0.0900   |  47.5400      1.0100
                         7.4100     0.1300   |  60.2300      1.2800
                        10.3300     0.1900   |  71.9530      1.5258
                        13.5300     0.2500   |  *******      3.0529
                        16.9900     0.3200   |  *******      5.3299
                        20.6800     0.3900   |  *******      8.4148
                        24.6000     0.4800   |  *******     11.7637
                        28.7100     0.5700   |  *******     11.7737

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)   ********    147.742      8.50      32.87
     OUTFLOW: ID= 1 (5504)   ********    147.808      8.50      32.87

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.04
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.1869

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2201.0) ------>
               Distance      Elevation       Manning
                   0.00         245.59        0.0600
                   5.76         245.45        0.0600
                  23.03         242.27        0.0600
                  57.58         232.35        0.0600
                  86.37         226.18        0.0600
                 109.41         224.31        0.0600
                 115.17         223.86        0.0600
                 120.92         222.78        0.0600
                 126.68         221.93        0.0600
                 128.06         221.50    0.0600 /0.0300  Main Channel
                 129.56         220.00        0.0300      Main Channel
                 141.56         220.00        0.0300      Main Channel
                 143.06         221.50    0.0300 /0.0600  Main Channel
                 149.72         223.77        0.0600
                 155.47         225.09        0.0600
                 253.36         229.21        0.0600
                 333.98         227.50        0.0600
                 454.90         229.25        0.0600
                 500.97         233.11        0.0600
```

```
            570.07        237.42        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.75   220.75    .262E+05       5.5         0.57       79.44
       1.50   221.50    .555E+05      17.5         0.86       52.89
       2.44   222.44    .103E+06      42.7         1.14       40.03
       3.37   223.37    .171E+06      79.4         1.27       35.98
       4.31   224.31    .263E+06     128.1         1.33       34.22
       5.25   225.25    .393E+06     191.7         1.34       34.19
       6.18   226.18    .594E+06     276.7         1.28       35.77
       7.12   227.12    .872E+06     399.9         1.26       36.33
       8.06   228.06    .127E+07     542.7         1.17       38.92
       8.99   228.99    .199E+07     770.0         1.06       43.01
       9.93   229.93    .297E+07    1151.8         1.06       42.95
      10.86   230.86    .400E+07    1652.9         1.13       40.33
      11.80   231.80    .507E+07    2251.8         1.22       37.53
      12.74   232.74    .618E+07    2946.5         1.31       34.97
      13.67   233.67    .733E+07    3726.8         1.39       32.79
      14.61   234.61    .853E+07    4591.0         1.48       30.96
      15.55   235.55    .977E+07    5544.1         1.55       29.37
      16.48   236.48    .111E+08    6586.7         1.63       27.99
      17.42   237.42    .124E+08    7719.2         1.71       26.77

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******   147.81    8.50  32.87      4.60      1.33
     OUTFLOW: ID= 1 (6220) *******   142.35    9.50  32.87      4.53      1.33


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-------------------
| CALIB           |
| STANDHYD  (2207) |   Area    (ha)=  57.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   8.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.14        45.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     620.75        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        85.52
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.17 (ii)   20.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.19         5.48         5.861 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.80        47.06         49.60
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.58          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9278) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5000      2.5000
                         0.2000     0.3000   |   0.6000      3.5000
                         0.3000     0.9000   |   0.7000      4.5000
                         0.4000     2.0000   |   0.8000      5.5000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2207)     57.800      5.861      6.25      49.60
     OUTFLOW: ID= 1 (9278)     57.800      0.405      9.00      49.59

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.91

                 TIME SHIFT OF PEAK FLOW         (min)=165.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  2.0243

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-------------------
| CALIB           |
| STANDHYD  (2204) |   Area    (ha)=  13.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.98         3.33
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     297.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        82.51
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.90 (ii)   17.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.62         0.41         2.887 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        44.19         68.42
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.55          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9279) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6700      0.3747
                         0.0500     0.2376   |   0.8900      0.4238
                         0.2600     0.2854   |   1.1200      0.4591
                         0.4800     0.3287   |   1.3000      0.4937

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2204)     13.300      2.887      6.00      68.42
     OUTFLOW: ID= 1 (9279)     13.300      1.063      6.25      68.33

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.83
                 TIME SHIFT OF PEAK FLOW         (min)= 15.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.4549

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-------------------
| ADD HYD   (9255) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9278):    57.80   0.405     9.00     49.59
       + ID2= 2 (9279):    13.30   1.063     6.25     68.33
         ==========================================================
         ID = 3 (9255):    71.10   1.368     6.25     53.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5220) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.6050      1.0142
                         0.1320     0.4759   |   3.2710      1.1595
                         0.7550     0.5505   |   3.8080      1.3018
                         1.4050     0.7107   |   4.2080      1.3118
                         1.9490     0.8484   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9255)     71.100      1.368      6.25      53.10
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     OUTFLOW: ID= 1 (5220)     71.100      0.746      7.50      53.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.56
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5510

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-------------------
| CALIB           |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   1.185 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  34.912
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.432

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9220) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2202):    98.00   1.185     8.00    34.91
        + ID2= 2 (5220):    71.10   0.746     7.50    53.08
          ================================================
          ID = 3 (9220):   169.10   1.917     7.75    42.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8160) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6220): 16577.10 142.353     9.50    32.87
        + ID2= 2 (9220):   169.10   1.917     7.75    42.55
          ================================================
          ID = 3 (8160): 16746.20 143.986     9.50    32.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2221) |   Area    (ha)= 110.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  20.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.94         69.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     858.84         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         81.58
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.14 (ii)   22.74 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.35          7.59         10.274 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25            6.00
     RUNOFF VOLUME    (mm)=      78.80         41.47           48.93
     TOTAL RAINFALL   (mm)=      80.80         80.80           80.80
     RUNOFF COEFFICIENT   =       0.98          0.51            0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2224) |   Area    (ha)=  43.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  66.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.10         12.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     536.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         83.97
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)   19.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.48          1.44          8.430 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         44.45         67.12
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.55          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9288) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1600      1.1836
                         0.1500     0.7428   |   2.8900      1.3455
                         0.8400     0.8895   |   3.6300      1.4651
                         1.5600     1.0342   |   4.2300      1.5823

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2224)     43.200      8.430      6.00      67.12
     OUTFLOW: ID= 1 (9288)     43.200      3.098      6.25      67.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.74
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4042

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-------------------
| ADD HYD   (9261) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2221):   110.64  10.274     6.00    48.93
        + ID2= 2 (9288):    43.20   3.098     6.25    67.09
          ================================================
          ID = 3 (9261):   153.84  12.741     6.25    54.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2210      4.0213
                         0.4910     2.1348   |   9.0080      4.5380
                         2.1830     2.4433   |  15.0420      4.9977
                         3.9370     2.9883   |  15.4420      5.0077
                         5.4550     3.4692   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9261)    153.840     12.741      6.25      54.03
     OUTFLOW: ID= 1 (5222)    153.840      5.401      7.00      54.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.39
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                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.4714
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| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  65.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.18         10.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     661.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        315.10
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.53 (ii)   16.28 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.50          5.17        11.143 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      78.80         60.78         68.89
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.75          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69  11.143     6.00    68.89
       + ID2= 2 (5222):   153.84   5.401     7.00    54.02
         ================================================
         ID = 3 (8164):   219.53  11.458     6.00    58.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99         33.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     593.01         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         76.47
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.92 (ii)   20.83 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.68          3.59          6.024 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         43.06         52.71
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.53          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39         26.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     764.63         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         82.51
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.39 (ii)   21.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.88          2.95         15.809 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         44.19         66.34
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.55          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3900      2.3776
                          0.3000     1.4858   |   5.8700      2.7087
                          1.7000     1.7770   |   7.3700      2.9557
                          3.1700     2.0741   |   8.5800      3.1980

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700     15.809      6.00      66.34
     OUTFLOW: ID= 1 (9287)     87.700      6.026      6.50      66.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.12
                TIME SHIFT OF PEAK FLOW        (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.7862
```

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--------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4470      0.1810
                          0.0230     0.0884   |   0.5620      0.2047
                          0.1300     0.1032   |   0.6540      0.2278
                          0.2410     0.1297   |   1.0540      0.2378
                          0.3350     0.1532   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      6.026      6.50      66.33
     OUTFLOW: ID= 1 (5224)     87.700      6.128      6.50      66.31

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=101.69
                TIME SHIFT OF PEAK FLOW        (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3692

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
```

```
--------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   6.024     6.00    52.71
       + ID2= 2 (5224):    87.70   6.128     6.50    66.31
         ================================================
         ID = 3 (9224):   140.45   9.852     6.25    61.20
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8166)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8164):	219.53	11.458	6.00	58.47
	+ ID2= 2 (9224):	140.45	9.852	6.25	61.20
	ID = 3 (8166):	359.98	19.373	6.25	59.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6226)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2261.0) ------>

Distance	Elevation	Manning	
0.00	245.35	0.0600	
8.27	242.72	0.0600	
16.54	240.01	0.0600	
31.02	235.31	0.0600	
41.36	233.14	0.0600	
90.99	227.73	0.0600	
93.06	227.50	0.0600	
95.13	227.27	0.0600	
95.83	227.00	0.0600	
100.83	226.50	0.0600 /0.0350	Main Channel
101.33	225.50	0.0350	Main Channel
101.83	226.50	0.0350 /0.0600	Main Channel
105.83	227.00	0.0600	
107.54	227.39	0.0600	
109.60	227.62	0.0600	
111.67	227.86	0.0600	
146.83	231.76	0.0600	
173.71	234.77	0.0600	
186.12	238.23	0.0600	
202.67	238.35	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	226.00	.403E+03	0.0	0.16	330.59
1.00	226.50	.161E+04	0.1	0.26	208.26
1.70	227.20	.173E+05	1.5	0.27	195.72
2.39	227.89	.541E+05	5.9	0.35	152.27
3.09	228.59	.119E+06	16.0	0.43	124.08
3.79	229.29	.212E+06	33.8	0.51	104.65
4.49	229.99	.334E+06	61.2	0.59	90.97
5.18	230.68	.484E+06	99.7	0.66	80.88
5.88	231.38	.663E+06	151.0	0.73	73.13
6.58	232.08	.870E+06	216.5	0.80	66.95
7.27	232.77	.111E+07	297.5	0.87	61.91
7.97	233.47	.137E+07	398.1	0.94	57.29
8.67	234.17	.165E+07	518.9	1.01	53.12
9.36	234.86	.196E+07	658.9	1.08	49.59
10.06	235.56	.228E+07	827.0	1.17	46.02
10.76	236.26	.262E+07	1015.4	1.25	42.96
11.46	236.96	.296E+07	1221.2	1.33	40.41
12.15	237.65	.332E+07	1444.6	1.40	38.26
12.85	238.35	.368E+07	1598.2	1.40	38.42

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8166)	359.98	19.37	6.25	59.54	3.22	0.45
OUTFLOW:	ID= 1 (6226)	359.98	7.93	7.25	59.53	2.53	0.37

CALIB	NASHYD (2267)	Area (ha)= 10.50	Curve Number (CN)= 82.0
ID= 1 DT=15.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 1.50
		U.H. Tp(hrs)= 0.47	

Unit Hyd Qpeak (cms)= 0.383

PEAK FLOW (cms)= 0.400 (i)

TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 42.308
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.524

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9276)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.5300	0.1297
			0.0400	0.0402	0.7100	0.1837
			0.2000	0.0341	0.8900	0.2402
			0.3800	0.0910	1.0300	0.2954

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2267)	10.500	0.400	6.50	42.31
OUTFLOW:	ID= 1 (9276)	10.500	0.327	7.25	42.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 81.77
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0749

**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

CALIB	STANDHYD (2264)	Area (ha)= 117.80	
ID= 1 DT=15.0 min		Total Imp(%)= 75.00	Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	88.35	29.45
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	886.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		106.66	82.51
over (min)		15.00	30.00
Storage Coeff. (min)=		11.35 (ii)	22.90 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	19.81	3.24	21.923 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	44.19	68.42
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.55	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9277)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	2.5000	8.0000
			0.3000	2.0000	3.5000	10.0000
			0.9000	5.0000	4.5000	13.0000
			2.0000	7.5000	5.5000	14.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2264)	117.800	21.923	6.00	68.42
OUTFLOW:	ID= 1 (9277)	117.800	1.316	8.25	68.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.00
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 5.9530

```
| ADD HYD   (9253) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9276):    10.50   0.327     7.25    42.29
       + ID2= 2 (9277):   117.80   1.316     8.25    68.40
         ================================================
         ID = 3 (9253):   128.30   1.610     7.75    66.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.7530      0.6823
                          0.0890     0.3202   |   2.2010      0.7801
                          0.5080     0.3704   |   2.5620      0.8758
                          0.9450     0.4782   |   2.9620      0.8858
                          1.3110     0.5708   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300     1.610      7.75      66.26
     OUTFLOW: ID= 1 (5226)    128.300     1.517      8.75      66.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.27
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6229

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (2262)  |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.934

     PEAK FLOW       (cms)=   2.061 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  37.631
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2262):   119.28   2.061     7.25    37.63
       + ID2= 2 (5226):   128.30   1.517     8.75    66.26
         ================================================
         ID = 3 (9226):   247.58   3.434     8.00    52.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8168) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6226):   359.98   7.933     7.25    59.53
       + ID2= 2 (9226):   247.58   3.434     8.00    52.47
         ================================================
         ID = 3 (8168):   607.56  11.152     7.50    56.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8162) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.20 143.986     9.50    32.97
       + ID2= 2 (8168):   607.56  11.152     7.50    56.65
         ================================================
         ID = 3 (8162): 17353.76 152.748     9.00    33.80
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2281.0) ------>
               Distance      Elevation       Manning
                  0.00         245.00        0.0600
                 18.60         244.74        0.0600
                 37.20         242.47        0.0600
                 93.01         233.71        0.0600
                125.57         226.95        0.0600
                213.93         221.63        0.0600
                218.58         221.15        0.0600
                223.23         220.45        0.0600
                225.03         220.55    0.0600 /0.0300  Main Channel
                225.53         218.05        0.0300      Main Channel
                232.53         218.05        0.0300      Main Channel
                240.03         218.05        0.0300      Main Channel
                241.03         220.55    0.0300 /0.0600  Main Channel
                246.48         221.00        0.0600
                251.13         221.27        0.0600
                255.78         221.22        0.0600
                325.54         225.25        0.0600
                367.40         228.91        0.0600
                404.60         231.75        0.0600
                460.41         245.00        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      1.25    219.30    .338E+05      16.0          0.86      35.15
      2.50    220.55    .696E+05      48.3          1.26      24.02
      3.94    221.99    .168E+06     116.0          1.26      24.14
      5.38    223.43    .392E+06     247.5          1.15      26.37
      6.81    224.86    .743E+06     472.6          1.16      26.20
      8.25    226.30    .122E+07     821.6          1.23      24.67
      9.69    227.74    .179E+07    1320.1          1.34      22.59
     11.13    229.18    .243E+07    1965.7          1.47      20.58
     12.57    230.62    .313E+07    2744.2          1.59      19.02
     14.01    232.06    .390E+07    3683.4          1.72      17.66
     15.44    233.49    .472E+07    4824.1          1.86      16.30
     16.88    234.93    .557E+07    6092.4          1.99      15.23
     18.32    236.37    .646E+07    7503.3          2.11      14.35
     19.76    237.81    .739E+07    9061.2          2.23      13.59
     21.20    239.25    .836E+07   10767.6          2.34      12.94
     22.64    240.69    .937E+07   12624.8          2.45      12.37
     24.07    242.12    .104E+08   14634.9          2.56      11.87
     25.51    243.56    .115E+08   16762.8          2.65      11.45
     26.95    245.00    .127E+08   18699.9          2.69      11.28

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8162) *******   152.75    9.00  33.80      4.34      1.22
     OUTFLOW: ID= 1 (6228) *******   150.18    9.75  33.80      4.32      1.23


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-------------------
| CALIB             |
| STANDHYD  (2287)  |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       30.01         100.48
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      932.74          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=      106.66          48.19
               over (min)        15.00          30.00
     Storage Coeff.  (min)=      11.70 (ii)     26.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.10           5.98        7.220 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25         6.25
     RUNOFF VOLUME    (mm)=      78.80          27.18         32.34
     TOTAL RAINFALL   (mm)=      80.80          80.80         80.80
```

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     RUNOFF COEFFICIENT   =       0.98         0.34          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9275) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5000      3.5000
                          0.8000     0.1000   |   6.0000      4.0000
                          1.5000     2.0000   |   6.5000      4.5000
                          2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2287)    130.500      7.220      6.25      32.34
     OUTFLOW: ID= 1 (9275)    130.500      1.484      7.50      32.34

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.55
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.9574

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5228) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.7260      2.6184
                          0.3410     1.2286   |   8.4460      2.9937
                          1.9480     1.4214   |   9.8320      3.3609
                          3.6280     1.8348   |  10.2320      3.3709
                          5.0330     2.1904   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9275)    130.500      1.484      7.50      32.34
     OUTFLOW: ID= 1 (5228)    130.500      1.368      9.25      32.33

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.23
                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3521

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--------------------
| CALIB            |
| NASHYD    (2282) |   Area    (ha)= 180.03   Curve Number   (CN)= 61.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.754

     PEAK FLOW       (cms)=   1.889 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.536
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.304

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2282):   180.03   1.889     7.50    24.54
        + ID2= 2 (5228):   130.50   1.368     9.25    32.33
          ================================================
          ID = 3 (9228):   310.53   3.011     9.00    27.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6228): 17353.76 150.185     9.75    33.80
        + ID2= 2 (9228):   310.53   3.011     9.00    27.81
          ================================================
          ID = 3 (8170): 17664.29 153.025     9.75    33.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2302) |   Area    (ha)=  30.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  11.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.84          21.63
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      450.70          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=      106.66          63.48
               over (min)         15.00          30.00
     Storage Coeff.  (min)=        7.56 (ii)     20.39 (ii)
     Unit Hyd. Tpeak (min)=       15.00          30.00
     Unit Hyd. peak  (cms)=        0.10           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.90           1.91          2.155 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.25           6.25
     RUNOFF VOLUME    (mm)=       78.80          33.07          38.10
     TOTAL RAINFALL   (mm)=       80.80          80.80          80.80
     RUNOFF COEFFICIENT   =        0.98           0.41           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2307) |   Area    (ha)= 175.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       43.75          131.25
     Dep. Storage     (mm)=        2.00            5.00
     Average Slope     (%)=        0.50            0.50
     Length            (m)=     1080.12           40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=      106.66          75.45
               over (min)         15.00          30.00
     Storage Coeff.  (min)=       12.78 (ii)     24.75 (ii)
     Unit Hyd. Tpeak (min)=       15.00          30.00
     Unit Hyd. peak  (cms)=        0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.62          12.67          14.234 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.25           6.25
     RUNOFF VOLUME    (mm)=       78.80          40.15          43.62
     TOTAL RAINFALL   (mm)=       80.80          80.80          80.80
     RUNOFF COEFFICIENT   =        0.98           0.50           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9280) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.7500      3.0604
                         0.5900     1.4722   |  11.7100      3.8736
                         3.3900     1.6096   |  14.7000      4.6556
                         6.3200     2.4308   |  17.1100      5.4201

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2307)    175.000    14.234      6.25      43.62
     OUTFLOW: ID= 1 (9280)    175.000     7.665      6.75      43.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.85
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.8117

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.6830      2.7782
                         0.4700     1.3193   |  10.7480      3.1570
                         2.5870     1.5374   |  12.3570      3.5304
                         5.1590     1.9534   |  12.7570      3.5404
                         6.7830     2.3333   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9280)    175.000     7.665      6.75      43.62
     OUTFLOW: ID= 1 (5230)    175.000     5.542      7.50      43.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.30
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.0497

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   2.155     6.25    38.10
       + ID2= 2 (5230):   175.00   5.542     7.50    43.62
         ================================================
         ID = 3 (8172):   205.47   5.904     7.50    42.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.22

     Unit Hyd Qpeak  (cms)=   0.143

     PEAK FLOW       (cms)=   0.080 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  27.350
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.338

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0900      0.0300
                         0.0100     0.0136   |   0.1200      0.0386
                         0.0400     0.0146   |   0.1500      0.0471
                         0.0700     0.0234   |   0.1800      0.0554

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2329)      1.800      0.080      6.00      27.35
     OUTFLOW: ID= 1 (9269)      1.800      0.048      6.75      27.17
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                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.09
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0169

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-------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       44.16        139.84
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1107.55         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         58.90
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.97 (ii)    26.19 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.37         10.17       11.641 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25        6.25
     RUNOFF VOLUME    (mm)=      78.80         31.82       35.57
     TOTAL RAINFALL   (mm)=      80.80         80.80       80.80
     RUNOFF COEFFICIENT   =       0.98          0.39        0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0000      4.0000
                         1.1000     0.3000   |   3.5000      4.5000
                         1.8000     1.8000   |   4.5000      6.0000
                         2.0000     2.5000   |   5.5000      8.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2327)    184.000    11.641      6.25      35.57
     OUTFLOW: ID= 1 (9270)    184.000     2.440      7.50      35.57

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.96
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.1605

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| ADD HYD   (9249) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.048     6.75    27.17
       + ID2= 2 (9270):   184.00   2.440     7.50    35.57
         ================================================
         ID = 3 (9249):   185.80   2.469     7.50    35.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.1130      4.3262
                         0.5630     2.0299   |  13.9540      4.9462
                         3.2190     2.3484   |  16.2450      5.5530
                         5.9950     3.0315   |  16.6450      5.5630
                         8.3150     3.6189   |   0.0000      0.0000
```

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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800      2.469      7.50      35.49
     OUTFLOW: ID= 1 (5232)    185.800      2.084      9.50      35.49

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 84.41
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2134

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| CALIB            |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   1.317 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.958
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   129.00   1.317     7.25     21.96
       + ID2= 2 (5232):   185.80   2.084     9.50     35.49
         ================================================
         ID = 3 (9232):   314.80   3.123     9.25     29.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8172):   205.47   5.904     7.50     42.80
       + ID2= 2 (9232):   314.80   3.123     9.25     29.94
         ================================================
         ID = 3 (8173):   520.27   7.605     7.50     35.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17664.29 153.025     9.75     33.69
       + ID2= 2 (8173):   520.27   7.605     7.50     35.02
         ================================================
         ID = 3 (8174): 18184.56 157.370     9.75     33.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2341.0) ------>
               Distance      Elevation       Manning
                  0.00         228.00        0.0550
                 42.86         223.21        0.0550
                 85.72         219.56        0.0550
                107.15         219.42        0.0550
                128.58         219.39        0.0550
                214.30         219.30        0.0550
                225.02         219.26        0.0550
                235.73         219.24        0.0550
                255.16         219.20    0.0550 /0.0350  Main Channel
                257.16         217.20        0.0350      Main Channel
                303.16         217.20        0.0350      Main Channel
                305.16         219.20    0.0350 /0.0550  Main Channel
                310.74         219.28        0.0550
                321.45         219.27        0.0550
                332.17         219.26        0.0550
                396.46         219.29        0.0550
                782.20         222.91        0.0550
                878.64         227.43        0.0550
                964.36         227.80        0.0550
               1060.79         228.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50    217.70    .887E+05       7.2          0.31      206.54
       1.00    218.20    .179E+06      22.7          0.48      131.74
       1.50    218.70    .272E+06      44.5          0.62      101.75
       2.00    219.20    .366E+06      71.8          0.75       84.97
       2.59    219.79    .993E+06     136.1          0.52      121.59
       3.17    220.37    .189E+07     258.6          0.52      121.80
       3.76    220.96    .294E+07     434.7          0.56      112.82
       4.35    221.55    .415E+07     665.9          0.61      103.88
       4.93    222.13    .551E+07     955.0          0.66       96.22
       5.52    222.72    .703E+07    1305.1          0.71       89.80
       6.11    223.31    .868E+07    1744.9          0.77       82.91
       6.69    223.89    .104E+08    2261.4          0.83       76.46
       7.28    224.48    .121E+08    2838.0          0.89       71.12
       7.87    225.07    .139E+08    3472.9          0.95       66.63
       8.45    225.65    .157E+08    4165.0          1.01       62.82
       9.04    226.24    .176E+08    4913.5          1.07       59.54
       9.63    226.83    .194E+08    5717.7          1.12       56.68
      10.21    227.41    .214E+08    6577.1          1.17       54.18
      10.80    228.00    .235E+08    6919.5          1.12       56.61

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   157.37    9.75  33.73      2.69      0.52
     OUTFLOW: ID= 1 (6234) *******   132.26   12.25  33.73      2.54      0.54


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--------------------
| CALIB            |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   1.499 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  20.789
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.257

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.3100      4.0635
                          0.9000     1.7152   |  17.8000      5.3537
                          5.1600     1.7685   |  22.3500      6.6446
                          9.6100     3.0976   |  26.0300      7.9060

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100      1.499      9.00      20.79
     OUTFLOW: ID= 1 (9281)    266.100      1.543     11.75      20.79

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=102.96
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.7474

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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--------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
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--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5630     0.1745
                          0.1300     0.0819   |   0.6550     0.1995
                          0.2420     0.0947   |   0.7760     0.2240
                          0.3350     0.1223   |   1.0550     0.2340
                          0.4480     0.1460   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      1.543     11.75      20.79
     OUTFLOW: ID= 1 (5234)    266.100      1.364     12.00      20.79

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 88.40
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2538

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--------------------
| CALIB            |
| STANDHYD  (2342) |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.23          0.83
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        84.06         40.00
     Mannings n             =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       106.66         24.97
               over (min)         15.00         15.00
     Storage Coeff.  (min)=        2.24 (ii)    14.54 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.03          0.04          0.065 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.00          6.00
     RUNOFF VOLUME    (mm)=       79.80         14.37         19.60
     TOTAL RAINFALL   (mm)=       80.80         80.80         80.80
     RUNOFF COEFFICIENT   =        0.99          0.18          0.24

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2342):     1.06   0.065     6.00    19.60
        + ID2= 2 (5234):   266.10   1.364    12.00    20.79
          ================================================
          ID = 3 (9234):   267.16   1.366    12.00    20.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6234): 18184.56 132.264    12.25    33.73
        + ID2= 2 (9234):   267.16   1.366    12.00    20.78
          ================================================
          ID = 3 (8176): 18451.72 133.602    12.00    33.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2369) |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       101.64        340.26
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=      1716.39         40.00
     Mannings n             =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       106.66         62.59
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       16.87 (ii)    29.78 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        7.24         24.61         28.431 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=       78.80         34.10         37.68
     TOTAL RAINFALL   (mm)=       80.80         80.80         80.80
     RUNOFF COEFFICIENT   =        0.98          0.42          0.47

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9266) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3000     8.0000
                          0.2000     2.0000   |   3.5000    10.0000
                          1.9000     7.0000   |   4.5000    13.0000
                          2.0000     7.5000   |   5.5000    14.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900     28.431      6.25      37.68
     OUTFLOW: ID= 1 (9266)    441.900      3.792      8.50      37.67

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.34
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 10.8896

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5236) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1380     1.5897
                          1.0220     0.7542   |   3.7950     2.0204
                          1.7530     0.8200   |   4.4970     2.4373
                          2.3290     1.2567   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      3.792      8.50      37.67
     OUTFLOW: ID= 1 (5236)    441.900      3.437     10.75      37.67

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.64
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.7877

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2362) |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.465 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  22.407
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.277

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (9236) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.465     8.00    22.41
       + ID2= 2 (5236):   441.90   3.437    10.75    37.67
         ================================================
         ID = 3 (9236):   494.49   3.778    10.50    36.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                 0.00         241.54        0.0380
               602.55         227.00        0.0380
              1702.00         224.50        0.0380
              1721.25         223.00        0.0380
              1725.10         222.60        0.0380
              1780.94         222.50        0.0380
              1782.87         222.45        0.0380
              1784.79         222.40    0.0380 /0.0300  Main Channel
              1786.57         221.75        0.0300      Main Channel
              1787.07         220.75        0.0300      Main Channel
              1787.57         220.75        0.0300      Main Channel
              1791.57         220.75        0.0300      Main Channel
              1794.07         221.75        0.0300      Main Channel
              1798.27         222.00        0.0300      Main Channel
              1800.19         222.35    0.0300 /0.0380  Main Channel
              1802.12         222.47        0.0380
              1840.63         223.00        0.0380
              1900.00         225.00        0.0380
              1950.00         226.00        0.0380
              2242.61         240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.80   221.55    .101E+05       5.2         1.14      32.36
       1.60   222.35    .296E+05      18.7         1.40      26.36
       2.64   223.39    .249E+06     151.8         1.35      27.33
       3.68   224.43    .613E+06     512.2         1.85      19.94
       4.71   225.46    .152E+07    1066.8         1.55      23.80
       5.75   226.50    .359E+07    2824.9         1.75      21.16
       6.79   227.54    .663E+07    6528.0         2.18      16.93
       7.83   228.58    .994E+07   12158.6         2.71      13.62
       8.87   229.62    .134E+08   19268.8         3.19      11.58
       9.91   230.66    .170E+08   27785.3         3.63      10.19
      10.94   231.69    .207E+08   37667.1         4.03       9.18
      11.98   232.73    .246E+08   48891.7         4.40       8.40
      13.02   233.77    .287E+08   61448.0         4.75       7.78
      14.06   234.81    .329E+08   75332.7         5.08       7.28
      15.10   235.85    .372E+08   90547.8         5.39       6.85
      16.14   236.89    .417E+08   *******         5.69       6.49
      17.17   237.92    .464E+08   *******         5.98       6.18
      18.21   238.96    .512E+08   *******         6.25       5.91
      19.25   240.00    .561E+08   *******         6.52       5.67

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9236)  494.49     3.78   10.50  36.05      0.58      1.14
     OUTFLOW: ID= 1 (6238)  494.49     3.74   11.00  36.05      0.57      1.14


--------------------
| CALIB            |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.99         3.71
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    177.01        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        61.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      4.32 (ii)   17.35 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.34          0.354 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     78.80        33.78         36.93
     TOTAL RAINFALL   (mm)=     80.80        80.80         80.80
     RUNOFF COEFFICIENT   =      0.98         0.42          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300      0.0785
                          0.0200     0.0364   |   0.3100      0.1005
                          0.0900     0.0393   |   0.3900      0.1220
                          0.1700     0.0616   |   0.4600      0.1429

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)     4.700     0.354      6.25      36.93
     OUTFLOW: ID= 1 (9267)     4.700     0.182      6.50      36.84

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.39
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0665

--------------------
| CALIB            |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   0.911 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.414
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100      1.3564
                          0.3100     0.5624   |   6.0400      1.7959
                          1.7500     0.5748   |   7.5800      2.2374
                          3.2600     1.0285   |   8.8300      2.6688

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)    90.200     0.911      7.00      19.41
     OUTFLOW: ID= 1 (9268)    90.200     0.793      8.50      19.41

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 87.06
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5677

--------------------
| ADD HYD   (9247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9267):     4.70   0.182     6.50    36.84
       + ID2= 2 (9268):    90.20   0.793     8.50    19.41
         ================================================
         ID = 3 (9247):    94.90   0.827     8.50    20.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.8780      1.5095
                          0.1960     0.7083   |   4.8600      1.7258
                          1.1230     0.8194   |   5.6680      1.9375
                          2.0920     1.0578   |   6.0680      1.9475
                          2.9010     1.2627   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9247)     94.900     0.827      8.50      20.27
     OUTFLOW: ID= 1 (5238)     94.900     0.406     11.50      20.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.07
                  TIME SHIFT OF PEAK FLOW         (min)=180.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7337

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2382) |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   1.515 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  21.248
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2382):   216.80   1.515     8.25    21.25
       + ID2= 2 (5238):    94.90   0.406    11.50    20.26
         ================================================
         ID = 3 (9238):   311.70   1.611    11.25    20.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6238):   494.49   3.744    11.00    36.05
       + ID2= 2 (9238):   311.70   1.611    11.25    20.95
         ================================================
         ID = 3 (8180):   806.19   5.354    11.25    30.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18451.72 133.602    12.00    33.54
       + ID2= 2 (8180):   806.19   5.354    11.25    30.21
         ================================================
         ID = 3 (8178): 19257.91 138.760    12.00    33.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2401.0) ------>
               Distance      Elevation       Manning
                  0.00         222.00        0.0450
                 11.46         221.00        0.0450
                208.98         221.00        0.0450
                404.04         220.97        0.0450
                808.08         220.83        0.0450
                905.60         220.17        0.0450
                919.53         219.43        0.0450
                933.47         219.22        0.0450
                945.26         219.21    0.0450 /0.0300  Main Channel
                946.26         217.81        0.0300      Main Channel
                975.26         217.81        0.0300      Main Channel
               1003.26         217.81        0.0300      Main Channel
               1005.26         219.21    0.0300 /0.0450  Main Channel
               1017.06         219.28        0.0450
               1030.99         219.26        0.0450
               1044.92         219.23        0.0450
               1058.86         219.23        0.0450
               1253.91         219.22        0.0450
               1323.57         221.05        0.0450
               1379.30         222.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20    218.01    .307E+05       2.2          0.20     227.52
      0.40    218.21    .617E+05       7.1          0.31     143.95
      0.60    218.41    .928E+05      14.0          0.41     110.33
      0.80    218.61    .124E+06      22.6          0.49      91.46
      1.00    218.81    .156E+06      32.8          0.57      79.15
      1.20    219.01    .188E+06      44.5          0.64      70.38
      1.40    219.21    .220E+06      57.5          0.70      63.77
      1.63    219.44    .413E+06      82.5          0.54      83.52
      1.87    219.68    .632E+06     120.9          0.51      87.03
      2.10    219.91    .858E+06     170.0          0.53      84.11
      2.33    220.14    .109E+07     228.7          0.56      79.62
      2.56    220.37    .134E+07     294.4          0.59      76.03
      2.80    220.61    .162E+07     371.1          0.61      72.75
      3.03    220.84    .192E+07     456.8          0.64      70.18
      3.26    221.07    .251E+07     552.1          0.59      75.74
      3.49    221.30    .333E+07     711.8          0.57      78.07
      3.73    221.54    .417E+07     907.0          0.58      76.62
      3.96    221.77    .502E+07    1134.1          0.61      73.70
      4.19    222.00    .587E+07    1390.9          0.64      70.34

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   138.76   12.00  33.40      1.95      0.52
     OUTFLOW: ID= 1 (6240) *******   128.73   13.75  33.40      1.90      0.52


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--------------------
| CALIB            |
| NASHYD    (0240) |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   0.908 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  15.341
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2407) |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.78         71.12
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     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     769.85        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        53.47
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.43 (ii)   24.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.54         4.88      5.440 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.25
     RUNOFF VOLUME    (mm)=      78.80        30.14      33.55
     TOTAL RAINFALL   (mm)=      80.80        80.80      80.80
     RUNOFF COEFFICIENT   =       0.98         0.37       0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9273) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.4500      5.4723
                          0.3000     4.6746   |   5.9500      5.8930
                          1.7300     4.7225   |   7.4700      6.3047
                          3.2100     5.1511   |   8.7000      6.7071

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2407)     88.900      5.440      6.25      33.55
     OUTFLOW: ID= 1 (9273)     88.900      0.168     12.25      33.50

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.09
                    TIME SHIFT OF PEAK FLOW         (min)=360.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.6236

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--------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0240):   345.47   0.908    12.00    15.34
        + ID2= 2 (9273):    88.90   0.168    12.25    33.50
          ================================================
          ID = 3 (9252):   434.37   1.076    12.00    19.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6240): 19257.91 128.735    13.75    33.40
        + ID2= 2 (9252):   434.37   1.076    12.00    19.06
          ================================================
          ID = 3 (8182): 19692.28 129.745    13.75    33.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (2427) |   Area    (ha)=   5.40   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.249

     PEAK FLOW       (cms)=   0.187 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  33.279
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.412

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9274) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2700      0.0857
                          0.0200     0.0379   |   0.3600      0.1115
                          0.1000     0.0399   |   0.4500      0.1369
                          0.1900     0.0663   |   0.5300      0.1618

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2427)     5.400      0.187      6.25      33.28
     OUTFLOW: ID= 1 (9274)     5.400      0.134      7.25      33.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.88
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0503

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5242) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0480      1.0185
                          0.0020     1.0087   |   0.0600      1.0212
                          0.0140     1.0101   |   0.0700      1.0238
                          0.0260     1.0130   |   0.4700      1.0338
                          0.0360     1.0155   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9274)     5.400      0.134      7.25      33.19
     OUTFLOW: ID= 1 (5242)     5.400      0.000     34.25       9.39

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.26
                    TIME SHIFT OF PEAK FLOW         (min)=******
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1760

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2422) |   Area    (ha)= 652.48   Curve Number   (CN)= 51.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.073

     PEAK FLOW       (cms)=   1.446 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  18.280
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2422):   652.48   1.446    12.75    18.28
        + ID2= 2 (5242):     5.40   0.000    34.25     9.39
          ================================================
          ID = 3 (9242):   657.88   1.446    12.75    18.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8182): 19692.28 129.745    13.75    33.09
```

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        + ID2= 2 (9242):   657.88   1.446    12.75    18.21
          ================================================
          ID = 3 (8184): 20350.16 131.181    13.75    32.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2441.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0450
                   2.50         220.10        0.0450
                   3.00         220.06        0.0450
                   3.64         220.07        0.0450
                   7.28         220.08        0.0450
                  10.91         220.09        0.0450
                  14.55         219.81        0.0450
                  18.19         219.29        0.0450
                  24.13         219.21    0.0450 /0.0300  Main Channel
                  24.63         217.81        0.0300      Main Channel
                  69.13         217.81        0.0300      Main Channel
                 114.13         217.81        0.0300      Main Channel
                 115.13         219.21    0.0300 /0.0450  Main Channel
                 120.06         219.25        0.0450
                 123.70         219.32        0.0450
                 127.34         219.77        0.0450
                 130.98         219.88        0.0450
                 134.61         219.99        0.0450
                 350.00         220.18        0.0450
                 360.18         225.00        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.35   218.16    .108E+06        9.0         0.29     200.52
        0.70   218.51    .216E+06       28.4         0.45     126.89
        1.05   218.86    .325E+06       55.7         0.59      97.27
        1.40   219.21    .434E+06       89.7         0.71      80.65
        1.79   219.60    .574E+06      135.9         0.81      70.36
        2.17   219.98    .726E+06      190.8         0.90      63.38
        2.56   220.37    .111E+07      264.3         0.82      69.82
        2.94   220.75    .157E+07      371.7         0.81      70.36
        3.33   221.14    .203E+07      503.4         0.85      67.30
        3.72   221.53    .250E+07      656.6         0.90      63.40
        4.10   221.91    .296E+07      829.6         0.96      59.54
        4.49   222.30    .343E+07     1021.1         1.02      56.00
        4.87   222.68    .390E+07     1230.2         1.08      52.83
        5.26   223.07    .437E+07     1456.2         1.14      50.01
        5.65   223.46    .484E+07     1698.4         1.20      47.51
        6.03   223.84    .531E+07     1956.3         1.26      45.28
        6.42   224.23    .579E+07     2229.3         1.32      43.28
        6.80   224.61    .626E+07     2517.0         1.38      41.48
        7.19   225.00    .674E+07     2819.2         1.44      39.85

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8184) *******   131.18   13.75  32.61      1.75      0.80
     OUTFLOW: ID= 1 (6244) *******   126.51   14.50  32.61      1.71      0.79


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--------------------
| CALIB            |
| STANDHYD  (2441) |   Area    (ha)=  91.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.18         50.34
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     781.11         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         77.42
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.52 (ii)    22.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.38          5.21          6.704 (iii)

     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         32.86         39.75
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.41          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2449) |   Area    (ha)= 143.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  17.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.69         94.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     977.07         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         68.08
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.03 (ii)    24.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.73          8.24         10.974 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80         35.22         42.63
     TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
     RUNOFF COEFFICIENT   =       0.98          0.44          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9265) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.1600      2.7857
                          0.4900     1.4537   |   9.5800      3.4259
                          2.7800     1.6401   |  12.0300      4.0179
                          5.1700     2.2743   |  14.0100      4.5968

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2449)    143.200     10.974      6.00      42.63
     OUTFLOW: ID= 1 (9265)    143.200      5.766      6.75      42.62

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.54
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.4646

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--------------------
| ADD HYD   (9245) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2441):    91.52   6.704     6.00    39.75
       + ID2= 2 (9265):   143.20   5.766     6.75    42.62
         ================================================
         ID = 3 (9245):   234.72  10.736     6.25    41.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5244) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  15.7000     11.1120
                          0.7950     7.8678   |  19.7140     11.9879
                          4.5470     8.3178   |  22.9500     12.8451
                          8.4690     9.2829   |  23.3500     12.8551
                         11.7470    10.1128   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9245)    234.720     10.736      6.25      41.50
     OUTFLOW: ID= 1 (5244)    234.720      0.696     12.25      41.49

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.48
                   TIME SHIFT OF PEAK FLOW         (min)=360.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.8880

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--------------------
| CALIB            |
| NASHYD    (2442) |   Area    (ha)=1674.00   Curve Number   (CN)= 62.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  12.991

     PEAK FLOW       (cms)=  10.483 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  24.814
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2442):  1674.00  10.483     9.50    24.81
        + ID2= 2 (5244):   234.72   0.696    12.25    41.49
          ================================================
          ID = 3 (9244):  1908.72  11.148     9.75    26.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6244): 20350.16 126.510    14.50    32.61
        + ID2= 2 (9244):  1908.72  11.148     9.75    26.87
          ================================================
          ID = 3 (8186): 22258.88 134.375    14.00    32.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=   0.00
--------------------   VOLUME     (mm)=   0.00
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
  Comments:

          HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
          ACTUAL PEAK FLOW: PEAK (   0.00) + BASE (*******) = *******  (cms).
  TIME    FLOW |  TIME    FLOW |  TIME    FLOW |'  TIME    FLOW |  TIME    FLOW
   hrs     cms |   hrs     cms |   hrs     cms |'   hrs     cms |   hrs     cms
  0.00 ******* | 65.00 ******* |130.00 ******* |195.00 ******* |260.00 *******
  0.25 ******* | 65.25 ******* |130.25 ******* |195.25 ******* |260.25 *******
  0.50 ******* | 65.50 ******* |130.50 ******* |195.50 ******* |260.50 *******
  0.75 ******* | 65.75 ******* |130.75 ******* |195.75 ******* |260.75 *******
  1.00 ******* | 66.00 ******* |131.00 ******* |196.00 ******* |261.00 *******
  1.25 ******* | 66.25 ******* |131.25 ******* |196.25 ******* |261.25 *******
  1.50 ******* | 66.50 ******* |131.50 ******* |196.50 ******* |261.50 *******
  1.75 ******* | 66.75 ******* |131.75 ******* |196.75 ******* |261.75 *******
  2.00 ******* | 67.00 ******* |132.00 ******* |197.00 ******* |262.00 *******
  2.25 ******* | 67.25 ******* |132.25 ******* |197.25 ******* |262.25 *******
  2.50 ******* | 67.50 ******* |132.50 ******* |197.50 ******* |262.50 *******
  2.75 ******* | 67.75 ******* |132.75 ******* |197.75 ******* |262.75 *******
  3.00 ******* | 68.00 ******* |133.00 ******* |198.00 ******* |263.00 *******
  3.25 ******* | 68.25 ******* |133.25 ******* |198.25 ******* |263.25 *******
  3.50 ******* | 68.50 ******* |133.50 ******* |198.50 ******* |263.50 *******
  3.75 ******* | 68.75 ******* |133.75 ******* |198.75 ******* |263.75 *******
  4.00 ******* | 69.00 ******* |134.00 ******* |199.00 ******* |264.00 *******
  4.25 ******* | 69.25 ******* |134.25 ******* |199.25 ******* |264.25 *******
  4.50 ******* | 69.50 ******* |134.50 ******* |199.50 ******* |264.50 *******
  4.75 ******* | 69.75 ******* |134.75 ******* |199.75 ******* |264.75 *******
  5.00 ******* | 70.00 ******* |135.00 ******* |200.00 ******* |265.00 *******
  5.25 ******* | 70.25 ******* |135.25 ******* |200.25 ******* |265.25 *******
  5.50 ******* | 70.50 ******* |135.50 ******* |200.50 ******* |265.50 *******
  5.75 ******* | 70.75 ******* |135.75 ******* |200.75 ******* |265.75 *******
  6.00 ******* | 71.00 ******* |136.00 ******* |201.00 ******* |266.00 *******
  6.25 ******* | 71.25 ******* |136.25 ******* |201.25 ******* |266.25 *******
  6.50 ******* | 71.50 ******* |136.50 ******* |201.50 ******* |266.50 *******
  6.75 ******* | 71.75 ******* |136.75 ******* |201.75 ******* |266.75 *******
  7.00 ******* | 72.00 ******* |137.00 ******* |202.00 ******* |267.00 *******
  7.25 ******* | 72.25 ******* |137.25 ******* |202.25 ******* |267.25 *******
  7.50 ******* | 72.50 ******* |137.50 ******* |202.50 ******* |267.50 *******
  7.75 ******* | 72.75 ******* |137.75 ******* |202.75 ******* |267.75 *******
  8.00 ******* | 73.00 ******* |138.00 ******* |203.00 ******* |268.00 *******
  8.25 ******* | 73.25 ******* |138.25 ******* |203.25 ******* |268.25 *******
  8.50 ******* | 73.50 ******* |138.50 ******* |203.50 ******* |268.50 *******
  8.75 ******* | 73.75 ******* |138.75 ******* |203.75 ******* |268.75 *******
  9.00 ******* | 74.00 ******* |139.00 ******* |204.00 ******* |269.00 *******
  9.25 ******* | 74.25 ******* |139.25 ******* |204.25 ******* |269.25 *******
  9.50 ******* | 74.50 ******* |139.50 ******* |204.50 ******* |269.50 *******
  9.75 ******* | 74.75 ******* |139.75 ******* |204.75 ******* |269.75 *******
 10.00 ******* | 75.00 ******* |140.00 ******* |205.00 ******* |270.00 *******
 10.25 ******* | 75.25 ******* |140.25 ******* |205.25 ******* |270.25 *******
 10.50 ******* | 75.50 ******* |140.50 ******* |205.50 ******* |270.50 *******
 10.75 ******* | 75.75 ******* |140.75 ******* |205.75 ******* |270.75 *******
 11.00 ******* | 76.00 ******* |141.00 ******* |206.00 ******* |271.00 *******
 11.25 ******* | 76.25 ******* |141.25 ******* |206.25 ******* |271.25 *******
 11.50 ******* | 76.50 ******* |141.50 ******* |206.50 ******* |271.50 *******
 11.75 ******* | 76.75 ******* |141.75 ******* |206.75 ******* |271.75 *******
 12.00 ******* | 77.00 ******* |142.00 ******* |207.00 ******* |272.00 *******
 12.25 ******* | 77.25 ******* |142.25 ******* |207.25 ******* |272.25 *******
 12.50 ******* | 77.50 ******* |142.50 ******* |207.50 ******* |272.50 *******
 12.75 ******* | 77.75 ******* |142.75 ******* |207.75 ******* |272.75 *******
 13.00 ******* | 78.00 ******* |143.00 ******* |208.00 ******* |273.00 *******
 13.25 ******* | 78.25 ******* |143.25 ******* |208.25 ******* |273.25 *******
 13.50 ******* | 78.50 ******* |143.50 ******* |208.50 ******* |273.50 *******
 13.75 ******* | 78.75 ******* |143.75 ******* |208.75 ******* |273.75 *******
 14.00 ******* | 79.00 ******* |144.00 ******* |209.00 ******* |274.00 *******
 14.25 ******* | 79.25 ******* |144.25 ******* |209.25 ******* |274.25 *******
 14.50 ******* | 79.50 ******* |144.50 ******* |209.50 ******* |274.50 *******
 14.75 ******* | 79.75 ******* |144.75 ******* |209.75 ******* |274.75 *******
 15.00 ******* | 80.00 ******* |145.00 ******* |210.00 ******* |275.00 *******
 15.25 ******* | 80.25 ******* |145.25 ******* |210.25 ******* |275.25 *******
 15.50 ******* | 80.50 ******* |145.50 ******* |210.50 ******* |275.50 *******
 15.75 ******* | 80.75 ******* |145.75 ******* |210.75 ******* |275.75 *******
 16.00 ******* | 81.00 ******* |146.00 ******* |211.00 ******* |276.00 *******
 16.25 ******* | 81.25 ******* |146.25 ******* |211.25 ******* |276.25 *******
 16.50 ******* | 81.50 ******* |146.50 ******* |211.50 ******* |276.50 *******
 16.75 ******* | 81.75 ******* |146.75 ******* |211.75 ******* |276.75 *******
 17.00 ******* | 82.00 ******* |147.00 ******* |212.00 ******* |277.00 *******
 17.25 ******* | 82.25 ******* |147.25 ******* |212.25 ******* |277.25 *******
 17.50 ******* | 82.50 ******* |147.50 ******* |212.50 ******* |277.50 *******
 17.75 ******* | 82.75 ******* |147.75 ******* |212.75 ******* |277.75 *******
 18.00 ******* | 83.00 ******* |148.00 ******* |213.00 ******* |278.00 *******
 18.25 ******* | 83.25 ******* |148.25 ******* |213.25 ******* |278.25 *******
 18.50 ******* | 83.50 ******* |148.50 ******* |213.50 ******* |278.50 *******
 18.75 ******* | 83.75 ******* |148.75 ******* |213.75 ******* |278.75 *******
 19.00 ******* | 84.00 ******* |149.00 ******* |214.00 ******* |279.00 *******
 19.25 ******* | 84.25 ******* |149.25 ******* |214.25 ******* |279.25 *******
 19.50 ******* | 84.50 ******* |149.50 ******* |214.50 ******* |279.50 *******
 19.75 ******* | 84.75 ******* |149.75 ******* |214.75 ******* |279.75 *******
 20.00 ******* | 85.00 ******* |150.00 ******* |215.00 ******* |280.00 *******
 20.25 ******* | 85.25 ******* |150.25 ******* |215.25 ******* |280.25 *******
 20.50 ******* | 85.50 ******* |150.50 ******* |215.50 ******* |280.50 *******
 20.75 ******* | 85.75 ******* |150.75 ******* |215.75 ******* |280.75 *******
 21.00 ******* | 86.00 ******* |151.00 ******* |216.00 ******* |281.00 *******
 21.25 ******* | 86.25 ******* |151.25 ******* |216.25 ******* |281.25 *******
 21.50 ******* | 86.50 ******* |151.50 ******* |216.50 ******* |281.50 *******
 21.75 ******* | 86.75 ******* |151.75 ******* |216.75 ******* |281.75 *******
 22.00 ******* | 87.00 ******* |152.00 ******* |217.00 ******* |282.00 *******
 22.25 ******* | 87.25 ******* |152.25 ******* |217.25 ******* |282.25 *******
 22.50 ******* | 87.50 ******* |152.50 ******* |217.50 ******* |282.50 *******
 22.75 ******* | 87.75 ******* |152.75 ******* |217.75 ******* |282.75 *******
 23.00 ******* | 88.00 ******* |153.00 ******* |218.00 ******* |283.00 *******
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23.25 *******	88.25 *******	153.25 *******	218.25 *******	283.25 *******
23.50 *******	88.50 *******	153.50 *******	218.50 *******	283.50 *******
23.75 *******	88.75 *******	153.75 *******	218.75 *******	283.75 *******
24.00 *******	89.00 *******	154.00 *******	219.00 *******	284.00 *******
24.25 *******	89.25 *******	154.25 *******	219.25 *******	284.25 *******
24.50 *******	89.50 *******	154.50 *******	219.50 *******	284.50 *******
24.75 *******	89.75 *******	154.75 *******	219.75 *******	284.75 *******
25.00 *******	90.00 *******	155.00 *******	220.00 *******	285.00 *******
25.25 *******	90.25 *******	155.25 *******	220.25 *******	285.25 *******
25.50 *******	90.50 *******	155.50 *******	220.50 *******	285.50 *******
25.75 *******	90.75 *******	155.75 *******	220.75 *******	285.75 *******
26.00 *******	91.00 *******	156.00 *******	221.00 *******	286.00 *******
26.25 *******	91.25 *******	156.25 *******	221.25 *******	286.25 *******
26.50 *******	91.50 *******	156.50 *******	221.50 *******	286.50 *******
26.75 *******	91.75 *******	156.75 *******	221.75 *******	286.75 *******
27.00 *******	92.00 *******	157.00 *******	222.00 *******	287.00 *******
27.25 *******	92.25 *******	157.25 *******	222.25 *******	287.25 *******
27.50 *******	92.50 *******	157.50 *******	222.50 *******	287.50 *******
27.75 *******	92.75 *******	157.75 *******	222.75 *******	287.75 *******
28.00 *******	93.00 *******	158.00 *******	223.00 *******	288.00 *******
28.25 *******	93.25 *******	158.25 *******	223.25 *******	288.25 *******
28.50 *******	93.50 *******	158.50 *******	223.50 *******	288.50 *******
28.75 *******	93.75 *******	158.75 *******	223.75 *******	288.75 *******
29.00 *******	94.00 *******	159.00 *******	224.00 *******	289.00 *******
29.25 *******	94.25 *******	159.25 *******	224.25 *******	289.25 *******
29.50 *******	94.50 *******	159.50 *******	224.50 *******	289.50 *******
29.75 *******	94.75 *******	159.75 *******	224.75 *******	289.75 *******
30.00 *******	95.00 *******	160.00 *******	225.00 *******	290.00 *******
30.25 *******	95.25 *******	160.25 *******	225.25 *******	290.25 *******
30.50 *******	95.50 *******	160.50 *******	225.50 *******	290.50 *******
30.75 *******	95.75 *******	160.75 *******	225.75 *******	290.75 *******
31.00 *******	96.00 *******	161.00 *******	226.00 *******	291.00 *******
31.25 *******	96.25 *******	161.25 *******	226.25 *******	291.25 *******
31.50 *******	96.50 *******	161.50 *******	226.50 *******	291.50 *******
31.75 *******	96.75 *******	161.75 *******	226.75 *******	291.75 *******
32.00 *******	97.00 *******	162.00 *******	227.00 *******	292.00 *******
32.25 *******	97.25 *******	162.25 *******	227.25 *******	292.25 *******
32.50 *******	97.50 *******	162.50 *******	227.50 *******	292.50 *******
32.75 *******	97.75 *******	162.75 *******	227.75 *******	292.75 *******
33.00 *******	98.00 *******	163.00 *******	228.00 *******	293.00 *******
33.25 *******	98.25 *******	163.25 *******	228.25 *******	293.25 *******
33.50 *******	98.50 *******	163.50 *******	228.50 *******	293.50 *******
33.75 *******	98.75 *******	163.75 *******	228.75 *******	293.75 *******
34.00 *******	99.00 *******	164.00 *******	229.00 *******	294.00 *******
34.25 *******	99.25 *******	164.25 *******	229.25 *******	294.25 *******
34.50 *******	99.50 *******	164.50 *******	229.50 *******	294.50 *******
34.75 *******	99.75 *******	164.75 *******	229.75 *******	294.75 *******
35.00 *******	100.00 *******	165.00 *******	230.00 *******	295.00 *******
35.25 *******	100.25 *******	165.25 *******	230.25 *******	295.25 *******
35.50 *******	100.50 *******	165.50 *******	230.50 *******	295.50 *******
35.75 *******	100.75 *******	165.75 *******	230.75 *******	295.75 *******
36.00 *******	101.00 *******	166.00 *******	231.00 *******	296.00 *******
36.25 *******	101.25 *******	166.25 *******	231.25 *******	296.25 *******
36.50 *******	101.50 *******	166.50 *******	231.50 *******	296.50 *******
36.75 *******	101.75 *******	166.75 *******	231.75 *******	296.75 *******
37.00 *******	102.00 *******	167.00 *******	232.00 *******	297.00 *******
37.25 *******	102.25 *******	167.25 *******	232.25 *******	297.25 *******
37.50 *******	102.50 *******	167.50 *******	232.50 *******	297.50 *******
37.75 *******	102.75 *******	167.75 *******	232.75 *******	297.75 *******
38.00 *******	103.00 *******	168.00 *******	233.00 *******	298.00 *******
38.25 *******	103.25 *******	168.25 *******	233.25 *******	298.25 *******
38.50 *******	103.50 *******	168.50 *******	233.50 *******	298.50 *******
38.75 *******	103.75 *******	168.75 *******	233.75 *******	298.75 *******
39.00 *******	104.00 *******	169.00 *******	234.00 *******	299.00 *******
39.25 *******	104.25 *******	169.25 *******	234.25 *******	299.25 *******
39.50 *******	104.50 *******	169.50 *******	234.50 *******	299.50 *******
39.75 *******	104.75 *******	169.75 *******	234.75 *******	299.75 *******
40.00 *******	105.00 *******	170.00 *******	235.00 *******	300.00 *******
40.25 *******	105.25 *******	170.25 *******	235.25 *******	300.25 *******
40.50 *******	105.50 *******	170.50 *******	235.50 *******	300.50 *******
40.75 *******	105.75 *******	170.75 *******	235.75 *******	300.75 *******
41.00 *******	106.00 *******	171.00 *******	236.00 *******	301.00 *******
41.25 *******	106.25 *******	171.25 *******	236.25 *******	301.25 *******
41.50 *******	106.50 *******	171.50 *******	236.50 *******	301.50 *******
41.75 *******	106.75 *******	171.75 *******	236.75 *******	301.75 *******
42.00 *******	107.00 *******	172.00 *******	237.00 *******	302.00 *******
42.25 *******	107.25 *******	172.25 *******	237.25 *******	302.25 *******
42.50 *******	107.50 *******	172.50 *******	237.50 *******	302.50 *******
42.75 *******	107.75 *******	172.75 *******	237.75 *******	302.75 *******
43.00 *******	108.00 *******	173.00 *******	238.00 *******	303.00 *******
43.25 *******	108.25 *******	173.25 *******	238.25 *******	303.25 *******
43.50 *******	108.50 *******	173.50 *******	238.50 *******	303.50 *******
43.75 *******	108.75 *******	173.75 *******	238.75 *******	303.75 *******
44.00 *******	109.00 *******	174.00 *******	239.00 *******	304.00 *******
44.25 *******	109.25 *******	174.25 *******	239.25 *******	304.25 *******
44.50 *******	109.50 *******	174.50 *******	239.50 *******	304.50 *******
44.75 *******	109.75 *******	174.75 *******	239.75 *******	304.75 *******
45.00 *******	110.00 *******	175.00 *******	240.00 *******	305.00 *******
45.25 *******	110.25 *******	175.25 *******	240.25 *******	305.25 *******
45.50 *******	110.50 *******	175.50 *******	240.50 *******	305.50 *******
45.75 *******	110.75 *******	175.75 *******	240.75 *******	305.75 *******
46.00 *******	111.00 *******	176.00 *******	241.00 *******	306.00 *******
46.25 *******	111.25 *******	176.25 *******	241.25 *******	306.25 *******
46.50 *******	111.50 *******	176.50 *******	241.50 *******	306.50 *******
46.75 *******	111.75 *******	176.75 *******	241.75 *******	306.75 *******
47.00 *******	112.00 *******	177.00 *******	242.00 *******	307.00 *******
47.25 *******	112.25 *******	177.25 *******	242.25 *******	307.25 *******
47.50 *******	112.50 *******	177.50 *******	242.50 *******	307.50 *******
47.75 *******	112.75 *******	177.75 *******	242.75 *******	307.75 *******
48.00 *******	113.00 *******	178.00 *******	243.00 *******	308.00 *******
48.25 *******	113.25 *******	178.25 *******	243.25 *******	308.25 *******
48.50 *******	113.50 *******	178.50 *******	243.50 *******	308.50 *******
48.75 *******	113.75 *******	178.75 *******	243.75 *******	308.75 *******
49.00 *******	114.00 *******	179.00 *******	244.00 *******	309.00 *******
49.25 *******	114.25 *******	179.25 *******	244.25 *******	309.25 *******
49.50 *******	114.50 *******	179.50 *******	244.50 *******	309.50 *******
49.75 *******	114.75 *******	179.75 *******	244.75 *******	309.75 *******
50.00 *******	115.00 *******	180.00 *******	245.00 *******	310.00 *******
50.25 *******	115.25 *******	180.25 *******	245.25 *******	310.25 *******
50.50 *******	115.50 *******	180.50 *******	245.50 *******	310.50 *******
50.75 *******	115.75 *******	180.75 *******	245.75 *******	310.75 *******
51.00 *******	116.00 *******	181.00 *******	246.00 *******	311.00 *******
51.25 *******	116.25 *******	181.25 *******	246.25 *******	311.25 *******
51.50 *******	116.50 *******	181.50 *******	246.50 *******	311.50 *******
51.75 *******	116.75 *******	181.75 *******	246.75 *******	311.75 *******
52.00 *******	117.00 *******	182.00 *******	247.00 *******	312.00 *******
52.25 *******	117.25 *******	182.25 *******	247.25 *******	312.25 *******
52.50 *******	117.50 *******	182.50 *******	247.50 *******	312.50 *******
52.75 *******	117.75 *******	182.75 *******	247.75 *******	312.75 *******
53.00 *******	118.00 *******	183.00 *******	248.00 *******	313.00 *******
53.25 *******	118.25 *******	183.25 *******	248.25 *******	313.25 *******
53.50 *******	118.50 *******	183.50 *******	248.50 *******	313.50 *******
53.75 *******	118.75 *******	183.75 *******	248.75 *******	313.75 *******
54.00 *******	119.00 *******	184.00 *******	249.00 *******	314.00 *******
54.25 *******	119.25 *******	184.25 *******	249.25 *******	314.25 *******
54.50 *******	119.50 *******	184.50 *******	249.50 *******	314.50 *******
54.75 *******	119.75 *******	184.75 *******	249.75 *******	314.75 *******
55.00 *******	120.00 *******	185.00 *******	250.00 *******	315.00 *******
55.25 *******	120.25 *******	185.25 *******	250.25 *******	315.25 *******
55.50 *******	120.50 *******	185.50 *******	250.50 *******	315.50 *******
55.75 *******	120.75 *******	185.75 *******	250.75 *******	315.75 *******
56.00 *******	121.00 *******	186.00 *******	251.00 *******	316.00 *******
56.25 *******	121.25 *******	186.25 *******	251.25 *******	316.25 *******
56.50 *******	121.50 *******	186.50 *******	251.50 *******	316.50 *******
56.75 *******	121.75 *******	186.75 *******	251.75 *******	316.75 *******
57.00 *******	122.00 *******	187.00 *******	252.00 *******	317.00 *******
57.25 *******	122.25 *******	187.25 *******	252.25 *******	317.25 *******
57.50 *******	122.50 *******	187.50 *******	252.50 *******	317.50 *******
57.75 *******	122.75 *******	187.75 *******	252.75 *******	317.75 *******
58.00 *******	123.00 *******	188.00 *******	253.00 *******	318.00 *******
58.25 *******	123.25 *******	188.25 *******	253.25 *******	318.25 *******
58.50 *******	123.50 *******	188.50 *******	253.50 *******	318.50 *******
58.75 *******	123.75 *******	188.75 *******	253.75 *******	318.75 *******
59.00 *******	124.00 *******	189.00 *******	254.00 *******	319.00 *******
59.25 *******	124.25 *******	189.25 *******	254.25 *******	319.25 *******
59.50 *******	124.50 *******	189.50 *******	254.50 *******	319.50 *******
59.75 *******	124.75 *******	189.75 *******	254.75 *******	319.75 *******
60.00 *******	125.00 *******	190.00 *******	255.00 *******	320.00 *******
60.25 *******	125.25 *******	190.25 *******	255.25 *******	320.25 *******
60.50 *******	125.50 *******	190.50 *******	255.50 *******	320.50 *******
60.75 *******	125.75 *******	190.75 *******	255.75 *******	320.75 *******
61.00 *******	126.00 *******	191.00 *******	256.00 *******	321.00 *******
61.25 *******	126.25 *******	191.25 *******	256.25 *******	321.25 *******
61.50 *******	126.50 *******	191.50 *******	256.50 *******	321.50 *******
61.75 *******	126.75 *******	191.75 *******	256.75 *******	321.75 *******
62.00 *******	127.00 *******	192.00 *******	257.00 *******	322.00 *******
62.25 *******	127.25 *******	192.25 *******	257.25 *******	322.25 *******
62.50 *******	127.50 *******	192.50 *******	257.50 *******	322.50 *******
62.75 *******	127.75 *******	192.75 *******	257.75 *******	322.75 *******
63.00 *******	128.00 *******	193.00 *******	258.00 *******	323.00 *******
63.25 *******	128.25 *******	193.25 *******	258.25 *******	323.25 *******
63.50 *******	128.50 *******	193.50 *******	258.50 *******	323.50 *******
63.75 *******	128.75 *******	193.75 *******	258.75 *******	323.75 *******
64.00 *******	129.00 *******	194.00 *******	259.00 *******	
64.25 *******	129.25 *******	194.25 *******	259.25 *******	
64.50 *******	129.50 *******	194.50 *******	259.50 *******	
64.75 *******	129.75 *******	194.75 *******	259.75 *******	

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--------------------
| ADD HYD   (8188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22258.88 134.375    14.00    32.11
       + ID2= 2 (8190): 20350.16 126.510    14.50    32.61
         ================================================
         ID = 3 (8188): 42609.04 260.744    14.00    32.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   4.668 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  24.022
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.297

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.98       125.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1254.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        79.13
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.98 (ii)   25.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.92        12.38        16.774 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        33.14         40.90
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.41          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.1800      6.2621
                          0.8000     2.9957   |  12.5050      7.1218
                          3.0350     3.4813   |  14.4090      7.9633
                          5.6510     4.4353   |  14.8090      7.9733
                          7.7470     5.2683   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4461)    236.120     16.774      6.00      40.90
     OUTFLOW: ID= 1 (5446)    236.120      6.305      7.00      40.90

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.59
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.7288
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| ADD HYD   (8192) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1238.89   4.668    12.00    24.02
       + ID2= 2 (5446):   236.12   6.305     7.00    40.90
         ================================================
         ID = 3 (8192):  1475.01   8.982     7.00    26.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 42609.04 260.744    14.00    32.35
       + ID2= 2 (8192):  1475.01   8.982     7.00    26.72
         ================================================
         ID = 3 (8194): 44084.05 265.826    14.00    32.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.655 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  13.817
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   2.254 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.234
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.586 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.571
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73
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     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   2.215 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.928
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.654 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.950
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.654     6.50    14.95
       + ID2= 2 (0436):   187.51   2.215     7.00    19.93
         ============================================
         ID = 3 (8206):   244.15   2.853     6.75    18.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation         Manning
                   0.00         256.00          0.0600
                   9.23         255.50          0.0600
                  27.69         255.00          0.0600
                  50.77         254.90          0.0600
                  64.62         254.85          0.0600
                  78.47         252.26          0.0600
                  96.93         249.44          0.0600
                 129.24         245.94          0.0600
                 145.40         245.76          0.0600
                 146.20         245.80    0.0600 /0.0350  Main Channel
                 146.70         245.30          0.0350      Main Channel
                 147.70         245.30          0.0350      Main Channel
                 148.20         245.80    0.0350 /0.0600  Main Channel
                 150.01         245.78          0.0600
                 152.32         245.79          0.0600
                 163.86         246.72          0.0600
                 175.40         249.07          0.0600
                 186.94         253.15          0.0600
                 196.17         255.38          0.0600
                 228.48         255.55          0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   245.80    .221E+04        0.9         1.02       40.44
       1.01   246.31    .352E+05       14.0         0.99       41.77
       1.53   246.83    .841E+05       47.3         1.39       29.61
       2.04   247.34    .144E+06      102.0         1.76       23.49
       2.55   247.85    .213E+06      177.3         2.07       19.99
       3.07   248.37    .291E+06      274.4         2.34       17.66
       3.58   248.88    .378E+06      394.6         2.58       15.97
       4.09   249.39    .474E+06      541.4         2.83       14.60
       4.61   249.91    .578E+06      719.9         3.08       13.38
       5.12   250.42    .688E+06      923.8         3.33       12.40
       5.63   250.93    .803E+06     1153.3         3.56       11.61
       6.14   251.44    .925E+06     1408.6         3.77       10.95
       6.66   251.96    .105E+07     1690.6         3.98       10.38
       7.17   252.47    .119E+07     2002.3         4.18        9.88
       7.68   252.98    .133E+07     2345.4         4.38        9.43
       8.20   253.50    .147E+07     2710.1         4.56        9.05
       8.71   254.01    .162E+07     3101.0         4.73        8.72
       9.22   254.52    .178E+07     3521.8         4.90        8.43
       9.74   255.04    .195E+07     3467.6         4.39        9.39

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8206)  244.15     2.85    6.75  18.77      0.58      1.02
     OUTFLOW: ID= 1 (6438)  244.15     2.50    7.75  18.77      0.56      1.02

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--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   1.586     6.75    17.57
       + ID2= 2 (6438):   244.15   2.498     7.75    18.77
         ============================================
         ID = 3 (8208):   374.85   3.861     7.25    18.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   2.254     7.50    23.23
       + ID2= 2 (8208):   374.85   3.861     7.25    18.35
         ============================================
         ID = 3 (8210):   601.20   6.108     7.50    20.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   0.865 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.938
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.234

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   1.726 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  19.711
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725
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```
     PEAK FLOW       (cms)=   0.707 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.454
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.216

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0426)  |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   2.796 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  23.867
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0424)  |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   1.085 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.765
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   1.085     6.50    21.77
       + ID2= 2 (0426):   247.17   2.796     7.25    23.87
         ================================================
         ID = 3 (8198):   296.74   3.662     6.75    23.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4281.0) ------>
              Distance      Elevation       Manning
                  0.00        246.54        0.0900
                  8.80        246.29        0.0900
                 30.78        246.03        0.0900
                 41.78        243.97        0.0900
                 63.77        237.16        0.0900
                 85.76        232.53        0.0900
                 96.75        230.16        0.0900
                109.94        228.40        0.0900
                112.14        228.28    0.0900 /0.0450  Main Channel
                112.84        228.00        0.0450      Main Channel
                113.34        227.50        0.0450      Main Channel
                114.34        227.50        0.0450      Main Channel
                114.84        228.00        0.0450      Main Channel
                116.54        228.29    0.0450 /0.0900  Main Channel
                118.74        228.40        0.0900
                120.94        228.52        0.0900
                149.52        229.51        0.0900
                169.31        230.69        0.0900
                186.00        234.27        0.0900
                217.69        243.56        0.0900

      <---------------------- TRAVEL TIME TABLE ---------------------->

       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.78   228.28    .205E+04       1.6         0.97      21.60
        1.58   229.08    .202E+05      16.6         1.02      20.37
        2.39   229.89    .665E+05      64.8         1.22      17.11
        3.19   230.69    .133E+06     158.1         1.49      14.05
        4.00   231.50    .213E+06     308.6         1.82      11.48
        4.80   232.30    .299E+06     504.9         2.11       9.89
        5.61   233.11    .394E+06     746.6         2.37       8.79
        6.41   233.91    .496E+06    1034.5         2.61       7.99
        7.21   234.71    .605E+06    1373.3         2.84       7.35
        8.02   235.52    .722E+06    1763.3         3.06       6.82
        8.82   236.32    .844E+06    2202.0         3.27       6.39
        9.63   237.13    .974E+06    2690.5         3.46       6.03
       10.43   237.93    .111E+07    3239.5         3.66       5.71
       11.23   238.73    .125E+07    3839.0         3.84       5.43
       12.04   239.54    .140E+07    4489.1         4.03       5.18
       12.84   240.34    .155E+07    5190.5         4.20       4.97
       13.65   241.15    .170E+07    5943.8         4.36       4.78
       14.45   241.95    .187E+07    6749.8         4.53       4.61
       15.26   242.76    .204E+07    7609.4         4.68       4.46

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     3.66    6.75  23.52      0.89      0.97
     OUTFLOW: ID= 1 (6428)  296.74     3.52    7.25  23.52      0.88      0.97

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.707     6.50    17.45
       + ID2= 2 (6428):   296.74   3.517     7.25    23.52
         ================================================
         ID = 3 (8200):   347.27   4.114     7.25    22.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   1.726     6.50    19.71
       + ID2= 2 (8200):   347.27   4.114     7.25    22.63
         ================================================
         ID = 3 (8202):   458.91   5.684     7.00    21.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4321.0) ------>
              Distance      Elevation       Manning
                  0.00        221.00        0.0600
                 15.29        219.85        0.0600
                 45.86        219.86        0.0600
                 76.44        219.96        0.0600
                110.84        220.23        0.0600
                112.00        220.15        0.0600
                114.66        220.09        0.0600
                118.48        219.73        0.0600
                120.80        219.70    0.0600 /0.0350  Main Channel
                121.30        219.20        0.0350      Main Channel
                122.30        219.20        0.0350      Main Channel
                122.80        219.70    0.0350 /0.0600  Main Channel
                129.95        220.11        0.0600
                175.81        220.24        0.0600
                214.03        220.55        0.0600
                252.25        220.61        0.0600
                290.47        220.70        0.0600
                328.69        221.04        0.0600
                347.80        221.08        0.0600
                378.37        221.04        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	219.28	.185E+03	0.0	0.23	149.38
0.17	219.37	.399E+03	0.1	0.34	100.62
0.25	219.45	.641E+03	0.1	0.42	80.98
0.33	219.53	.911E+03	0.2	0.49	69.79
0.42	219.62	.121E+04	0.3	0.55	62.35
0.50	219.70	.154E+04	0.5	0.60	56.91
0.61	219.81	.267E+04	0.7	0.56	61.28
0.71	219.91	.901E+04	1.3	0.30	112.96
0.82	220.02	.249E+05	3.4	0.28	122.71
0.92	220.12	.452E+05	6.8	0.31	109.98
1.03	220.23	.747E+05	12.2	0.33	102.05
1.14	220.34	.112E+06	21.3	0.39	87.59
1.24	220.44	.153E+06	33.0	0.44	77.01
1.35	220.55	.196E+06	47.2	0.49	69.22
1.46	220.66	.248E+06	62.3	0.51	66.48
1.56	220.76	.310E+06	83.4	0.55	62.06
1.67	220.87	.376E+06	108.8	0.59	57.56
1.77	220.97	.444E+06	137.7	0.64	53.77
1.88	221.08	.517E+06	163.6	0.65	52.70

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8202)	458.91	5.68	7.00	21.92	0.89	0.30
OUTFLOW:	ID= 1 (6432)	458.91	3.70	9.00	21.92	0.83	0.28

ADD HYD (8204)

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1 (0432):	114.21	0.865	8.00	18.94
+ ID2=	2 (6432):	458.91	3.698	9.00	21.92
ID =	3 (8204):	573.12	4.494	8.75	21.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8212)

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1 (8204):	573.12	4.494	8.75	21.33
+ ID2=	2 (8210):	601.20	6.108	7.50	20.19
ID =	3 (8212):	1174.32	10.140	8.00	20.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6442)

IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4421.0) ------>

Distance	Elevation	Manning	
0.00	221.00	0.0350	
26.73	220.80	0.0350	
53.47	220.60	0.0350	
66.83	220.40	0.0350	
80.20	220.20	0.0350	
347.52	220.00	0.0350	
354.21	219.59	0.0350	
360.89	219.50	0.0350	
367.57	219.08	0.0350	
368.76	219.00	0.0350 /0.0300	Main Channel
369.26	218.50	0.0300	Main Channel
374.26	218.50	0.0300	Main Channel
374.76	219.00	0.0300 /0.0350	Main Channel
380.94	220.33	0.0350	
387.62	219.62	0.0350	
394.31	219.23	0.0350	
454.45	219.07	0.0350	
514.60	219.09	0.0350	
660.00	219.19	0.0350	
661.63	221.00	0.0350	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	218.62	.100E+04	0.2	0.28	92.89
0.25	218.75	.205E+04	0.6	0.43	60.09
0.37	218.87	.315E+04	1.1	0.55	46.99
0.50	219.00	.430E+04	1.8	0.66	39.67
0.63	219.13	.141E+05	3.4	0.37	69.99
0.77	219.27	.652E+05	13.7	0.33	79.14
0.90	219.40	.124E+06	35.5	0.45	58.02
1.03	219.53	.183E+06	65.7	0.56	46.45
1.17	219.67	.245E+06	103.8	0.66	39.30
1.30	219.80	.307E+06	149.3	0.76	34.30
1.43	219.93	.371E+06	201.6	0.85	30.65
1.57	220.07	.440E+06	256.5	0.91	28.56
1.70	220.20	.541E+06	325.7	0.94	27.70
1.83	220.33	.663E+06	415.2	0.98	26.62
1.97	220.47	.787E+06	520.3	1.03	25.21
2.10	220.60	.913E+06	638.5	1.09	23.82
2.23	220.73	.104E+07	767.2	1.15	22.62
2.37	220.87	.117E+07	908.0	1.21	21.54
2.50	221.00	.131E+07	1060.7	1.27	20.57

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8212)	1174.32	10.14	8.00	20.75	0.72	0.34
OUTFLOW:	ID= 1 (6442)	1174.32	8.76	9.50	20.75	0.70	0.35

ADD HYD (8214)

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1 (0442):	117.26	0.655	7.75	13.82
+ ID2=	2 (6442):	1174.32	8.763	9.50	20.75
ID =	3 (8214):	1291.58	9.326	9.50	20.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8196)

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1 (8194):	44084.05	265.826	14.00	32.16
+ ID2=	2 (8214):	1291.58	9.326	9.50	20.12
ID =	3 (8196):	45375.62	270.883	14.00	31.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

NASHYD (0444) | Area (ha)= 221.65 Curve Number (CN)= 56.0

ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50

U.H. Tp(hrs)= 1.03

Unit Hyd Qpeak (cms)= 3.656

PEAK FLOW (cms)= 2.061 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 20.663
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8216)

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1=	1 (0444):	221.65	2.061	7.50	20.66
+ ID2=	2 (8196):	45375.62	270.883	14.00	31.82
ID =	3 (8216):	45597.28	271.380	14.00	31.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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================================================================================================================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\a9d9ff6f-b151-4d0f-9c8a-18195be1719c\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\a9d9ff6f-b151-4d0f-9c8a-18195be1719c\Scenario.sum


DATE: 08/29/2012                          TIME: 01:59:04

USER:


COMMENTS: _____________________________________________________


----------------------------------------------------------------------------------------------------------------
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  ** SIMULATION NUMBER:   1 **
  ***************************


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|                  |              ata\Local\Temp\
|                  |              a9d9ff6f-b151-4d0f-9c8a-18195be1719c\79ab8986
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
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                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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--------------------
| CALIB            |
| STANDHYD  (1662) |   Area    (ha)= 141.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      98.74        42.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     969.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       178.42
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.55 (ii)   20.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      14.02        10.78         21.296 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25            6.00
     RUNOFF VOLUME    (mm)=      86.50        56.23           67.73
     TOTAL RAINFALL   (mm)=      88.50        88.50           88.50
     RUNOFF COEFFICIENT   =       0.98         0.64            0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1661) |   Area    (ha)= 293.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     123.33       170.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1399.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        94.48
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.39 (ii)   25.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      16.24        20.42         29.480 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25            6.00
     RUNOFF VOLUME    (mm)=      86.50        46.07           55.37
     TOTAL RAINFALL   (mm)=      88.50        88.50           88.50
     RUNOFF COEFFICIENT   =       0.98         0.52            0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5166) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.2300      6.6504
                          0.4310     3.5677   |   9.1580      7.5825
                          1.6680     3.8178   |  10.9790      8.5125
                          3.5970     4.8509   |  11.3790      8.5225
                          5.3070     5.7381   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1661)    293.640     29.480      6.00      55.37
     OUTFLOW: ID= 1 (5166)    293.640     10.286      7.00      55.36

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.89
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  8.2153

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--------------------
| ADD HYD   (8134) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1662):   141.06  21.296     6.00    67.73
       + ID2= 2 (5166):   293.64  10.286     7.00    55.36
         ================================================
         ID = 3 (8134):   434.70  22.861     6.00    59.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1642) |   Area    (ha)= 120.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  17.00
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--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.48         93.87
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     895.73         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         65.80
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.01 (ii)    23.66 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.44          8.05          10.580 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50         40.07          47.96
     TOTAL RAINFALL   (mm)=     88.50         88.50          88.50
     RUNOFF COEFFICIENT   =      0.98          0.45           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1641) |   Area    (ha)= 113.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      80.86         33.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     871.36         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        125.34
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     10.83 (ii)    20.61 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=     16.13          5.81          19.974 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50         50.16          69.42
     TOTAL RAINFALL   (mm)=     88.50         88.50          88.50
     RUNOFF COEFFICIENT   =      0.98          0.57           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.4260      4.5513
                          0.3860     1.9228   |   9.2330      4.9251
                          3.3700     2.2339   |   9.9990      5.2982
                          4.5710     3.3613   |  10.3990      5.3082
                          5.7170     4.0568   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1641)    113.890     19.974      6.00      69.42
     OUTFLOW: ID= 1 (5164)    113.890      5.584      6.75      69.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.96
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.0335
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--------------------
| ADD HYD   (8132) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1642):   120.35  10.580     6.00    47.96
        + ID2= 2 (5164):   113.89   5.584     6.75    69.41
          ================================================
          ID = 3 (8132):   234.24  15.032     6.25    58.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0152) |   Area    (ha)= 124.37   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   2.372

     PEAK FLOW       (cms)=   1.677 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  26.493
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1481) |   Area    (ha)=  61.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.02         32.73
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     641.61         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         16.38
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      9.02 (ii)    31.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.09          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.96          0.91           3.335 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=     86.50         11.87          24.55
     TOTAL RAINFALL   (mm)=     88.50         88.50          88.50
     RUNOFF COEFFICIENT   =      0.98          0.13           0.28

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  23.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5148) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.1310      1.6343
                          0.2090     0.7802   |   5.1870      1.8598
                          1.1960     0.9062   |   6.0380      2.0805
                          2.2280     1.1562   |   6.4380      2.0905
                          3.0910     1.3741   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1481)     61.750     3.335      6.00      24.55
     OUTFLOW: ID= 1 (5148)     61.750     0.781      7.00      24.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.41
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
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                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8534
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1482) |   Area    (ha)= 356.14   Curve Number   (CN)= 31.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.438

     PEAK FLOW       (cms)=   1.601 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  10.783
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9148) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1482):   356.14   1.601     7.75    10.78
       + ID2= 2 (5148):    61.75   0.781     7.00    24.54
         ================================================
         ID = 3 (9148):   417.89   2.321     7.00    12.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1501) |   Area    (ha)=   0.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      32.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        10.60
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       1.51 (ii)   27.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.009 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         7.88         19.54
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.09          0.22

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  16.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5150) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0110     0.0042
                         0.0010     0.0020   |   0.0140     0.0049
                         0.0030     0.0023   |   0.0160     0.0054
                         0.0060     0.0030   |   0.4160     0.0154
                         0.0080     0.0036   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1501)    0.160     0.009      6.00      19.54
     OUTFLOW: ID= 1 (5150)    0.160     0.001      7.25      16.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.36
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0018
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1502) |   Area    (ha)= 105.72   Curve Number   (CN)= 17.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   3.134

     PEAK FLOW       (cms)=   0.379 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.215
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.059

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9150) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1502):   105.72   0.379     6.75     5.21
       + ID2= 2 (5150):     0.16   0.001     7.25    16.45
         ================================================
         ID = 3 (9150):   105.88   0.380     6.75     5.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8116) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9148):   417.89   2.321     7.00    12.82
       + ID2= 2 (9150):   105.88   0.380     6.75     5.23
         ================================================
         ID = 3 (8116):   523.77   2.691     7.00    11.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6152) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1521.0) ------>
              Distance      Elevation       Manning
                  0.00         290.00        0.0500
                 15.34         286.87        0.0500
                 46.03         284.84        0.0500
                 88.22         283.07        0.0500
                126.57         282.11        0.0500
                153.42         280.34        0.0500
                157.26         280.07        0.0500
                161.09         279.72        0.0500
                167.76         278.94    0.0500 /0.0300  Main Channel
                168.01         278.60        0.0300      Main Channel
                168.76         278.60        0.0300      Main Channel
                169.51         278.60        0.0300      Main Channel
                169.76         278.90    0.0300 /0.0500  Main Channel
                173.76         279.40        0.0500
                180.27         279.69        0.0500
                184.11         279.93        0.0500
                218.62         281.86        0.0500
                260.82         283.20        0.0500
                360.54         289.25        0.0500
                379.72         289.80        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    278.90    .114E+04         0.4          0.80       45.70
      0.87    279.47    .932E+04         4.2          0.98       37.22
      1.45    280.05    .353E+05        17.5          1.09       33.68
      2.02    280.62    .831E+05        47.8          1.26       29.01
      2.59    281.19    .155E+06       102.9          1.46       25.06
      3.17    281.77    .250E+06       189.3          1.66       22.03
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       3.74   282.34    .375E+06     298.5          1.75      20.91
       4.32   282.92    .547E+06     456.5          1.83      19.98
       4.89   283.49    .767E+06     705.7          2.02      18.12
       5.46   284.06    .102E+07    1038.0          2.24      16.34
       6.04   284.64    .130E+07    1444.1          2.45      14.98
       6.61   285.21    .161E+07    1940.1          2.66      13.79
       7.18   285.78    .194E+07    2522.6          2.86      12.80
       7.76   286.36    .229E+07    3187.4          3.06      11.98
       8.33   286.93    .267E+07    3942.3          3.25      11.28
       8.91   287.51    .306E+07    4824.9          3.46      10.58
       9.48   288.08    .347E+07    5795.7          3.67       9.99
      10.05   288.65    .390E+07    6855.4          3.86       9.48
      10.63   289.23    .434E+07    8005.0          4.05       9.04

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8116)  523.77     2.69    7.00  11.28      0.65      0.90
     OUTFLOW: ID= 1 (6152)  523.77     2.34    8.00  11.28      0.59      0.88


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-------------------
| ADD HYD   (8122) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0152):   124.37   1.677     7.00    26.49
       + ID2= 2 (6152):   523.77   2.342     8.00    11.28
         ================================================
         ID = 3 (8122):   648.14   3.933     7.75    14.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0158) |   Area    (ha)= 178.59   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.94

     Unit Hyd Qpeak  (cms)=   3.230

     PEAK FLOW       (cms)=   2.450 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.040
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0156) |   Area    (ha)=  83.49   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   2.306

     PEAK FLOW       (cms)=   0.970 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.331
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.196

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1541) |   Area    (ha)=  11.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.36         2.79
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     272.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        13.74
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.40 (ii)   29.06 (ii)

     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.43         0.07          2.474 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50        12.96          64.44
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.15           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  31.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5154) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7460      0.3544
                         0.0380     0.1987   |   0.9370      0.3839
                         0.2160     0.2386   |   1.0900      0.4129
                         0.4020     0.2749   |   1.4900      0.4229
                         0.5580     0.3133   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1541)     11.150      2.474      6.00      64.44
     OUTFLOW: ID= 1 (5154)     11.150      0.897      6.25      64.32

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.24
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3934

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-------------------
| CALIB            |
| NASHYD    (1542) |   Area    (ha)= 189.17   Curve Number   (CN)= 39.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.95

     Unit Hyd Qpeak  (cms)=   3.396

     PEAK FLOW       (cms)=   1.292 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.392
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9154) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1542):   189.17   1.292     7.25    14.39
       + ID2= 2 (5154):    11.15   0.897     6.25    64.32
         ================================================
         ID = 3 (9154):   200.32   1.882     6.25    17.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8118) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0156):    83.49   0.970     6.75    17.33
       + ID2= 2 (9154):   200.32   1.882     6.25    17.17
         ================================================
         ID = 3 (8118):   283.81   2.834     6.50    17.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6158) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1581.0) ------>

Distance	Elevation	Manning	
0.00	290.00	0.0400	
19.20	288.88	0.0400	
48.00	288.26	0.0400	
119.99	283.68	0.0400	
167.99	282.07	0.0400	
196.79	281.32	0.0400	
210.79	280.90	0.0400	
219.79	280.38	0.0400 /0.0300	Main Channel
220.04	279.65	0.0300	Main Channel
220.79	279.65	0.0300	Main Channel
221.54	279.65	0.0300	Main Channel
221.79	280.39	0.0300 /0.0400	Main Channel
225.79	280.59	0.0400	
235.19	280.88	0.0400	
254.39	281.50	0.0400	
273.58	282.56	0.0400	
302.38	283.42	0.0400	
359.98	284.03	0.0400	
436.77	289.37	0.0400	
475.17	290.37	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.01	.973E+03	0.5	0.86	31.78
0.73	280.38	.210E+04	1.5	1.18	23.16
1.30	280.95	.149E+05	8.6	0.95	28.91
1.86	281.51	.579E+05	40.0	1.13	24.12
2.43	282.08	.133E+06	118.5	1.46	18.75
2.99	282.64	.236E+06	254.6	1.77	15.46
3.56	283.21	.369E+06	450.3	2.00	13.67
4.13	283.78	.542E+06	702.7	2.13	12.86
4.69	284.34	.767E+06	1125.2	2.41	11.36
5.26	284.91	.101E+07	1697.1	2.75	9.93
5.82	285.47	.127E+07	2379.1	3.07	8.91
6.39	286.04	.155E+07	3171.4	3.36	8.14
6.95	286.60	.184E+07	4075.5	3.64	7.53
7.52	287.17	.215E+07	5093.1	3.89	7.03
8.09	287.74	.247E+07	6226.5	4.13	6.62
8.65	288.30	.281E+07	7461.2	4.36	6.28
9.22	288.87	.318E+07	8635.1	4.46	6.13
9.78	289.43	.357E+07	10143.6	4.67	5.86
10.35	290.00	.398E+07	11608.8	4.79	5.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8118)	283.81	2.83	6.50	17.22	0.84	1.13
OUTFLOW: ID= 1 (6158)	283.81	2.60	7.25	17.22	0.82	1.14

ADD HYD (8120)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0158):	178.59	2.450	7.25	28.04
+	ID2= 2 (6158):	283.81	2.604	7.25	17.22
	ID = 3 (8120):	462.40	5.055	7.25	21.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8124)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8120):	462.40	5.055	7.25	21.40
+	ID2= 2 (8122):	648.14	3.933	7.75	14.20
	ID = 3 (8124):	1110.54	8.870	7.50	17.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (6160) |

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (1601.0) ------>

Distance	Elevation	Manning	
0.00	261.02	0.0400	
29.89	254.30	0.0400	
40.75	252.58	0.0400	
62.49	251.30	0.0400	
114.11	250.94	0.0400	
130.41	248.58	0.0400	
141.28	247.50	0.0400	
154.86	246.87	0.0400	
155.20	246.70	0.0400	
160.20	246.30	0.0400 /0.0300	Main Channel
160.30	245.30	0.0300	Main Channel
165.20	245.30	0.0300	Main Channel
165.30	246.30	0.0300 /0.0400	Main Channel
168.45	246.96	0.0400	
195.62	249.20	0.0400	
203.77	250.82	0.0400	
225.50	256.78	0.0400	
244.52	261.14	0.0400	
255.39	261.95	0.0400	
268.97	261.92	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.80	.120E+05	2.9	1.18	68.31
1.00	246.30	.242E+05	8.5	1.70	47.47
1.92	247.22	.825E+05	31.7	1.86	43.34
2.84	248.14	.248E+06	102.5	2.00	40.39
3.76	249.06	.506E+06	247.7	2.37	34.03
4.68	249.98	.832E+06	486.8	2.83	28.49
5.60	250.90	.121E+07	814.9	3.27	24.71
6.52	251.82	.180E+07	1157.1	3.11	25.97
7.44	252.74	.253E+07	1840.2	3.52	22.92
8.36	253.66	.331E+07	2727.1	3.98	20.25
9.29	254.59	.414E+07	3782.6	4.43	18.22
10.21	255.51	.499E+07	5010.7	4.86	16.61
11.13	256.43	.589E+07	6397.4	5.26	15.33
12.05	257.35	.681E+07	7932.8	5.64	14.31
12.97	258.27	.777E+07	9621.2	5.99	13.46
13.89	259.19	.877E+07	11469.4	6.33	12.74
14.81	260.11	.980E+07	13478.4	6.66	12.12
15.73	261.03	.109E+08	15651.7	6.97	11.58
16.65	261.95	.120E+08	17492.5	7.07	11.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8124)	1110.54	8.87	7.50	17.20	1.01	1.70
OUTFLOW: ID= 1 (6160)	1110.54	8.22	8.25	17.20	0.97	1.66

CALIB STANDHYD (1601)	Area (ha)= 19.03
ID= 1 DT=15.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.27	4.76
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	356.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	116.82	53.85
over	(min)	15.00	30.00
Storage Coeff.	(min)=	6.33 (ii)	20.04 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.10	0.05

		TOTALS
PEAK FLOW	(cms)=	4.223 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	68.60
TOTAL RAINFALL	(mm)=	88.50
RUNOFF COEFFICIENT	=	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.6 Ia = Dep. Storage (Above)

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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5160) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.2730     0.6034
                         0.0640     0.3377   |   1.5980     0.6540
                         0.3690     0.4055   |   1.8600     0.7037
                         0.6870     0.4676   |   2.2600     0.7137
                         0.9520     0.5332   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1601)     19.030     4.223      6.00      68.60
     OUTFLOW: ID= 1 (5160)     19.030     1.601      6.25      68.53

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.90
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6698

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-------------------
| CALIB             |
| NASHYD    (1602) |   Area    (ha)= 299.79   Curve Number   (CN)= 60.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.42

     Unit Hyd Qpeak  (cms)=   3.592

     PEAK FLOW       (cms)=   2.951 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  27.640
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.312

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9160) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1602):   299.79   2.951     8.00    27.64
       + ID2= 2 (5160):    19.03   1.601     6.25    68.53
         ================================================
         ID = 3 (9160):   318.82   3.641     6.50    30.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8126) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6160):  1110.54   8.216     8.25    17.20
       + ID2= 2 (9160):   318.82   3.641     6.50    30.08
         ================================================
         ID = 3 (8126):  1429.36  11.465     8.25    20.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1621) |   Area    (ha)=  46.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  20.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.73         25.34
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     554.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         62.85
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.26 (ii)   21.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.66          2.18          4.032 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         28.69          40.25
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.32           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5162) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0820     1.1997
                         0.1560     0.5629   |   3.8700     1.3716
                         0.8930     0.6512   |   4.5050     1.5398
                         1.6620     0.8407   |   4.9050     1.5498
                         2.3060     1.0035   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1621)     46.070     4.032      6.00      40.25
     OUTFLOW: ID= 1 (5162)     46.070     1.609      6.50      40.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.91
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8420

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-------------------
| CALIB             |
| STANDHYD  (1622) |   Area    (ha)= 144.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.46        106.61
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     980.03         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         44.78
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.62 (ii)   26.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.13          5.84          7.750 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         24.83          31.62
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.28           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9162) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1622):   144.07   7.750     6.00    31.62
       + ID2= 2 (5162):    46.07   1.609     6.50    40.23
         ================================================
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          ID = 3 (9162):   190.14   8.729     6.25    33.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8126):  1429.36  11.465     8.25    20.07
        + ID2= 2 (9162):   190.14   8.729     6.25    33.71
          ================================================
          ID = 3 (8128):  1619.50  13.746     6.25    21.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8130) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8128):  1619.50  13.746     6.25    21.67
        + ID2= 2 (8132):   234.24  15.032     6.25    58.39
          ================================================
          ID = 3 (8130):  1853.74  28.778     6.25    26.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6166) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1661.0) ------>
               Distance      Elevation       Manning
                   0.00         248.36        0.0500
                  41.67         246.98        0.0500
                  95.82         244.93        0.0500
                 149.98         242.42        0.0500
                 191.64         241.88        0.0500
                 224.97         239.90        0.0500
                 229.13         239.35        0.0500
                 233.30         237.77        0.0500
                 237.47         236.57        0.0500
                 240.63         235.60    0.0500 /0.0300  Main Channel
                 241.63         234.10        0.0300      Main Channel
                 247.13         234.10        0.0300      Main Channel
                 247.53         235.60    0.0300 /0.0500  Main Channel
                 254.13         236.25        0.0500
                 266.63         236.77        0.0500
                 283.29         237.84        0.0500
                 291.63         238.89        0.0500
                 329.12         244.66        0.0500
                 370.78         249.55        0.0500
                 412.44         253.17        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)       (m/s)      (min)
      0.75    234.85   .130E+05        6.0         1.36      36.45
      1.50    235.60   .276E+05       18.1         1.95      25.41
      2.25    236.35   .544E+05       40.0         2.18      22.69
      3.00    237.10   .117E+06       80.1         2.04      24.32
      3.75    237.85   .213E+06      148.9         2.07      23.89
      4.50    238.60   .334E+06      255.1         2.27      21.85
      5.25    239.35   .473E+06      395.8         2.49      19.90
      6.00    240.10   .631E+06      563.8         2.65      18.66
      6.75    240.85   .824E+06      773.2         2.79      17.77
      7.50    241.60   .106E+07     1037.9         2.92      16.97
      8.26    242.36   .135E+07     1326.7         2.92      16.94
      9.01    243.11   .173E+07     1758.5         3.01      16.44
      9.76    243.86   .217E+07     2285.9         3.13      15.81
     10.51    244.61   .265E+07     2909.5         3.26      15.17
     11.26    245.36   .318E+07     3610.1         3.37      14.67
     12.01    246.11   .377E+07     4417.4         3.48      14.21
     12.76    246.86   .441E+07     5348.0         3.60      13.75
     13.51    247.61   .512E+07     6394.0         3.71      13.34
     14.26    248.36   .589E+07     7580.3         3.82      12.95

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (8130) 1853.74    28.78    6.25  26.31      1.87      2.06
     OUTFLOW: ID= 1 (6166) 1853.74    23.56    6.75  26.31      1.69      2.00

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-------------------
| ADD HYD   (8136) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6166):  1853.74  23.555     6.75    26.31
        + ID2= 2 (8134):   434.70  22.861     6.00    59.38
          ================================================
          ID = 3 (8136):  2288.44  42.207     6.50    32.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2021) |   Area    (ha)= 107.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  27.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.29         59.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     845.85         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         96.04
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.64 (ii)    21.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.79          7.78          12.872 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         46.81          57.53
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.53           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5202) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.1480      2.8069
                         0.3630     1.2717   |   6.4200      3.2412
                         1.5670     1.4796   |   7.4640      3.6910
                         2.7880     1.9296   |   7.8640      3.7010
                         3.8580     2.3404   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2021)    107.320     12.872      6.00      57.53
     OUTFLOW: ID= 1 (5202)    107.320      5.070      6.75      57.52

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.39
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.8093

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-------------------
| CALIB             |
| STANDHYD  (2022) |   Area    (ha)= 361.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  36.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     216.73        144.48
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1551.79         40.00
     Mannings n          =      0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=     116.82       126.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     15.32 (ii)   25.06 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     30.46        23.45        45.898 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        51.22        63.92
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.58         0.72


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2022):   361.21  45.898     6.00    63.92
       + ID2= 2 (5202):   107.32   5.070     6.75    57.52
         ================================================
         ID = 3 (8110):   468.53  47.586     6.00    62.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0102) |   Area    (ha)= 466.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    107.18       358.82
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1762.57        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        24.85
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     16.53 (ii)   35.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      9.50        14.17        17.272 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50         6.50
     RUNOFF VOLUME    (mm)=     86.50        23.06        28.77
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.26         0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0100) |   Area    (ha)= 693.84   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.087

     PEAK FLOW       (cms)=   2.848 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  14.953
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0100):   693.84   2.848     9.00    14.95
       + ID2= 2 (0102):   466.00  17.272     6.50    28.77
         ================================================
         ID = 3 (8000):  1159.84  19.127     6.50    20.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6104) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1041.0) ------>
              Distance      Elevation       Manning
                 0.00         330.16        0.0450
                50.03         328.36        0.0450
                89.34         326.33        0.0450
               117.94         324.30        0.0450
               160.82         322.75        0.0450
               178.34         319.96        0.0450
               183.34         319.81        0.0450
               184.34         319.38    0.0450 /0.0300  Main Channel
               185.09         318.78        0.0300      Main Channel
               185.84         318.72        0.0300      Main Channel
               186.84         319.32    0.0300 /0.0450  Main Channel
               193.84         319.70        0.0450
               198.84         320.38        0.0450
               200.13         320.81        0.0450
               218.00         322.49        0.0450
               239.44         323.49        0.0450
               250.17         323.96        0.0450
               275.18         325.20        0.0450
               310.92         326.47        0.0450
               353.81         330.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30    319.02    .624E+03       0.1         0.45       73.00
      0.60    319.32    .181E+04       0.6         0.67       49.46
      1.23    319.95    .128E+05       4.9         0.77       43.38
      1.86    320.58    .396E+05      19.1         0.96       34.50
      2.48    321.20    .757E+05      43.5         1.15       28.98
      3.11    321.83    .125E+06      81.2         1.30       25.58
      3.74    322.46    .187E+06     135.9         1.45       22.92
      4.37    323.09    .269E+06     195.6         1.45       22.90
      5.00    323.72    .387E+06     287.8         1.48       22.44
      5.63    324.35    .545E+06     428.4         1.56       21.22
      6.25    324.97    .735E+06     630.5         1.71       19.42
      6.88    325.60    .952E+06     876.1         1.83       18.12
      7.51    326.23    .120E+07    1177.0         1.95       17.03
      8.14    326.86    .149E+07    1554.4         2.08       15.93
      8.77    327.49    .179E+07    2009.7         2.23       14.88
      9.40    328.12    .213E+07    2533.9         2.37       13.99
     10.02    328.74    .249E+07    3112.6         2.49       13.31
     10.65    329.37    .288E+07    3760.9         2.60       12.75
     11.28    330.00    .330E+07    4494.8         2.71       12.23

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8000) 1159.84    19.13    6.50  20.50      1.86      0.96
     OUTFLOW: ID= 1 (6104) 1159.84    14.10    6.75  20.50      1.63      0.88


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-------------------
| CALIB           |
| STANDHYD  (1041) |   Area    (ha)=   0.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.50         0.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=     66.83        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        16.81
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            over (min)       15.00        30.00
     Storage Coeff.  (min)=      2.32 (ii)   24.15 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.01          0.156 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        15.71         65.24
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.18          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  36.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5104) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0450     0.0213
                         0.0020     0.0120   |   0.0560     0.0231
                         0.0130     0.0144   |   0.0660     0.0248
                         0.0240     0.0165   |   0.4660     0.0348
                         0.0340     0.0189   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1041)     0.670     0.156      6.00      65.24
     OUTFLOW: ID= 1 (5104)     0.670     0.056      6.25      62.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.18
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0245

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1042) |   Area    (ha)= 527.14   Curve Number   (CN)= 42.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   6.731

     PEAK FLOW       (cms)=   3.163 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.268
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1042):   527.14   3.163     8.00    16.27
        + ID2= 2 (5104):     0.67   0.056     6.25    62.98
          ================================================
          ID = 3 (9104):   527.81   3.174     8.00    16.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8002) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6104):  1159.84  14.095     6.75    20.50
        + ID2= 2 (9104):   527.81   3.174     8.00    16.33
          ================================================
          ID = 3 (8002):  1687.65  16.849     6.75    19.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1061) |   Area    (ha)=  32.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  51.00
-------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.61         10.65
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     463.75         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         75.10
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       7.42 (ii)   19.42 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.86          1.14          5.590 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         33.34         60.45
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.38          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5106) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1580     0.9744
                         0.1090     0.5252   |   2.7090     1.0694
                         0.6250     0.6260   |   3.1540     1.1625
                         1.1640     0.7386   |   3.5540     1.1725
                         1.6140     0.8505   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1061)    32.260     5.590      6.00      60.45
     OUTFLOW: ID= 1 (5106)    32.260     1.940      6.50      60.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.70
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9432

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-------------------
| CALIB             |
| NASHYD    (1062) |   Area    (ha)= 227.27   Curve Number   (CN)= 57.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   3.556

     PEAK FLOW       (cms)=   2.516 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  25.475
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1062):   227.27   2.516     7.50    25.47
        + ID2= 2 (5106):    32.26   1.940     6.50    60.42
          ================================================
          ID = 3 (9106):   259.53   4.116     6.50    29.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8002):  1687.65  16.849     6.75    19.20
       + ID2= 2 (9106):   259.53   4.116     6.50    29.82
         ================================================
         ID = 3 (8004):  1947.18  20.897     6.75    20.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6108) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1081.0) ------>
              Distance      Elevation       Manning
                  0.00         326.06        0.0400
                 12.06         325.74        0.0400
                 30.15         324.28        0.0400
                 59.27         320.35        0.0400
                 72.37         317.60        0.0400
                 87.45         314.52        0.0400
                 93.48         313.91        0.0400
                105.54         313.55        0.0400
                106.17         313.40    0.0400 /0.0300  Main Channel
                110.62         313.04        0.0300      Main Channel
                110.82         312.97        0.0300      Main Channel
                111.57         313.08        0.0300      Main Channel
                111.67         313.48    0.0300 /0.0400  Main Channel
                129.66         316.62        0.0400
                150.77         318.95        0.0400
                180.92         319.61        0.0400
                205.04         321.23        0.0400
                232.18         322.09        0.0400
                268.37         322.31        0.0400
                298.52         326.00        0.0400

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   313.40    .244E+04        0.7         0.59      58.83
      1.09   314.06    .214E+05       10.4         1.01      34.24
      1.76   314.73    .600E+05       40.2         1.39      24.89
      2.42   315.39    .109E+06       92.1         1.75      19.80
      3.08   316.05    .169E+06      166.5         2.05      16.88
      3.75   316.72    .237E+06      264.4         2.31      14.97
      4.41   317.38    .318E+06      386.3         2.52      13.72
      5.07   318.04    .411E+06      539.3         2.72      12.71
      5.74   318.71    .517E+06      725.5         2.91      11.88
      6.40   319.37    .642E+06      909.2         2.94      11.77
      7.06   320.03    .806E+06     1179.3         3.04      11.38
      7.72   320.69    .989E+06     1515.9         3.18      10.87
      8.39   321.36    .119E+07     1895.5         3.30      10.49
      9.05   322.02    .143E+07     2310.2         3.36      10.30
      9.71   322.68    .172E+07     2763.2         3.33      10.39
     10.38   323.35    .205E+07     3477.6         3.53       9.81
     11.04   324.01    .238E+07     4284.3         3.73       9.27
     11.70   324.67    .274E+07     5154.0         3.91       8.85
     12.37   325.34    .311E+07     6104.0         4.08       8.48

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8004) 1947.18    20.90    6.75  20.61      1.33      1.12
    OUTFLOW: ID= 1 (6108) 1947.18    18.33    7.25  20.61      1.27      1.09


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--------------------
| CALIB            |
| STANDHYD  (1081) |   Area    (ha)=  40.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.61        10.20
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    521.60        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        13.12

               over (min)       15.00        45.00
     Storage Coeff.  (min)=      7.96 (ii)   32.06 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      8.31         0.22          8.406 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=     86.50        12.40         64.27
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.14          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  30.2    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5108) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7300      1.2970
                          0.1380     0.7271   |   3.4270      1.4050
                          0.7910     0.8733   |   3.9900      1.5110
                          1.4720     1.0061   |   4.3900      1.5210
                          2.0420     1.1467   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1081)     40.810     8.406      6.00       64.27
    OUTFLOW: ID= 1 (5108)     40.810     3.043      6.25       64.24

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.20
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3699

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1082) |   Area    (ha)= 166.24   Curve Number   (CN)= 32.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.171

     PEAK FLOW       (cms)=   0.915 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.140
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1082):   166.24   0.915     7.25    11.14
       + ID2= 2 (5108):    40.81   3.043     6.25    64.24
         ================================================
         ID = 3 (9108):   207.05   3.755     6.25    21.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8006) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6108):  1947.18  18.326     7.25    20.61
       + ID2= 2 (9108):   207.05   3.755     6.25    21.61
         ================================================
         ID = 3 (8006):  2154.23  20.620     7.25    20.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1101) |   Area    (ha)=  60.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  55.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.07        18.90
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     637.55        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        65.45
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.98 (ii)   21.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.47         1.68        10.530 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        29.88        61.02
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.34         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5110) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   4.0780     1.8615
                          0.2060     1.0120   |   5.1210     2.0372
                          1.1810     1.2083   |   5.9610     2.2096
                          2.2000     1.4181   |   6.3610     2.2196
                          3.0510     1.6293   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1101)     60.970     10.530      6.00      61.02
     OUTFLOW: ID= 1 (5110)     60.970      3.703      6.50      61.00

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.17
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.8128

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (1102) |   Area    (ha)= 262.95   Curve Number   (CN)= 55.4
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   3.483

     PEAK FLOW       (cms)=   2.420 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.041
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1102):   262.95   2.420     8.00    24.04
        + ID2= 2 (5110):    60.97   3.703     6.50    61.00
          ================================================
          ID = 3 (9110):   323.92   5.649     6.50    31.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8008) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8006):  2154.23  20.620     7.25    20.71
        + ID2= 2 (9110):   323.92   5.649     6.50    31.00
          ================================================
          ID = 3 (8008):  2478.15  25.143     7.25    22.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (1121.0) ------>
              Distance      Elevation       Manning
                 0.00         320.59        0.0400
                13.48         317.93        0.0400
                40.45         311.52        0.0400
                64.04         307.68        0.0400
                74.15         307.01        0.0400
                91.00         307.22        0.0400
               107.86         305.21        0.0400
               111.23         304.86        0.0400
               113.32         304.60    0.0400 /0.0300  Main Channel
               117.77         304.24        0.0300      Main Channel
               117.97         304.17        0.0300      Main Channel
               118.72         304.28        0.0300      Main Channel
               118.82         304.68    0.0300 /0.0400  Main Channel
               124.71         304.76        0.0400
               171.90         306.30        0.0400
               205.60         307.24        0.0400
               239.31         308.24        0.0400
               262.90         310.64        0.0400
               289.86         314.34        0.0400
               333.68         317.66        0.0400

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   304.60    .372E+04       0.6         0.54       97.65
      1.12   305.29    .463E+05      12.5         0.85       61.89
      1.80   305.97    .149E+06      53.0         1.13       46.85
      2.49   306.66    .311E+06     134.2         1.37       38.62
      3.18   307.35    .554E+06     261.6         1.50       35.27
      3.87   308.04    .894E+06     490.7         1.74       30.37
      4.55   308.72    .129E+07     833.0         2.05       25.75
      5.24   309.41    .171E+07    1269.8         2.36       22.39
      5.93   310.10    .215E+07    1789.0         2.64       20.01
      6.62   310.79    .261E+07    2392.7         2.90       18.21
      7.30   311.47    .310E+07    3087.8         3.16       16.74
      7.99   312.16    .361E+07    3873.6         3.40       15.52
      8.68   312.85    .413E+07    4741.0         3.64       14.52
      9.37   313.54    .467E+07    5689.3         3.86       13.69
     10.05   314.22    .523E+07    6718.4         4.07       12.97
     10.74   314.91    .581E+07    7770.7         4.24       12.46
     11.43   315.60    .641E+07    8897.5         4.40       12.01
     12.12   316.29    .704E+07   10113.2         4.55       11.61
     12.80   316.97    .770E+07   11420.1         4.70       11.24

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8008) 2478.15    25.14    7.25  22.05      1.33      0.92
     OUTFLOW: ID= 1 (6112) 2478.15    20.65    8.25  22.05      1.25      0.90

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1121) |   Area    (ha)=   9.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  25.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.48         4.48
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     257.68        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        21.58
```

```
            over (min)       15.00         30.00
     Storage Coeff.  (min)=       5.22 (ii)   24.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.78          0.20          0.901 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         14.57         32.55
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.16          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  26.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5112) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6660      0.2787
                         0.0340     0.1406   |   0.8360      0.3122
                         0.1930     0.1653   |   0.9740      0.3450
                         0.3590     0.2034   |   1.3740      0.3550
                         0.4980     0.2383   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1121)     9.960      0.901      6.00      32.55
     OUTFLOW: ID= 1 (5112)     9.960      0.217      6.50      32.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.14
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1728

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1122) |   Area    (ha)= 404.93   Curve Number   (CN)= 31.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.90

     Unit Hyd Qpeak  (cms)=   3.635

     PEAK FLOW       (cms)=   1.211 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  10.747
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9112) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1122):   404.93   1.211     9.00    10.75
        + ID2= 2 (5112):     9.96   0.217     6.50    32.45
          ================================================
          ID = 3 (9112):   414.89   1.268     8.25    11.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8010) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6112):  2478.15  20.646     8.25    22.05
        + ID2= 2 (9112):   414.89   1.268     8.25    11.27
          ================================================
          ID = 3 (8010):  2893.04  21.914     8.25    20.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6114) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1141.0) ------>
              Distance      Elevation       Manning
                 0.00         312.27        0.0500
                14.07         309.70        0.0500
                28.14         306.51        0.0500
                35.17         305.81        0.0500
                42.20         304.95        0.0500
                52.75         304.24        0.0500
                77.37         303.61        0.0500
                98.47         301.33        0.0500
               131.76         300.40    0.0500 /0.0300  Main Channel
               136.21         300.04        0.0300      Main Channel
               136.41         299.97        0.0300      Main Channel
               137.16         300.08        0.0300      Main Channel
               137.26         300.48    0.0300 /0.0500  Main Channel
               140.68         300.53        0.0500
               179.36         302.20        0.0500
               214.53         303.82        0.0500
               242.66         305.27        0.0500
               288.38         307.66        0.0500
               316.52         311.76        0.0500
               348.17         313.48        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.43    300.40    .366E+04         0.7          0.59       88.31
      1.05    301.02    .505E+05        12.1          0.75       69.49
      1.68    301.65    .165E+06        52.7          0.99       52.28
      2.30    302.27    .324E+06       130.3          1.26       41.40
      2.93    302.90    .520E+06       247.1          1.48       35.08
      3.55    303.52    .754E+06       406.8          1.68       30.91
      4.18    304.15    .104E+07       586.1          1.76       29.55
      4.80    304.77    .138E+07       856.0          1.93       26.96
      5.43    305.40    .177E+07      1201.1          2.12       24.56
      6.05    306.02    .219E+07      1612.2          2.30       22.63
      6.68    306.65    .264E+07      2090.6          2.47       21.07
      7.30    307.27    .313E+07      2653.0          2.64       19.65
      7.93    307.90    .364E+07      3303.9          2.83       18.36
      8.55    308.52    .417E+07      4053.9          3.03       17.14
      9.18    309.15    .471E+07      4871.9          3.22       16.12
      9.80    309.77    .527E+07      5756.2          3.41       15.25
     10.43    310.40    .584E+07      6699.8          3.58       14.52
     11.05    311.02    .642E+07      7710.5          3.74       13.89
     11.68    311.65    .702E+07      8788.5          3.90       13.32

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8010) 2893.04    21.91    8.25  20.51      1.21      0.80
     OUTFLOW: ID= 1 (6114) 2893.04    19.18    9.50  20.51      1.16      0.78

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-------------------
| CALIB            |
| STANDHYD  (1141) |   Area    (ha)=  19.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.75         10.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     360.09         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         55.97
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       6.38 (ii)   19.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.89          0.84          1.415 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         24.27         33.60
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.27          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  43.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5114) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.3010      0.5065
                         0.0660     0.2376   |   1.6340      0.5791
                         0.3770     0.2749   |   1.9020      0.6501
                         0.7020     0.3549   |   2.3020      0.6601
                         0.9730     0.4237   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1141)     19.450     1.415      6.00      33.60
     OUTFLOW: ID= 1 (5114)     19.450     0.520      6.75      33.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.79
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3135

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1142) |   Area    (ha)= 268.19   Curve Number   (CN)= 51.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.197

     PEAK FLOW       (cms)=   2.463 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.285
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9114) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1142):   268.19   2.463     7.50    21.29
        + ID2= 2 (5114):    19.45   0.520     6.75    33.55
          ================================================
          ID = 3 (9114):   287.64   2.877     7.00    22.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8012) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6114):  2893.04  19.182     9.50    20.51
        + ID2= 2 (9114):   287.64   2.877     7.00    22.11
          ================================================
          ID = 3 (8012):  3180.68  21.284     9.50    20.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0116) |   Area    (ha)= 206.43   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   4.394

     PEAK FLOW       (cms)=   3.517 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  30.364

     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8014) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0116):   206.43   3.517     7.00    30.36
        + ID2= 2 (8012):  3180.68  21.284     9.50    20.65
          ================================================
          ID = 3 (8014):  3387.11  23.532     9.25    21.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (1181.0) ------>
               Distance      Elevation       Manning
                  0.00         307.18        0.0450
                 24.89         299.75        0.0450
                 37.34         296.39        0.0450
                 71.57         292.75        0.0450
                 96.46         291.12        0.0450
                108.90         289.43        0.0450
                112.02         288.86        0.0450
                115.13         288.46        0.0450
                117.24         288.32    0.0450 /0.0350  Main Channel
                117.49         288.15        0.0350      Main Channel
                118.24         288.00        0.0350      Main Channel
                118.99         288.20        0.0350      Main Channel
                119.24         288.36    0.0350 /0.0450  Main Channel
                121.35         288.40        0.0450
                149.35         289.36        0.0450
                171.14         290.47        0.0450
                208.47         293.14        0.0450
                236.48         295.17        0.0450
                280.04         299.48        0.0450
                308.04         307.00        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.32   288.32    .116E+04        0.2        0.62       81.92
      1.30   289.30    .631E+05       22.2        1.07       47.43
      2.29   290.29    .218E+06      117.5        1.64       30.95
      3.27   291.27    .448E+06      314.6        2.15       23.72
      4.25   292.25    .756E+06      625.6        2.53       20.13
      5.24   293.24    .115E+07     1093.2        2.91       17.50
      6.22   294.22    .161E+07     1731.6        3.28       15.50
      7.20   295.20    .214E+07     2547.4        3.63       14.01
      8.19   296.19    .274E+07     3584.9        4.00       12.72
      9.17   297.17    .338E+07     4859.1        4.39       11.60
     10.15   298.15    .407E+07     6341.5        4.76       10.70
     11.13   299.13    .480E+07     8024.6        5.11        9.97
     12.12   300.12    .556E+07    10006.6        5.49        9.27
     13.10   301.10    .635E+07    12244.6        5.89        8.64
     14.08   302.08    .716E+07    14681.7        6.26        8.13
     15.07   303.07    .799E+07    17316.5        6.62        7.69
     16.05   304.05    .884E+07    20148.1        6.96        7.31
     17.03   305.03    .971E+07    23176.2        7.29        6.98
     18.02   306.02    .106E+08    26400.8        7.61        6.69

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8014) 3387.11    23.53    9.25  21.24      1.32      1.08
     OUTFLOW: ID= 1 (6118) 3387.11    22.90   10.00  21.24      1.31      1.08

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 340.53   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   5.200
```

```
     PEAK FLOW       (cms)=   2.515 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  17.546
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8016) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0118):   340.53   2.515     7.75    17.55
        + ID2= 2 (6118):  3387.11  22.904    10.00    21.24
          ================================================
          ID = 3 (8016):  3727.64  24.896     9.75    20.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1221.0) ------>
               Distance      Elevation       Manning
                   0.00         277.00        0.0500
                  52.18         272.82        0.0500
                  86.97         269.38        0.0500
                 134.80         267.35        0.0500
                 160.89         263.85        0.0500
                 169.58         262.88        0.0500
                 178.28         262.45        0.0500
                 195.67         262.07        0.0500
                 213.07         260.99        0.0500
                 226.01         259.80    0.0500 /0.0300  Main Channel
                 226.11         259.30        0.0300      Main Channel
                 230.11         259.30        0.0300      Main Channel
                 230.21         259.80    0.0300 /0.0500  Main Channel
                 235.01         260.20        0.0500
                 239.15         260.57        0.0500
                 243.50         260.93        0.0500
                 300.03         264.43        0.0500
                 339.16         268.34        0.0500
                 373.95         272.36        0.0500
                 430.48         277.46        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   259.80    .626E+04        2.5          1.23      41.35
        1.41   260.71    .462E+05       21.8          1.44      35.27
        2.31   261.61    .149E+06       79.6          1.63      31.19
        3.22   262.52    .340E+06      200.1          1.80      28.34
        4.12   263.42    .636E+06      446.8          2.15      23.71
        5.03   264.33    .995E+06      819.9          2.52      20.23
        5.93   265.23    .141E+07     1337.0          2.90      17.56
        6.84   266.14    .187E+07     1984.8          3.25      15.67
        7.74   267.04    .237E+07     2766.0          3.57      14.26
        8.65   267.95    .292E+07     3596.9          3.76      13.53
        9.55   268.85    .355E+07     4575.4          3.93      12.95
       10.46   269.76    .427E+07     5814.9          4.16      12.23
       11.36   270.66    .503E+07     7319.0          4.44      11.46
       12.27   271.57    .584E+07     9009.7          4.71      10.81
       13.17   272.47    .670E+07    10886.3          4.96      10.26
       14.08   273.38    .761E+07    12893.2          5.17       9.84
       14.98   274.28    .858E+07    15098.1          5.37       9.48
       15.89   275.19    .961E+07    17527.6          5.57       9.14
       16.79   276.09    .107E+08    20190.3          5.76       8.83

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8016) 3727.64    24.90    9.75  20.91      1.45      1.45
     OUTFLOW: ID= 1 (6122) 3727.64    24.30   10.50  20.91      1.44      1.45


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-------------------
| CALIB           |
| STANDHYD  (1221) |   Area    (ha)= 117.91

|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  16.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.88         66.03
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     886.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         25.71
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.95 (ii)    29.36 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.02          3.22        6.995 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50         19.04        29.83
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.22         0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  36.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5122) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.8880      3.0390
                          0.3990     1.4100   |   9.9040      3.4850
                          2.2850     1.6269   |  11.5290      3.9214
                          4.2550     2.1164   |  11.9290      3.9314
                          5.9010     2.5338   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1221)    117.910      6.995      6.00      29.83
     OUTFLOW: ID= 1 (5122)    117.910      2.589      6.75      29.82

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.02
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.7069

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (1222) |   Area    (ha)= 246.95   Curve Number   (CN)= 43.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   3.728

     PEAK FLOW       (cms)=   1.739 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.885
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1222):   246.95   1.739     7.75    16.89
        + ID2= 2 (5122):   117.91   2.589     6.75    29.82
          ================================================
          ID = 3 (8018):   364.86   4.182     6.75    21.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8020) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6122):  3727.64  24.300    10.50    20.91
       + ID2= 2 (8018):   364.86   4.182     6.75    21.07
         ================================================
         ID = 3 (8020):  4092.50  25.994    10.25    20.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1261) |   Area    (ha)=  50.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  26.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.07         32.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     578.45         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         23.19
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.47 (ii)   27.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.74          1.46          4.636 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         22.06         38.81
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.25          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  48.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5126) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.3570      1.2179
                           0.1700     0.5264   |   4.2160      1.4221
                           0.9720     0.5968   |   4.9080      1.6217
                           1.8110     0.8165   |   5.3080      1.6317
                           2.5120     0.9954   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1261)     50.190     4.636      6.00      38.81
     OUTFLOW: ID= 1 (5126)     50.190     1.825      6.50      38.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.36
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8225

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--------------------
| CALIB            |
| NASHYD    (1262) |   Area    (ha)=  83.33   Curve Number   (CN)= 57.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.509

     PEAK FLOW       (cms)=   1.541 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  25.241
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.285

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1262):    83.33   1.541     6.50    25.24
       + ID2= 2 (5126):    50.19   1.825     6.50    38.80
         ================================================
         ID = 3 (8024):   133.52   3.366     6.50    30.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0124) |   Area    (ha)= 121.43   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   4.049

     PEAK FLOW       (cms)=   1.530 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.138
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.182

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0124):   121.43   1.530     6.50    16.14
       + ID2= 2 (8024):   133.52   3.366     6.50    30.34
         ================================================
         ID = 3 (8026):   254.95   4.895     6.50    23.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6128) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (1281.0) ------>
              Distance      Elevation       Manning
                 0.00         270.58        0.0400
                 7.71         270.36        0.0400
                15.43         269.48        0.0400
                23.14         265.88        0.0400
                42.43         261.83        0.0400
                61.71         258.31        0.0400
                75.21         256.62        0.0400
                90.64         255.35        0.0400
                92.49         255.00    0.0400 /0.0300  Main Channel
                93.49         254.00        0.0300      Main Channel
                94.49         253.90        0.0300      Main Channel
                94.99         253.80        0.0300      Main Channel
                95.49         253.70        0.0300      Main Channel
                95.99         253.80        0.0300      Main Channel
                98.49         255.00    0.0300 /0.0400  Main Channel
               100.28         255.44        0.0400
               134.99         257.45        0.0400
               148.49         259.67        0.0400
               167.77         263.42        0.0400
               190.92         270.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.65   254.35    .439E+04        2.0         1.24       36.10
      1.30   255.00    .131E+05        9.4         1.92       23.39
      2.18   255.88    .433E+05       37.0         2.30       19.54
      3.06   256.76    .131E+06      113.3         2.34       19.20
      3.95   257.65    .273E+06      273.8         2.70       16.64
      4.83   258.53    .453E+06      538.5         3.21       14.01
      5.71   259.41    .658E+06      902.9         3.70       12.14
      6.59   260.29    .886E+06     1368.4         4.16       10.79
      7.48   261.18    .114E+07     1936.3         4.59        9.79
      8.36   262.06    .141E+07     2610.9         4.99        9.01
      9.24   262.94    .171E+07     3398.7         5.37        8.36
     10.12   263.82    .202E+07     4309.6         5.75        7.81
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      11.01   264.71    .235E+07    5347.5          6.13       7.33
      11.89   265.59    .270E+07    6501.0          6.48       6.93
      12.77   266.47    .307E+07    7808.6          6.86       6.55
      13.65   267.35    .345E+07    9250.5          7.23       6.21
      14.54   268.24    .384E+07   10808.3          7.59       5.92
      15.42   269.12    .424E+07   12482.5          7.94       5.66
      16.30   270.00    .466E+07   14127.4          8.18       5.49

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8026)  254.95     4.90    6.50  23.57      0.90      1.44
    OUTFLOW: ID= 1 (6128)  254.95     4.09    7.25  23.57      0.83      1.38


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-------------------
| CALIB           |
| STANDHYD  (1281) |   Area    (ha)=  55.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  29.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.93         27.93
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     610.30         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         65.27
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      8.75 (ii)    21.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.61          2.48        6.176 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50         30.42        46.69
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.34         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5128) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7380      1.5139
                         0.1890     0.7401   |   4.6930      1.7113
                         1.0830     0.8643   |   5.4630      1.9045
                         2.0160     1.0853   |   5.8630      1.9045
                         2.7960     1.2819   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1281)     55.870      6.176      6.00      46.69
    OUTFLOW: ID= 1 (5128)     55.870      2.432      6.50      46.67

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.38
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.1938

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-------------------
| CALIB           |
| NASHYD    (1282) |   Area    (ha)= 184.36   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.62

     Unit Hyd Qpeak  (cms)=   5.093

     PEAK FLOW       (cms)=   3.615 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  28.545
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.323
```

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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1282):   184.36   3.615     6.75    28.54
       + ID2= 2 (5128):    55.87   2.432     6.50    46.67
         ================================================
         ID = 3 (9128):   240.23   6.033     6.50    32.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8028) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6128):   254.95   4.089     7.25    23.57
       + ID2= 2 (9128):   240.23   6.033     6.50    32.76
         ================================================
         ID = 3 (8028):   495.18   9.649     6.75    28.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8022) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8020):  4092.50  25.994    10.25    20.92
       + ID2= 2 (8028):   495.18   9.649     6.75    28.03
         ================================================
         ID = 3 (8022):  4587.68  29.109    10.00    21.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1201) |   Area    (ha)= 176.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.36         96.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1084.28         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         53.89
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      12.35 (ii)   26.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.91          6.45        13.912 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50         25.38        38.82
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.29         0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5120) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.7960      4.5929
                         0.5970     2.1554   |  14.8120      5.2509
                         3.4170     2.4937   |  17.2430      5.8948
                         6.3630     3.2187   |  17.6430      5.9048
```

```
                        8.8260     3.8422   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)    176.350     13.912      6.00      38.82
     OUTFLOW: ID= 1 (5120)    176.350      5.685      6.75      38.82

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.87
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.0912

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1202) |   Area    (ha)=  70.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.39         40.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     686.39         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         52.89
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.39 (ii)   23.19 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.94          2.79          5.682 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         25.17          37.44
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.28           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  47.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8030) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1202):    70.67   5.682     6.00    37.44
        + ID2= 2 (5120):   176.35   5.685     6.75    38.82
          ================================================
          ID = 3 (8030):   247.02   8.261     6.50    38.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8032) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8022):  4587.68  29.109    10.00    21.69
        + ID2= 2 (8030):   247.02   8.261     6.50    38.42
          ================================================
          ID = 3 (8032):  4834.70  30.404    10.00    22.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6130) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1301.0) ------>
               Distance      Elevation       Manning
                   0.00         257.18        0.0350
                  62.45         254.70        0.0350
                 109.29         252.74        0.0350
                 150.92         251.55        0.0350
                 192.56         248.96        0.0350
                 239.39         247.16        0.0350
                 291.84         246.00        0.0350
                 296.84         245.00        0.0350
                 298.84         245.00    0.0350 /0.0300  Main Channel
                 299.24         244.60        0.0300      Main Channel
                 301.84         244.60        0.0300      Main Channel
                 303.44         244.60        0.0300      Main Channel
                 303.84         245.00    0.0300 /0.0350  Main Channel
                 306.84         245.00        0.0350
                 309.84         246.00        0.0350
                 317.46         247.22        0.0350
                 348.68         254.83        0.0350
                 359.09         256.70        0.0350
                 452.76         258.23        0.0350
                 515.22         258.33        0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40   245.00    .870E+04        1.2         0.64      124.12
       1.04   245.64    .468E+05        9.5         0.96       81.81
       1.68   246.28    .109E+06       25.6         1.11       70.86
       2.32   246.92    .257E+06       63.5         1.17       67.51
       2.96   247.56    .498E+06      142.7         1.36       58.18
       3.61   248.21    .800E+06      266.7         1.58       50.01
       4.25   248.85    .116E+07      437.4         1.78       44.24
       4.89   249.49    .157E+07      669.1         2.01       39.20
       5.53   250.13    .203E+07      954.9         2.23       35.36
       6.17   250.77    .252E+07     1294.4         2.43       32.42
       6.81   251.41    .305E+07     1689.6         2.62       30.07
       7.45   252.05    .363E+07     2090.7         2.73       28.93
       8.09   252.69    .429E+07     2553.1         2.82       27.98
       8.73   253.33    .501E+07     3138.4         2.96       26.60
       9.37   253.97    .579E+07     3803.8         3.11       25.36
      10.02   254.62    .662E+07     4549.3         3.25       24.25
      10.66   255.26    .751E+07     5364.9         3.38       23.32
      11.30   255.90    .845E+07     6265.7         3.51       22.49
      11.94   256.54    .946E+07     7260.1         3.63       21.72

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8032) 4834.70    30.40   10.00  22.54      1.76      1.12
     OUTFLOW: ID= 1 (6130) 4834.70    28.55   11.00  22.54      1.73      1.12

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1301) |   Area    (ha)= 320.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  47.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     204.93        115.27
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1461.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        116.32
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      14.77 (ii)   24.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      35.80         17.28         47.168 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         51.11          67.75
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.58           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
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```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  18.6040     9.7083
                         1.1320     5.3237   |  22.6740    10.8355
                         6.6360     6.1006   |  30.4650    12.2155
                        10.3780     7.2341   |  31.8650    12.2255
                        14.1960     8.4233   |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1301)    320.200     47.168      6.00      67.75
     OUTFLOW: ID= 1 (5130)    320.200     19.101      6.50      67.74

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.50
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 10.0016

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--------------------
| CALIB            |
| NASHYD    (1302) |   Area    (ha)=  65.86   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   1.620

     PEAK FLOW       (cms)=   2.002 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  46.599
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.527

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8036) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1302):    65.86   2.002     6.75    46.60
       + ID2= 2 (5130):   320.20  19.101     6.50    67.74
         ================================================
         ID = 3 (8036):   386.06  21.078     6.50    64.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8034) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):  4834.70  28.549    11.00    22.54
       + ID2= 2 (8036):   386.06  21.078     6.50    64.13
         ================================================
         ID = 3 (8034):  5220.76  32.952     7.00    25.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1861) |   Area    (ha)=   6.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.49         3.36
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     213.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        68.09
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       4.66 (ii)   17.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.34          0.803 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50        30.28          45.46
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.34           0.51
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5186) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4580     0.1865
                         0.0230     0.0917   |   0.5750     0.2106
                         0.1330     0.1071   |   0.6700     0.2341
                         0.2470     0.1341   |   1.0700     0.2441
                         0.3430     0.1582   |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1861)      6.850     0.803      6.00      45.46
     OUTFLOW: ID= 1 (5186)      6.850     0.293      6.50      45.31

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.50
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1459

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--------------------
| CALIB            |
| STANDHYD  (1862) |   Area    (ha)= 344.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     148.32       196.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1516.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        57.40
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      15.11 (ii)   28.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      18.70        13.30         26.971 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        28.21         41.62
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.32          0.47


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1862):   344.94  26.971     6.00    41.62
       + ID2= 2 (5186):     6.85   0.293     6.50    45.31
         ================================================
         ID = 3 (9186):   351.79  27.021     6.00    41.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1881) |   Area    (ha)=   1.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.84         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
```

```
     Length           (m)=      86.41        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       147.26
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       2.71 (ii)   11.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.09         0.255 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00         6.00
     RUNOFF VOLUME    (mm)=      86.50        44.60        63.87
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.50         0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5188) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750      0.0357
                          0.0040     0.0200   |   0.0940      0.0386
                          0.0220     0.0240   |   0.1100      0.0416
                          0.0410     0.0277   |   0.5100      0.0516
                          0.0560     0.0315   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1881)     1.120      0.255      6.00      63.87
     OUTFLOW: ID= 1 (5188)     1.120      0.082      6.25      62.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.14
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0377

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--------------------
| CALIB            |
| STANDHYD  (1882) |   Area    (ha)= 307.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     126.04       181.37
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1431.57        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        62.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.59 (ii)   27.51 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      18.38        13.63        26.918 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        32.34        45.88
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.37         0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1882):   307.41  26.918     6.00    45.88
        + ID2= 2 (5188):     1.12   0.082     6.25    62.75
          ================================================
          ID = 3 (9188):   308.53  26.961     6.00    45.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9186):   351.79  27.021     6.00    41.69
        + ID2= 2 (9188):   308.53  26.961     6.00    45.94
          ================================================
          ID = 3 (8068):   660.32  53.982     6.00    43.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1821) |   Area    (ha)= 111.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.72        67.08
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     863.33        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        59.01
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.77 (ii)   23.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.09         5.10         8.281 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        28.33        38.22
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.32         0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5182) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7800      2.5656
                          0.3790     1.0207   |   7.3720      3.0829
                          1.6240     1.1939   |   8.7710      3.5956
                          3.0930     1.6631   |   9.1710      3.6056
                          4.3530     2.1032   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1821)    111.800      8.281      6.00      38.22
     OUTFLOW: ID= 1 (5182)    111.800      3.544      6.75      38.21

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.80
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.8363

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--------------------
| CALIB            |
| NASHYD    (1822) |   Area    (ha)=  44.40   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   0.966
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```
     PEAK FLOW       (cms)=   0.626 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  24.973
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8062) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1822):    44.40   0.626     7.00    24.97
       + ID2= 2 (5182):   111.80   3.544     6.75    38.21
         ================================================
         ID = 3 (8062):   156.20   4.164     6.75    34.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1841) |   Area    (ha)= 145.07
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.63        75.44
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     983.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        80.37
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.65 (ii)   23.32 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      7.19         7.95        12.231 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        34.00         43.98
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.38          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5184) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.9270      2.3472
                          0.2980     1.0088   |   7.4630      2.7585
                          1.6660     1.1775   |   8.7490      3.1642
                          3.1100     1.4809   |   9.1490      3.1742
                          4.4100     1.8897   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1841)    145.070     12.231      6.00      43.98
     OUTFLOW: ID= 1 (5184)    145.070      6.068      6.50      43.97

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.61
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.4359

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--------------------
| CALIB            |
| STANDHYD  (1842) |   Area    (ha)= 117.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      49.33        68.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     884.87        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        69.61
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.93 (ii)   23.30 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.32         6.21          9.241 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50        32.11         41.36
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.36          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  55.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8060) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1842):   117.45   9.241     6.00    41.36
       + ID2= 2 (5184):   145.07   6.068     6.50    43.97
         ================================================
         ID = 3 (8060):   262.52  13.238     6.25    42.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8064) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8060):   262.52  13.238     6.25    42.80
       + ID2= 2 (8062):   156.20   4.164     6.75    34.45
         ================================================
         ID = 3 (8064):   418.72  16.419     6.25    39.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1781) |   Area    (ha)=  55.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  13.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.65        33.86
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     608.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       108.88
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.73 (ii)   19.07 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.05         5.34          5.967 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=     86.50        49.39         54.21
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.56          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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          CN*  =  74.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5178) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.1870     0.7248
                         0.1880     0.3394   |   9.3670     0.8313
                         1.7260     0.4003   |  10.7440     0.9285
                         3.2000     0.4933   |  11.1440     0.9385
                         4.6710     0.6039   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1781)     55.500      5.967      6.25      54.21
     OUTFLOW: ID= 1 (5178)     55.500      5.092      6.25      54.20

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.35
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6769

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-------------------
| CALIB             |
| NASHYD    (1782)  |   Area    (ha)= 219.91   Curve Number   (CN)= 77.6
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   4.921

     PEAK FLOW       (cms)=   5.770 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  43.783
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.495

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8046) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1782):   219.91   5.770     6.75    43.78
       + ID2= 2 (5178):    55.50   5.092     6.25    54.20
         ================================================
         ID = 3 (8046):   275.41  10.512     6.50    45.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0180)  |   Area    (ha)= 226.65   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   3.299

     PEAK FLOW       (cms)=   2.950 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  31.398
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   226.65   2.950     7.75    31.40
       + ID2= 2 (8046):   275.41  10.512     6.50    45.88
         ================================================
         ID = 3 (8050):   502.06  13.018     6.50    39.34
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1741)  |   Area    (ha)=  56.30
|ID= 1 DT=15.0 min  |   Total Imp(%)=  35.00   Dir. Conn.(%)=  18.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        19.70         36.60
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=       612.64         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=       116.82         69.65
               over (min)         15.00         30.00
     Storage Coeff.  (min)=         8.77 (ii)    21.13 (ii)
     Unit Hyd. Tpeak (min)=        15.00         30.00
     Unit Hyd. peak  (cms)=         0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.88          3.50      5.113 (iii)
     TIME TO PEAK    (hrs)=         6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=        86.50         36.13      45.20
     TOTAL RAINFALL   (mm)=        88.50         88.50      88.50
     RUNOFF COEFFICIENT   =         0.98          0.41       0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5174) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1370     1.3070
                         0.0580     0.5427   |   1.4280     1.5354
                         0.3290     0.6196   |   1.6620     1.7593
                         0.6130     0.8627   |   2.0620     1.7693
                         0.8510     1.0621   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1741)     56.300      5.113      6.00      45.20
     OUTFLOW: ID= 1 (5174)     56.300      1.236      7.00      45.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.16
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3867

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-------------------
| CALIB             |
| NASHYD    (1742)  |   Area    (ha)=  82.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   2.055

     PEAK FLOW       (cms)=   1.947 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  36.575
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.413

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8044) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1742):    82.80   1.947     6.75    36.57
       + ID2= 2 (5174):    56.30   1.236     7.00    45.16
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          ID = 3 (8044):   139.10   3.157     7.00    40.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0172) |   Area    (ha)= 202.23   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.89

     Unit Hyd Qpeak  (cms)=   3.875

     PEAK FLOW       (cms)=   4.760 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  44.397
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.502

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0168) |   Area    (ha)= 247.13   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   5.611

     PEAK FLOW       (cms)=   3.090 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.587
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0170) |   Area    (ha)= 166.91   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.80

     Unit Hyd Qpeak  (cms)=   3.553

     PEAK FLOW       (cms)=   2.928 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  31.205
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.353

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8040) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   247.13   3.090     7.00    21.59
       + ID2= 2 (0170):   166.91   2.928     7.00    31.21
         ================================================
         ID = 3 (8040):   414.04   6.018     7.00    25.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8042) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   202.23   4.760     7.00    44.40
       + ID2= 2 (8040):   414.04   6.018     7.00    25.46
         ================================================
         ID = 3 (8042):   616.27  10.778     7.00    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6174) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1741.0) ------>
               Distance      Elevation       Manning
                   0.00         296.00        0.0450
                  13.36         288.94        0.0450
                  26.71         288.64        0.0450
                  51.19         287.96        0.0450
                  73.45         287.32        0.0450
                  86.81         286.48        0.0450
                 102.39         285.08        0.0450
                 110.73         282.76        0.0450
                 115.73         281.06    0.0450 /0.0350  Main Channel
                 115.74         280.35        0.0350      Main Channel
                 120.73         280.35        0.0350      Main Channel
                 120.74         281.10    0.0350 /0.0450  Main Channel
                 125.74         282.64        0.0450
                 135.78         286.87        0.0450
                 149.13         289.58        0.0450
                 162.49         292.29        0.0450
                 175.84         293.95        0.0450
                 195.88         295.13        0.0450
                 213.68         296.02        0.0450
                 220.36         296.09        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.71   281.06    .136E+05       6.0          1.69      37.89
       1.50   281.85    .358E+05      22.5          2.42      26.43
       2.28   282.63    .726E+05      53.8          2.85      22.47
       3.07   283.42    .124E+06     104.1          3.24      19.79
       3.86   284.21    .189E+06     176.7          3.60      17.81
       4.64   284.99    .268E+06     274.9          3.94      16.26
       5.43   285.78    .369E+06     390.8          4.07      15.73
       6.21   286.56    .501E+06     551.6          4.23      15.15
       7.00   287.35    .674E+06     750.5          4.28      14.97
       7.79   288.14    .920E+06     993.3          4.15      15.44
       8.57   288.92    .126E+07    1361.5          4.14      15.47
       9.36   289.71    .167E+07    1986.0          4.56      14.04
      10.15   290.50    .210E+07    2739.7          5.02      12.76
      10.93   291.28    .254E+07    3615.0          5.47      11.70
      11.72   292.07    .300E+07    4608.8          5.91      10.83
      12.50   292.85    .347E+07    5693.3          6.30      10.16
      13.29   293.64    .397E+07    6892.9          6.67       9.60
      14.08   294.43    .450E+07    8150.4          6.97       9.19
      14.86   295.21    .506E+07    9525.0          7.23       8.86

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8042)  616.27    10.78    7.00  31.68      0.94      1.85
     OUTFLOW: ID= 1 (6174)  616.27     9.98    7.75  31.68      0.90      1.82

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-------------------
| ADD HYD   (8048) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6174):   616.27   9.979     7.75    31.68
       + ID2= 2 (8044):   139.10   3.157     7.00    40.05
         ================================================
         ID = 3 (8048):   755.37  12.829     7.50    33.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8052) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8048):   755.37  12.829     7.50    33.22
       + ID2= 2 (8050):   502.06  13.018     6.50    39.34
         ================================================
         ID = 3 (8052):  1257.43  22.829     7.00    35.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8058) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8052):  1257.43  22.829     7.00    35.66
        + ID2= 2 (8064):   418.72  16.419     6.25    39.69
          ================================================
          ID = 3 (8058):  1676.15  37.611     6.50    36.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1762) |   Area    (ha)= 162.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  11.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.12       119.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1039.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        56.13
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.04 (ii)   25.52 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.59         8.41        10.290 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        30.78         36.91
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.35          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (1761) |   Area    (ha)=  48.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  21.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.40        24.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     570.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        88.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   19.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.94         3.08          4.929 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        36.96         47.36
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.42          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5176) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.2640      1.3175
                         0.1650     0.6418   |   4.0090      1.4908
                         0.9450     0.7489   |   4.7720      1.6604
                         1.7610     0.9426   |   5.1720      1.6704
                         2.4420     1.1144   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1761)     48.800      4.929      6.00      47.36
     OUTFLOW: ID= 1 (5176)     48.800      2.117      6.50      47.34

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.96
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0495

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-------------------
| ADD HYD   (8056) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1762):   162.00  10.290     6.25    36.91
        + ID2= 2 (5176):    48.80   2.117     6.50    47.34
          ================================================
          ID = 3 (8056):   210.80  11.917     6.25    39.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8066) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8056):   210.80  11.917     6.25    39.32
        + ID2= 2 (8058):  1676.15  37.611     6.50    36.67
          ================================================
          ID = 3 (8066):  1886.95  47.195     6.25    36.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8070) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8066):  1886.95  47.195     6.25    36.97
        + ID2= 2 (8068):   660.32  53.982     6.00    43.67
          ================================================
          ID = 3 (8070):  2547.27  92.364     6.25    38.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6190) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1901.0) ------>
               Distance      Elevation       Manning
                  0.00         261.34        0.0600
                 19.76         261.64        0.0600
                 59.28         261.29        0.0600
                 79.04         261.09        0.0600
                103.74         255.99        0.0600
                153.13         253.42        0.0600
                192.65         252.78        0.0600
                212.29         249.80        0.0600
                217.29         249.50    0.0600 /0.0350  Main Channel
                217.30         249.05        0.0350      Main Channel
                222.29         249.05        0.0350      Main Channel
                222.30         249.50    0.0350 /0.0600  Main Channel
                227.30         249.80        0.0600
                232.17         252.31        0.0600
                276.63         253.53        0.0600
                326.03         256.97        0.0600
                355.67         257.30        0.0600
                400.12         260.08        0.0600
                469.28         261.25        0.0600
                489.04         262.53        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

```
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.45   249.50    .436E+04       1.0          0.43      75.97
       1.07   250.12    .205E+05       5.4          0.51      62.96
       1.70   250.75    .451E+05      14.8          0.64      50.78
       2.32   251.37    .762E+05      29.2          0.74      43.46
       2.94   251.99    .114E+06      49.1          0.84      38.61
       3.57   252.62    .161E+06      70.2          0.85      38.18
       4.19   253.24    .248E+06      93.4          0.73      44.29
       4.81   253.86    .398E+06     154.9          0.76      42.79
       5.44   254.49    .576E+06     246.1          0.83      38.99
       6.06   255.11    .779E+06     362.7          0.90      35.79
       6.68   255.73    .101E+07     506.5          0.98      33.15
       7.30   256.35    .126E+07     687.6          1.06      30.52
       7.93   256.98    .153E+07     902.8          1.15      28.18
       8.55   257.60    .183E+07    1114.3          1.18      27.39
       9.17   258.22    .216E+07    1407.8          1.26      25.55
       9.80   258.85    .250E+07    1735.4          1.35      24.03
      10.42   259.47    .286E+07    2097.5          1.42      22.73
      11.04   260.09    .324E+07    2492.3          1.49      21.63
      11.67   260.72    .364E+07    2837.8          1.51      21.39

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8070) 2547.27    92.36    6.25  38.70      4.16      0.73
     OUTFLOW: ID= 1 (6190) 2547.27    63.86    6.50  38.70      3.37      0.84


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1901) |   Area    (ha)=  13.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.82         5.67
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     299.89        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       123.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.71 (ii)   15.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.29         1.09       2.022 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=      86.50        48.64       60.37
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.55        0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5190) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9030     0.3849
                          0.0460     0.1975   |   1.1330     0.4289
                          0.2610     0.2331   |   1.3190     0.4720
                          0.4870     0.2836   |   1.7190     0.4820
                          0.6750     0.3308   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1901)     13.490      2.022      6.00      60.37
     OUTFLOW: ID= 1 (5190)     13.490      0.839      6.50      60.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.48
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3716

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| CALIB            |
| STANDHYD  (1902) |   Area    (ha)= 274.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     142.74       131.76
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1352.77        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       107.46
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.11 (ii)   24.50 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      18.64        18.29      30.538 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=      86.50        46.49       57.69
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.53        0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9190) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1902):   274.50  30.538     6.00    57.69
       + ID2= 2 (5190):    13.49   0.839     6.50    60.29
         ================================================
         ID = 3 (9190):   287.99  30.814     6.00    57.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8072) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6190):  2547.27  63.858     6.50    38.70
       + ID2= 2 (9190):   287.99  30.814     6.00    57.81
         ================================================
         ID = 3 (8072):  2835.26  84.837     6.25    40.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6192) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1921.0) ------>
               Distance      Elevation       Manning
                   0.00         264.40        0.0500
                   3.64         263.94        0.0500
                  14.54         261.05        0.0500
                  29.08         256.78        0.0500
                  36.36         254.96        0.0500
                  50.90         252.20        0.0500
                  65.44         249.78        0.0500
                  76.35         246.86        0.0500
                  77.24         245.90        0.0500
                  82.24         245.45    0.0500 /0.0350  Main Channel
                  82.25         244.90        0.0350      Main Channel
                  87.25         244.90        0.0350      Main Channel
                  87.26         245.45    0.0350 /0.0500  Main Channel
                  94.53         246.89        0.0500
                 170.87         247.16        0.0500
                 218.13         248.69        0.0500
                 265.40         249.22        0.0500
                 301.75         250.78        0.0500
                 338.11         253.47        0.0500
                 359.92         264.00        0.0500
```

<----------- TRAVEL TIME TABLE ----------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	245.45	.345E+04	2.0	0.71	29.20
1.53	246.43	.174E+05	14.6	1.05	19.92
2.50	247.40	.767E+05	52.8	0.86	24.20
3.48	248.38	.224E+06	199.8	1.11	18.71
4.46	249.36	.429E+06	441.2	1.29	16.19
5.43	250.33	.691E+06	874.3	1.58	13.18
6.41	251.31	.987E+06	1468.3	1.86	11.20
7.38	252.28	.131E+07	2224.8	2.13	9.79
8.36	253.26	.165E+07	3132.4	2.37	8.78
9.34	254.24	.201E+07	4256.4	2.65	7.87
10.31	255.21	.238E+07	5551.0	2.92	7.15
11.29	256.19	.276E+07	6996.8	3.17	6.57
12.27	257.17	.314E+07	8585.9	3.42	6.10
13.24	258.14	.353E+07	10315.9	3.65	5.71
14.22	259.12	.393E+07	12180.7	3.87	5.38
15.19	260.09	.434E+07	14178.2	4.09	5.10
16.17	261.07	.475E+07	16306.5	4.29	4.85
17.15	262.05	.517E+07	18558.6	4.49	4.64
18.12	263.02	.559E+07	20939.7	4.68	4.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (8072)	2835.26	84.84	6.25	40.65	2.72	0.91
OUTFLOW: ID= 1 (6192)	2835.26	70.63	6.75	40.65	2.62	0.89

CALIB			
STANDHYD (1921)	Area (ha)= 72.27		
ID= 1 DT=15.0 min	Total Imp(%)= 42.00	Dir. Conn.(%)= 19.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.35	41.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	694.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		116.82	68.94
over (min)		15.00	30.00
Storage Coeff. (min)=		9.45 (ii)	21.87 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.05

		TOTALS
PEAK FLOW	(cms)=	3.82	3.90	6.295 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	32.55	42.80
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.37	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5192)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.1390	1.4346
	0.2060	0.7072	3.8730	1.6637
	0.9550	0.8170	4.8310	1.9184
	1.7940	1.0081	5.2310	1.9284
	2.4250	1.1871	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1921)	72.270	6.295	6.00	42.80
OUTFLOW: ID= 1 (5192)	72.270	2.756	6.75	42.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.77

TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.3250

CALIB		
STANDHYD (1922)	Area (ha)= 174.34	
ID= 1 DT=15.0 min	Total Imp(%)= 39.00	Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.99	106.35
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1078.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		116.82	64.58
over (min)		15.00	30.00
Storage Coeff. (min)=		12.31 (ii)	25.05 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	8.02	8.67	13.475 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	31.70	41.56
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.36	0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8074)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (1922):	174.34	13.475	6.00	41.56	
+ ID2= 2 (5192):	72.27	2.756	6.75	42.79	
ID = 3 (8074):	246.61	14.267	6.25	41.92	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8076)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6192):	2835.26	70.631	6.75	40.65	
+ ID2= 2 (8074):	246.61	14.267	6.25	41.92	
ID = 3 (8076):	3081.87	78.994	6.75	40.75	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0196)	Area (ha)= 41.47	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.24		

Unit Hyd Qpeak (cms)= 2.950

PEAK FLOW (cms)= 2.030 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 33.271
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.376

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

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| STANDHYD  (1941) |   Area    (ha)=   0.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.34         0.42
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=     71.18        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82       105.29
               over (min)      15.00        15.00
     Storage Coeff.  (min)=     2.41 (ii)   12.89 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.09          0.128 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=     86.50        44.32          50.63
     TOTAL RAINFALL   (mm)=     88.50        88.50          88.50
     RUNOFF COEFFICIENT   =      0.98         0.50           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5194) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0510      0.0197
                         0.0030     0.0093   |   0.0640      0.0226
                         0.0150     0.0107   |   0.0740      0.0253
                         0.0270     0.0138   |   0.4740      0.0353
                         0.0380     0.0165   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1941)    0.760      0.128      6.00      50.63
     OUTFLOW: ID= 1 (5194)    0.760      0.040      6.25      49.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.50
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0174

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-------------------
| CALIB             |
| NASHYD    (1942) |   Area    (ha)= 255.33   Curve Number   (CN)= 69.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.68

     Unit Hyd Qpeak  (cms)=   6.448

     PEAK FLOW       (cms)=   5.827 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  35.110
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.397

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1942):   255.33   5.827     6.75    35.11
        + ID2= 2 (5194):     0.76   0.040     6.25    49.62
          ================================================
          ID = 3 (9194):   256.09   5.862     6.75    35.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8078) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0196):    41.47   2.030     6.00    33.27
        + ID2= 2 (9194):   256.09   5.862     6.75    35.15
          ================================================
          ID = 3 (8078):   297.56   7.472     6.50    34.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6198) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (1981.0) ------>
              Distance      Elevation       Manning
                 0.00         267.15        0.0500
                22.99         265.94        0.0500
                51.73         261.39        0.0500
                74.72         258.75        0.0500
                94.83         257.79        0.0500
               114.95         254.36        0.0500
               126.44         254.06        0.0500
               132.19         253.68        0.0500
               135.06         253.35        0.0500
               137.94         252.93    0.0500 /0.0300  Main Channel
               140.81         252.41        0.0300      Main Channel
               143.69         251.89        0.0300      Main Channel
               146.56         252.51        0.0300      Main Channel
               149.43         253.36    0.0300 /0.0500  Main Channel
               158.05         255.89        0.0500
               172.42         256.25        0.0500
               204.03         259.15        0.0500
               229.90         260.36        0.0500
               252.89         260.46        0.0500
               284.50         260.45        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.35    252.24    .111E+04        0.6          0.97       31.07
       0.69    252.58    .442E+04        3.8          1.55       19.42
       1.04    252.93    .974E+04       11.1          2.06       14.65
       1.51    253.40    .203E+05       31.2          2.77       10.87
       1.98    253.87    .357E+05       65.0          3.30        9.14
       2.45    254.34    .596E+05      112.9          3.43        8.80
       2.92    254.81    .935E+05      186.8          3.62        8.34
       3.39    255.28    .131E+06      282.1          3.89        7.75
       3.86    255.75    .172E+06      398.2          4.18        7.22
       4.33    256.22    .221E+06      527.0          4.31        6.99
       4.80    256.69    .282E+06      697.3          4.47        6.75
       5.27    257.16    .350E+06      898.5          4.64        6.50
       5.74    257.63    .425E+06     1131.4          4.82        6.26
       6.21    258.10    .508E+06     1367.4          4.88        6.19
       6.68    258.57    .603E+06     1635.6          4.91        6.14
       7.15    259.04    .709E+06     1977.2          5.04        5.98
       7.62    259.51    .826E+06     2360.5          5.17        5.83
       8.09    259.98    .954E+06     2790.7          5.29        5.70
       8.56    260.45    .110E+07     3179.6          5.25        5.74

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8078)  297.56     7.47    6.50  34.89      0.87      1.77
     OUTFLOW: ID= 1 (6198)  297.56     7.24    6.75  34.89      0.86      1.76

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-------------------
| CALIB             |
| STANDHYD  (1981) |   Area    (ha)= 149.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     65.98        83.97
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    999.83        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        73.94
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            over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.77 (ii)   23.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                  *TOTALS*
     PEAK FLOW       (cms)=       7.40         8.05        12.498 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        33.66         43.70
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.38          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5198) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.9910      3.4957
                          0.4390     1.7800   |  13.3530      3.9512
                          2.6180     2.0449   |  15.3540      4.3979
                          5.1680     2.5932   |  15.7540      4.4079
                          7.9230     3.0040   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1981)    149.950     12.498      6.00      43.70
     OUTFLOW: ID= 1 (5198)    149.950      6.191      6.50      43.70

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.54
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.7998

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--------------------
| CALIB            |
| STANDHYD  (1982) |   Area    (ha)= 240.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.12       192.49
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1266.52        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        48.80
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.56 (ii)   27.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                  *TOTALS*
     PEAK FLOW       (cms)=       5.34        11.20        13.604 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        28.39         33.62
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.32          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  57.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1982):   240.61  13.604     6.25    33.62
        + ID2= 2 (5198):   149.95   6.191     6.50    43.70
          ================================================
          ID = 3 (8080):   390.56  17.801     6.25    37.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8082) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6198):   297.56   7.243     6.75    34.89
        + ID2= 2 (8080):   390.56  17.801     6.25    37.49
          ================================================
          ID = 3 (8082):   688.12  23.047     6.25    36.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8076):  3081.87  78.994     6.75    40.75
        + ID2= 2 (8082):   688.12  23.047     6.25    36.37
          ================================================
          ID = 3 (8084):  3769.99  99.594     6.75    39.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2001.0) ------>
               Distance      Elevation       Manning
                  0.00         252.47        0.0500
                 10.38         252.29        0.0500
                 20.76         252.28        0.0500
                 41.52         247.66        0.0500
                 62.28         247.47        0.0500
                 80.45         247.34        0.0500
                 90.83         246.85        0.0500
                103.81         245.51        0.0500
                106.00         244.50        0.0500
                108.99         244.05    0.0500 /0.0300  Main Channel
                109.00         243.50        0.0300      Main Channel
                114.00         243.50        0.0300      Main Channel
                114.01         244.05    0.0300 /0.0500  Main Channel
                118.99         244.50        0.0500
                132.36         245.09        0.0500
                150.52         245.83        0.0500
                199.83         249.24        0.0500
                207.62         250.16        0.0500
                236.16         253.11        0.0500
                256.92         253.83        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.28    243.77    .365E+04         0.7         0.54       81.42
      0.55    244.05    .730E+04         2.2         0.81       54.59
      1.05    244.55    .197E+05         7.2         0.97       45.51
      1.54    245.04    .463E+05        17.2         0.99       44.76
      2.04    245.54    .895E+05        34.8         1.03       42.81
      2.53    246.03    .152E+06        62.8         1.09       40.43
      3.03    246.53    .232E+06       104.7         1.20       36.91
      3.52    247.02    .328E+06       159.7         1.29       34.19
      4.02    247.52    .450E+06       223.4         1.32       33.56
      4.51    248.01    .627E+06       326.9         1.38       31.99
      5.01    248.51    .820E+06       463.0         1.50       29.52
      5.50    249.00    .103E+07       626.0         1.62       27.30
      6.00    249.50    .124E+07       820.1         1.75       25.24
      6.49    249.99    .147E+07      1044.4         1.89       23.42
      6.99    250.49    .170E+07      1292.6         2.01       21.95
      7.48    250.98    .195E+07      1565.6         2.13       20.71
      7.98    251.48    .220E+07      1864.5         2.25       19.65
      8.47    251.97    .246E+07      2189.4         2.36       18.73
      8.97    252.47    .274E+07      2427.5         2.35       18.80

                                    <---- hydrograph ---->   <-pipe / channel->
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                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8084) 3769.99    99.59    6.75  39.95      2.97      1.18
     OUTFLOW: ID= 1 (6200) 3769.99    82.16    7.25  39.95      2.76      1.14


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| CALIB            |
| STANDHYD  (2001) |   Area    (ha)=  42.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  19.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.54        22.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       107.95
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.06 (ii)   18.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.34         3.63          4.735 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50        46.69          54.26
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.53           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5200) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.7210      1.0525
                          0.1450     0.4892   |   3.4130      1.1947
                          0.7930     0.5722   |   4.0030      1.3346
                          1.4410     0.7540   |   4.4030      1.3446
                          2.0370     0.8927   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2001)     42.480      4.735      6.00      54.26
     OUTFLOW: ID= 1 (5200)     42.480      2.343      6.50      54.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.47
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9767

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--------------------
| CALIB            |
| STANDHYD  (2002) |   Area    (ha)=  72.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  13.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.56        50.23
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     696.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        82.65
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.47 (ii)   21.02 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.63         5.73          6.608 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50        42.53          48.25
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.48           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  70.7     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2002):    72.79   6.608     6.25    48.25
        + ID2= 2 (5200):    42.48   2.343     6.50    54.24
          ================================================
          ID = 3 (8086):   115.27   8.417     6.25    50.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8088) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6200):  3769.99  82.160     7.25    39.95
        + ID2= 2 (8086):   115.27   8.417     6.25    50.45
          ================================================
          ID = 3 (8088):  3885.26  85.203     7.25    40.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8034):  5220.76  32.952     7.00    25.62
        + ID2= 2 (8088):  3885.26  85.203     7.25    40.26
          ================================================
          ID = 3 (8038):  9106.02 117.801     7.25    31.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (1362.0) ------>
               Distance      Elevation       Manning
                  0.00         252.00         0.0400
                  2.35         244.60         0.0400
                 39.94         243.14         0.0400
                 58.74         242.65         0.0400
                 91.63         242.03         0.0400
                101.03         241.69         0.0400
                103.38         241.66         0.0400
                105.73         240.76         0.0400
                105.93         240.59         0.0400
                109.18         240.28    0.0400 /0.0300  Main Channel
                110.43         239.81         0.0300      Main Channel
                111.68         239.81         0.0300      Main Channel
                113.43         240.09    0.0300 /0.0400  Main Channel
                118.43         240.50         0.0400
                138.62         241.68         0.0400
                152.72         241.60         0.0400
                166.82         242.68         0.0400
                185.62         249.09         0.0400
                197.36         251.00         0.0400
                232.61         252.28         0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.28   240.09    .118E+04       0.1         0.20     142.09
```

```
       0.91   240.72    .114E+05       2.4          0.35      79.92
       1.53   241.34    .352E+05       9.4          0.45      62.17
       2.16   241.97    .831E+05      22.8          0.46      60.69
       2.79   242.60    .172E+06      54.2          0.53      52.74
       3.41   243.22    .297E+06     111.4          0.63      44.49
       4.04   243.85    .445E+06     194.1          0.74      38.22
       4.67   244.48    .612E+06     301.1          0.83      33.88
       5.29   245.10    .793E+06     443.0          0.94      29.82
       5.92   245.73    .976E+06     611.3          1.06      26.60
       6.55   246.36    .116E+07     802.0          1.17      24.12
       7.18   246.99    .135E+07    1014.0          1.27      22.16
       7.80   247.61    .154E+07    1246.2          1.37      20.56
       8.43   248.24    .173E+07    1498.0          1.46      19.24
       9.06   248.87    .192E+07    1768.8          1.55      18.12
       9.68   249.49    .212E+07    2049.6          1.63      17.24
      10.31   250.12    .232E+07    2344.7          1.71      16.49
      10.94   250.75    .252E+07    2658.5          1.78      15.83
      11.56   251.37    .274E+07    2931.2          1.81      15.56

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8038) 9106.02   117.80    7.25  31.87      3.46      0.64
     OUTFLOW: ID= 1 (1365) 9106.02    99.11    7.75  31.87      3.29      0.61


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--------------------
| CALIB            |
| STANDHYD  (1321) |   Area    (ha)= 208.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  46.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     139.96        68.94
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1180.11        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       106.46
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.00 (ii)   23.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      24.07         9.66      30.312 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      86.50        42.45       62.71
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.48        0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5132) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9970     7.9437
                          0.9210     5.2645   |  12.4650     8.5839
                          3.2690     5.3433   |  16.9060     9.2236
                          6.3980     5.6925   |  17.3060     9.2336
                          7.1860     6.8155   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1321)    208.900     30.312      6.00      62.71
     OUTFLOW: ID= 1 (5132)    208.900      7.460      6.75      62.70

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.61
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.2206

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--------------------
| CALIB            |
| STANDHYD  (1322) |   Area    (ha)=  81.94
```

```
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  25.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        51.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     739.10        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        63.56
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.81 (ii)   22.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.64         4.36       8.407 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      86.50        34.96       47.84
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.40        0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8090) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1322):    81.94   8.407     6.00    47.84
       + ID2= 2 (5132):   208.90   7.460     6.75    62.70
         ================================================
         ID = 3 (8090):   290.84  12.947     6.25    58.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1342) |   Area    (ha)=  97.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  41.00   Dir. Conn.(%)=  28.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.84        57.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     804.82        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        51.04
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.33 (ii)   24.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.38         3.74       9.712 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      86.50        27.74       44.20
     TOTAL RAINFALL   (mm)=      88.50        88.50       88.50
     RUNOFF COEFFICIENT   =       0.98         0.31        0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1341) |   Area    (ha)=  58.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  20.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.64        41.15
     Dep. Storage     (mm)=       2.00         5.00
```

```
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     626.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        45.39
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.88 (ii)   23.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.33         2.42          4.838 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        26.39         38.41
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.30          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5134) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1250      1.0755
                          0.1070     0.6119   |   1.7570      1.1641
                          0.4130     0.6225   |   2.3860      1.2526
                          0.8380     0.7018   |   2.7860      1.2626
                          0.9790     0.8884   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1341)     58.790      4.838      6.00      38.41
     OUTFLOW: ID= 1 (5134)     58.790      1.557      6.75      38.39

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.19
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1365

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| ADD HYD   (9134) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1342):    97.16   9.712     6.00     44.20
       + ID2= 2 (5134):    58.79   1.557     6.75     38.39
         ==================================================
         ID = 3 (9134):   155.95   9.817     6.00     42.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8092) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8090):   290.84  12.947     6.25     58.52
       + ID2= 2 (9134):   155.95   9.817     6.00     42.01
         ==================================================
         ID = 3 (8092):   446.79  20.342     6.25     52.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (1366) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1361.0) ------>
               Distance      Elevation       Manning
                   0.00         262.81        0.0400
                  37.23         260.54        0.0400
                  79.12         256.98        0.0400
                 111.70         254.74        0.0400
                 172.20         252.76        0.0400
                 251.32         248.82        0.0400
                 255.97         248.75        0.0400
                 260.43         248.76        0.0400
                 265.43         248.49        0.0400
                 268.68         248.18    0.0400 /0.0300  Main Channel
                 269.93         247.71        0.0300      Main Channel
                 271.18         247.71        0.0300      Main Channel
                 272.93         247.99        0.0300      Main Channel
                 277.93         248.40    0.0300 /0.0400  Main Channel
                 283.90         248.88        0.0400
                 307.17         249.60        0.0400
                 321.13         251.59        0.0400
                 363.01         257.08        0.0400
                 400.25         257.58        0.0400
                 460.75         261.91        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.47    248.18    .881E+04       1.3         0.76      114.66
       1.19    248.90    .742E+05      17.3         1.22       71.44
       1.92    249.63    .278E+06      78.3         1.48       59.26
       2.64    250.35    .589E+06     210.3         1.87       46.69
       3.36    251.07    .974E+06     414.3         2.23       39.19
       4.08    251.79    .143E+07     696.2         2.55       34.32
       4.81    252.52    .197E+07    1063.0         2.83       30.86
       5.53    253.24    .259E+07    1505.7         3.06       28.62
       6.25    253.96    .331E+07    2051.3         3.26       26.85
       6.97    254.68    .413E+07    2720.9         3.46       25.30
       7.70    255.41    .504E+07    3584.5         3.73       23.43
       8.42    256.13    .601E+07    4580.9         4.00       21.87
       9.14    256.85    .704E+07    5707.9         4.25       20.57
       9.86    257.57    .818E+07    6636.1         4.26       20.53
      10.59    258.30    .945E+07    8115.0         4.50       19.42
      11.31    259.02    .108E+08    9759.2         4.74       18.45
      12.03    259.74    .122E+08   11569.5         4.96       17.61
      12.75    260.46    .137E+08   13550.6         5.18       16.87
      13.48    261.19    .153E+08   15636.4         5.37       16.29

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8092)  446.79    20.34    6.25  52.75      1.23      1.23
     OUTFLOW: ID= 1 (1366)  446.79    10.11    7.25  52.75      0.87      0.96

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| CALIB            |
| STANDHYD  (1362) |   Area    (ha)= 371.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=  14.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      96.67       275.12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1574.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        62.37
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      15.45 (ii)   28.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      12.15        20.34         26.369 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        35.12         42.31
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.40          0.48

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (1361) |   Area    (ha)= 140.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  29.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.34        63.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     968.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       102.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.54 (ii)   22.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.67         8.75         16.335 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        42.33         55.14
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.48          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5136) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.3486
                         0.3100     2.4365   |   5.9200      5.0324
                         1.7670     2.5993   |   7.0820      5.7151
                         3.4020     2.8510   |   7.4820      5.7251
                         4.0310     3.5962   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1361)    140.620     16.335      6.00      55.14
     OUTFLOW: ID= 1 (5136)    140.620      4.484      7.00      55.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.45
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.1368

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-------------------
| ADD HYD   (8096) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1362):   371.79  26.369     6.25    42.31
       + ID2= 2 (5136):   140.62   4.484     7.00    55.12
         ================================================
         ID = 3 (8096):   512.41  30.129     6.25    45.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8094) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1366):   446.79  10.113     7.25    52.75
       + ID2= 2 (8096):   512.41  30.129     6.25    45.83
         ================================================
         ID = 3 (8094):   959.20  36.319     6.25    49.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8098) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1365):  9106.02  99.110     7.75    31.87
       + ID2= 2 (8094):   959.20  36.319     6.25    49.05
         ================================================
         ID = 3 (8098): 10065.22 118.031     7.75    33.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1381) |   Area    (ha)=  96.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  34.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.78        39.46
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     801.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        21.34
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.30 (ii)   30.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.89         1.45          9.483 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      86.50        14.91         39.25
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.17          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  28.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5138) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.4380      2.7648
                         0.3260     1.4281   |   8.0830      3.0750
                         1.8650     1.6876   |   9.4100      3.3790
                         3.4730     2.0447   |   9.8100      3.3890
                         4.8170     2.3809   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1381)     96.240     9.483      6.00      39.25
     OUTFLOW: ID= 1 (5138)     96.240     2.801      6.50      39.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.54
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.9182

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (1382) |   Area    (ha)= 318.55   Curve Number   (CN)= 33.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   4.976

     PEAK FLOW       (cms)=   1.570 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.622
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9138) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1382):   318.55   1.570     7.75    11.62
```

```
       + ID2= 2 (5138):    96.24   2.801     6.50    39.24
         ================================================
         ID = 3 (9138):   414.79   4.206     6.75    18.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1402) |   Area    (ha)= 131.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.05         93.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     935.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         15.20
               over (min)       15.00         45.00
     Storage Coeff.  (min)=      11.30 (ii)   34.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.26          2.30          8.195 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      86.50         15.35          30.29
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.17           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1401) |   Area    (ha)=  27.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.32         15.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     427.16         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         18.14
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       7.06 (ii)   28.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.70          0.53          3.019 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         16.66          39.71
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.19           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  37.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5140) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   1.8310     0.7127
                         0.0930     0.3344    |   2.2990     0.8148
                         0.5300     0.3869    |   2.6760     0.9148
                         0.9880     0.4994    |   3.0760     0.9248
                         1.3700     0.5962    |   0.0000     0.0000
```

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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1401)     27.370     3.019     6.00      39.71
     OUTFLOW: ID= 1 (5140)     27.370     0.995     6.50      39.68

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.95
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5081

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--------------------
| ADD HYD   (9140) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1402):   131.22   8.195     6.00    30.29
       + ID2= 2 (5140):    27.37   0.995     6.50    39.68
         ================================================
         ID = 3 (9140):   158.59   8.584     6.00    31.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8102) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9138):   414.79   4.206     6.75    18.03
       + ID2= 2 (9140):   158.59   8.584     6.00    31.91
         ================================================
         ID = 3 (8102):   573.38   9.722     6.00    21.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6142) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (1421.0) ------>
               Distance      Elevation       Manning
                   0.00         295.50        0.0400
                   7.25         295.36        0.0400
                  14.50         295.22        0.0400
                  21.75         295.22        0.0400
                  29.00         294.23        0.0400
                  52.56         286.45        0.0400
                  67.06         281.44        0.0400
                  77.94         278.28        0.0400
                  82.81         277.20    0.0400 /0.0300  Main Channel
                  83.21         276.80        0.0300      Main Channel
                  88.81         276.80        0.0300      Main Channel
                  96.41         276.80        0.0300      Main Channel
                  96.81         277.20    0.0300 /0.0400  Main Channel
                 103.31         278.96        0.0400
                 108.75         280.16        0.0400
                 117.81         282.73        0.0400
                 135.94         290.30        0.0400
                 159.50         292.14        0.0400
                 174.00         293.07        0.0400
                 179.44         293.37        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
      0.40    277.20    .238E+05        6.9          1.27       57.28
      1.25    278.05    .889E+05       50.9          2.50       29.13
      2.10    278.90    .179E+06      133.4          3.26       22.36
      2.95    279.75    .293E+06      256.7          3.83       19.03
      3.80    280.60    .432E+06      426.0          4.31       16.90
      4.66    281.46    .593E+06      644.3          4.75       15.35
      5.51    282.31    .776E+06      915.3          5.16       14.12
      6.36    283.16    .978E+06     1242.2          5.55       13.12
      7.21    284.01    .120E+07     1626.2          5.94       12.27
      8.06    284.86    .143E+07     2065.6          6.30       11.57
      8.91    285.71    .169E+07     2562.4          6.64       10.97
      9.76    286.56    .196E+07     3118.0          6.97       10.46
     10.61    287.41    .224E+07     3733.3          7.28       10.02
     11.46    288.26    .255E+07     4411.9          7.57        9.62
     12.31    289.11    .287E+07     5155.6          7.86        9.27
     13.17    289.97    .321E+07     5966.6          8.14        8.96
     14.02    290.82    .357E+07     6705.0          8.22        8.87
     14.87    291.67    .398E+07     7494.3          8.24        8.85
```

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      15.72   292.52    .444E+07    8405.3          8.28       8.80

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8102)  573.38     9.72    6.00  21.87      0.45      1.31
     OUTFLOW: ID= 1 (6142)  573.38     6.22    7.25  21.87      0.36      1.27


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--------------------
| CALIB            |
| STANDHYD  (1421) |   Area    (ha)=  69.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.40         38.37
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     682.01         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         85.78
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.35 (ii)   20.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.92          4.56          5.848 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         36.45          43.95
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.41           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5142) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6670      1.8169
                          0.2360     0.8525   |   5.8600      2.0773
                          1.3520     0.9863   |   6.8220      2.3321
                          2.5180     1.2732   |   7.2220      2.3421
                          3.4920     1.5199   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1421)     69.770      5.848      6.00      43.95
     OUTFLOW: ID= 1 (5142)     69.770      2.753      6.75      43.94

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.08
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3505

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--------------------
| CALIB            |
| NASHYD    (1422) |   Area    (ha)= 326.77   Curve Number   (CN)= 61.2
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   4.626

     PEAK FLOW       (cms)=   3.737 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  28.292
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9142) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1422):   326.77   3.737     7.75    28.29
        + ID2= 2 (5142):    69.77   2.753     6.75    43.94
          ================================================
          ID = 3 (9142):   396.54   6.149     6.75    31.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6142):   573.38   6.218     7.25    21.87
        + ID2= 2 (9142):   396.54   6.149     6.75    31.05
          ================================================
          ID = 3 (8104):   969.92  12.294     7.00    25.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1441) |   Area    (ha)=   6.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          3.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     204.78         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        110.16
               over (min)       15.00         15.00
     Storage Coeff.  (min)=       4.54 (ii)   14.84 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.30          0.74          1.043 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00           6.00
     RUNOFF VOLUME    (mm)=      86.50         46.29          52.32
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.52           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5144) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4210      0.1639
                          0.0210     0.0769   |   0.5290      0.1874
                          0.1220     0.0890   |   0.6150      0.2104
                          0.2270     0.1148   |   1.0150      0.2204
                          0.3150     0.1371   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1441)     6.290      1.043      6.00      52.32
     OUTFLOW: ID= 1 (5144)     6.290      0.344      6.50      52.18

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.94
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1468

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--------------------
| CALIB            |
| NASHYD    (1442) |   Area    (ha)= 129.40   Curve Number   (CN)= 74.9
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```
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.147

     PEAK FLOW       (cms)=   3.356 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  40.637
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.459

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1442):   129.40   3.356     6.75    40.64
       + ID2= 2 (5144):     6.29   0.344     6.50    52.18
         ================================================
         ID = 3 (9144):   135.69   3.663     6.75    41.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8106) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8104):   969.92  12.294     7.00    25.62
       + ID2= 2 (9144):   135.69   3.663     6.75    41.17
         ================================================
         ID = 3 (8106):  1105.61  15.866     7.00    27.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6146) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (1461.0) ------>
               Distance      Elevation       Manning
                  0.00         262.00        0.0350
                 39.58         257.13        0.0350
                123.69         257.51        0.0350
                183.07         256.83        0.0350
                202.86         255.73        0.0350
                212.75         254.73        0.0350
                222.65         252.86        0.0350
                232.44         250.70    0.0350 /0.0300  Main Channel
                236.44         250.20        0.0300      Main Channel
                236.84         249.80        0.0300      Main Channel
                242.44         249.80        0.0300      Main Channel
                250.04         249.80        0.0300      Main Channel
                250.44         250.20        0.0300      Main Channel
                252.33         250.57    0.0300 /0.0350  Main Channel
                286.97         253.52        0.0350
                331.50         255.80        0.0350
                380.98         255.55        0.0350
                445.30         258.40        0.0350
                455.19         259.82        0.0350
                489.83         262.22        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.39   250.19    .169E+05       5.4          1.04       52.00
      0.77   250.57    .373E+05      16.6          1.44       37.46
      1.44   251.24    .911E+05      60.3          2.14       25.19
      2.11   251.91    .169E+06     136.3          2.61       20.64
      2.79   252.59    .270E+06     249.7          2.99       18.05
      3.46   253.26    .396E+06     405.4          3.31       16.28
      4.13   253.93    .549E+06     603.3          3.56       15.15
      4.80   254.60    .737E+06     857.8          3.77       14.31
      5.48   255.28    .963E+06    1174.6          3.95       13.67
      6.15   255.95    .128E+07    1449.5          3.66       14.74
      6.82   256.62    .173E+07    2046.4          3.83       14.07
      7.49   257.29    .227E+07    2665.2          3.81       14.17
      8.17   257.97    .310E+07    3705.2          3.87       13.93
      8.84   258.64    .400E+07    5127.4          4.15       12.99
      9.51   259.31    .492E+07    6858.6          4.51       11.95
     10.18   259.98    .587E+07    8815.5          4.86       11.09
     10.86   260.66    .684E+07   10954.6          5.18       10.41
     11.53   261.33    .785E+07   13324.3          5.49        9.82
     12.20   262.00    .890E+07   15923.2          5.79        9.31

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8106) 1105.61   15.87    7.00  27.53      0.75      1.40
     OUTFLOW: ID= 1 (6146) 1105.61   14.01    7.75  27.53      0.68      1.32

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| CALIB            |
| STANDHYD  (1462) |   Area    (ha)= 112.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  13.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       35.91         76.31
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      864.95         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         89.30
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.79 (ii)    21.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.90          9.24       10.701 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50         45.18        50.55
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.51         0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1461) |   Area    (ha)=  83.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  16.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       31.65         51.64
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      745.16         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         97.43
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.86 (ii)    20.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.67          7.02        8.285 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50         46.55        52.94
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.53         0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5146) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.9200      2.5813
                          0.2820     0.8782   |  11.0570      3.0328
                          2.5360     1.0372   |  12.9860      3.4993
                          4.7880     1.7148   |  13.3860      3.5093
                          6.7570     2.1134   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1461)     83.290      8.285      6.25      52.94
     OUTFLOW: ID= 1 (5146)     83.290      4.662      6.50      52.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.27
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.7050

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| ADD HYD   (8099) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1462):   112.22  10.701     6.25    50.55
        + ID2= 2 (5146):    83.29   4.662     6.50    52.94
          ================================================
          ID = 3 (8099):   195.51  14.617     6.25    51.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8108) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6146):  1105.61  14.014     7.75    27.53
        + ID2= 2 (8099):   195.51  14.617     6.25    51.57
          ================================================
          ID = 3 (8108):  1301.12  19.245     7.00    31.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8100) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8098): 10065.22 118.031     7.75    33.50
        + ID2= 2 (8108):  1301.12  19.245     7.00    31.14
          ================================================
          ID = 3 (8100): 11366.34 136.159     7.75    33.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6202) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2021.0) ------>
               Distance      Elevation       Manning
                   0.00         245.48        0.0400
                  29.68         242.80        0.0400
                  74.20         240.39        0.0400
                 155.81         237.12        0.0400
                 200.33         234.48        0.0400
                 244.85         234.67        0.0400
                 259.69         233.96        0.0400
                 274.53         233.84        0.0400
                 281.68         233.40        0.0400
                 285.78         232.40    0.0400 /0.0300  Main Channel
                 286.78         231.40        0.0300      Main Channel
                 296.78         231.40        0.0300      Main Channel
                 299.78         232.40    0.0300 /0.0400  Main Channel
                 311.62         233.74        0.0400
                 333.88         234.34        0.0400
                 497.11         235.32        0.0400
                 571.31         237.32        0.0400
                 675.18         239.10        0.0400
                 704.86         242.71        0.0400
                 734.54         242.62        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50    231.90    .221E+05       4.7         0.85      78.67
       1.00    232.40    .482E+05      15.3         1.28      52.40
       1.60    233.00    .913E+05      38.3         1.68      39.77
       2.20    233.60    .154E+06      72.9         1.90      35.24
       2.80    234.20    .278E+06     124.2         1.79      37.30
       3.40    234.80    .599E+06     214.3         1.44      46.59
       4.01    235.41    .125E+07     445.0         1.43      46.90
       4.61    236.01    .205E+07     838.4         1.64      40.81
       5.21    236.61    .293E+07    1361.6         1.86      35.89
       5.81    237.21    .389E+07    2011.2         2.08      32.23
       6.41    237.81    .494E+07    2753.5         2.24      29.91
       7.01    238.41    .612E+07    3635.0         2.39      28.04
       7.61    239.01    .741E+07    4672.5         2.53      26.43
       8.21    239.61    .880E+07    5999.3         2.74      24.44
       8.82    240.22    .102E+08    7510.0         2.94      22.72
       9.42    240.82    .117E+08    9201.9         3.15      21.23
      10.02    241.42    .132E+08   11059.7         3.35      19.95
      10.62    242.02    .148E+08   13073.4         3.54      18.87
      11.22    242.62    .164E+08   15242.1         3.73      17.93

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8100) *******   136.16    7.75  33.23      2.88      1.74
     OUTFLOW: ID= 1 (6202) *******   126.94    8.50  33.23      2.82      1.78


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| ADD HYD   (8112) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6202): 11366.34 126.944     8.50    33.23
        + ID2= 2 (8110):   468.53  47.586     6.00    62.45
          ================================================
          ID = 3 (8112): 11834.87 132.996     8.25    34.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5555) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     19.2100
                          2.8500     0.5200   |  *******     24.7300
                          8.1800     1.2600   |  *******     30.8600
                         15.0900     2.2100   |  *******     37.6100
                         23.2700     3.3900   |  *******     41.2200
                         32.5300     4.7800   |  *******     48.9000
                         36.5100     5.3900   |  *******     66.4700
                         42.7600     6.3700   |  *******    100.1200
                         53.8500     8.1300   |  *******    140.4100
                         91.7300    14.3200   |  *******    140.4200

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8112)  ********    132.996      8.25      34.39
     OUTFLOW: ID= 1 (5555)  ********    129.805      8.75      34.39

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.60
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 20.9443

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| ADD HYD   (8114) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5555): 11834.87 129.805     8.75    34.39
        + ID2= 2 (8136):  2288.44  42.207     6.50    32.59
          ================================================
          ID = 3 (8114): 14123.31 154.321     8.50    34.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (2061) |   Area    (ha)=  49.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.88        11.96
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     576.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       187.78
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.45 (ii)   16.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.15         3.44          9.515 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        58.79         72.65
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.66          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5206) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.5640      2.4459
                          0.1690     0.8986   |   4.2460      2.7624
                          1.3810     1.2959   |   4.8070      3.0770
                          2.2440     1.6904   |   5.2070      3.0870
                          2.8510     2.0623   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2061)     49.840     9.515      6.00      72.65
     OUTFLOW: ID= 1 (5206)     49.840     2.604      6.50      72.62

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.37
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.9396

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--------------------
| CALIB            |
| STANDHYD  (2062) |   Area    (ha)= 225.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  42.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     144.45        81.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1226.65        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       132.25
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.30 (ii)   22.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      23.53        14.43         33.121 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        53.19         67.18
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.60          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8144) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2062):   225.70  33.121     6.00    67.18
        + ID2= 2 (5206):    49.84   2.604     6.50    72.62
          ================================================
          ID = 3 (8144):   275.54  34.246     6.00    68.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2041) |   Area    (ha)= 209.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      77.66       132.24
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        63.68
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.01 (ii)   25.83 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.04        10.48         17.629 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        33.37         44.53
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.38          0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5204) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.0280      5.1901
                          0.5340     2.0405   |  16.1840      5.6427
                          3.0020     2.3552   |  19.0840      6.7700
                          5.5440     3.8411   |  19.4840      6.7800
                          8.4130     4.5335   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2041)    209.900     17.629      6.00      44.53
     OUTFLOW: ID= 1 (5204)    209.900      7.078      6.75      44.53

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.15
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.2140

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--------------------
| CALIB            |
| STANDHYD  (2042) |   Area    (ha)= 114.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  34.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.86        44.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     873.77        40.00
     Mannings n           =      0.013        0.250
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     Max.Eff.Inten.(mm/hr)=     116.82       104.27
              over (min)        15.00        30.00
     Storage Coeff.  (min)=     10.85 (ii)   21.37 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=     10.40         6.39        14.523 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        40.32        56.02
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.46         0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8140) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2042):   114.52  14.523     6.00    56.02
       + ID2= 2 (5204):   209.90   7.078     6.75    44.53
         ================================================
         ID = 3 (8140):   324.42  15.912     6.00    48.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2061.0) ------>
              Distance      Elevation       Manning
                  0.00         253.07        0.0350
                 13.98         252.89        0.0350
                 27.95         251.99        0.0350
                 34.94         252.18        0.0350
                 41.93         252.02        0.0350
                 73.38         250.35        0.0350
                 94.34         247.09        0.0350
                111.81         244.79        0.0350
                115.31         244.24        0.0350
                117.55         244.20    0.0350 /0.0300  Main Channel
                118.80         243.60        0.0300      Main Channel
                122.30         243.60        0.0300      Main Channel
                122.55         244.60    0.0300 /0.0350  Main Channel
                146.76         244.74        0.0350
                164.23         247.26        0.0350
                213.15         248.92        0.0350
                241.10         249.51        0.0350
                272.55         250.87        0.0350
                300.50         252.26        0.0350
                345.93         253.67        0.0350

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30    243.90    .310E+04       1.4          1.23       36.25
       0.60    244.20    .676E+04       4.6          1.81       24.64
       1.12    244.72    .221E+05      17.1          2.07       21.60
       1.64    245.24    .754E+05      64.1          2.28       19.60
       2.17    245.77    .139E+06     149.8          2.88       15.50
       2.69    246.29    .214E+06     273.3          3.43       13.04
       3.21    246.81    .299E+06     436.1          3.91       11.43
       3.73    247.33    .395E+06     632.6          4.30       10.40
       4.25    247.85    .511E+06     836.4          4.39       10.18
       4.77    248.37    .653E+06    1114.9          4.58        9.76
       5.30    248.90    .822E+06    1472.1          4.81        9.30
       5.82    249.42    .102E+07    1872.2          4.91        9.10
       6.34    249.94    .126E+07    2444.6          5.22        8.56
       6.86    250.46    .151E+07    3113.1          5.52        8.09
       7.38    250.98    .180E+07    3843.5          5.74        7.79
       7.90    251.50    .211E+07    4717.8          6.00        7.45
       8.43    252.03    .245E+07    5701.4          6.24        7.16
       8.95    252.55    .284E+07    6727.5          6.36        7.03
       9.47    253.07    .326E+07    7885.3          6.48        6.90
```

```
                                  <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8140)  324.42    15.91    6.00  48.58      1.07      2.04
     OUTFLOW: ID= 1 (6206)  324.42    12.76    6.50  48.58      0.94      1.97


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-------------------
| ADD HYD   (8142) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6206):   324.42  12.763     6.50    48.58
       + ID2= 2 (8144):   275.54  34.246     6.00    68.16
         ================================================
         ID = 3 (8142):   599.96  40.621     6.00    57.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8138) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8114): 14123.31 154.321     8.50    34.10
       + ID2= 2 (8142):   599.96  40.621     6.00    57.58
         ================================================
         ID = 3 (8138): 14723.27 163.513     8.25    35.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6208) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2081.0) ------>
              Distance      Elevation       Manning
                  0.00         249.19        0.1000
                 73.11         244.13        0.1000
                121.86         243.39        0.1000
                243.71         240.01        0.1000
                353.38         238.75        0.1000
                450.87         235.40        0.1000
                499.61         231.40        0.1000
                511.80         230.96        0.1000
                523.98         230.12        0.1000
                534.50         227.80    0.1000 /0.0500  Main Channel
                536.50         226.70        0.0500      Main Channel
                546.50         226.70        0.0500      Main Channel
                548.50         227.80    0.0500 /0.1000  Main Channel
                572.72         230.25        0.1000
                682.40         230.50        0.1000
                804.25         233.95        0.1000
                926.11         235.83        0.1000
               1047.96         240.70        0.1000
               1145.45         243.26        0.1000
               1206.38         247.03        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.55    227.25    .111E+05       2.0          0.33       92.44
       1.10    227.80    .242E+05       6.5          0.50       61.56
       2.23    228.93    .700E+05      26.0          0.68       44.91
       3.36    230.06    .150E+06      60.8          0.74       41.04
       4.49    231.19    .446E+06     130.8          0.54       56.83
       5.62    232.32    .925E+06     287.4          0.57       53.66
       6.76    233.46    .152E+07     522.9          0.63       48.32
       7.89    234.59    .223E+07     827.2          0.68       44.91
       9.02    235.72    .312E+07    1219.5          0.72       42.61
      10.15    236.85    .418E+07    1780.6          0.78       39.11
      11.28    237.98    .537E+07    2479.2          0.85       36.07
      12.41    239.11    .669E+07    3282.9          0.90       33.95
      13.54    240.24    .824E+07    4228.6          0.94       32.47
      14.67    241.37    .997E+07    5384.6          0.99       30.87
      15.81    242.51    .119E+08    6698.4          1.03       29.56
      16.94    243.64    .140E+08    8235.2          1.08       28.25
      18.07    244.77    .162E+08   10104.2          1.14       26.73
      19.20    245.90    .185E+08   12251.5          1.21       25.21
      20.33    247.03    .209E+08   14597.0          1.28       23.89
```

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                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8138) *******   163.51    8.25  35.06      4.73      0.54
     OUTFLOW: ID= 1 (6208) *******   148.29    9.25  35.05      4.62      0.54


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-------------------
| CALIB           |
| STANDHYD  (2082) |   Area    (ha)= 426.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  37.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     273.02       153.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1686.42        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       133.62
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.10 (ii)   25.63 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     36.17        26.02        53.229 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        49.61        63.26
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.56         0.71


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2081) |   Area    (ha)= 209.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.39       136.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1182.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        78.16
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.01 (ii)   24.82 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     10.50        13.60        19.213 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        41.24        50.29
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.47         0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2084) |   Area    (ha)=  56.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.00        14.00
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     611.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       101.50
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.76 (ii)   19.39 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=     11.15         2.05         12.522 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        54.38         76.86
     TOTAL RAINFALL   (mm)=     88.50        88.50         88.50
     RUNOFF COEFFICIENT   =      0.98         0.61          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9289) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8000      1.5745
                          0.1900     0.9984   |   3.7500      1.7809
                          1.0900     1.1991   |   4.7100      1.9291
                          2.0200     1.3813   |   5.4800      2.0745

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2084)     56.000     12.522      6.00      76.86
     OUTFLOW: ID= 1 (9289)     56.000      5.173      6.25      76.84

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.32
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.0305

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| ADD HYD   (9262) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2081):   209.70  19.213     6.00    50.29
      + ID2= 2 (9289):    56.00   5.173     6.25    76.84
        ================================================
        ID = 3 (9262):   265.70  23.356     6.25    55.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5208) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  16.8530      8.3371
                          0.8360     4.7353   |  21.1630      9.3975
                          4.7810     5.1070   |  25.1140     10.4406
                          8.9050     6.2484   |  25.5140     10.4506
                         12.6070     7.1796   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9262)    265.700     23.356      6.25      55.89
     OUTFLOW: ID= 1 (5208)    265.700     10.208      7.00      55.88

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.71
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  6.6347

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-------------------
| ADD HYD   (8148) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2082):   426.60  53.229     6.00    63.26
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        + ID2= 2 (5208):   265.70  10.208     7.00    55.88
          ================================================
          ID = 3 (8148):   692.30  53.690     6.00    60.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8146) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6208): 14723.27 148.292     9.25    35.05
        + ID2= 2 (8148):   692.30  53.690     6.00    60.43
          ================================================
          ID = 3 (8146): 15415.57 153.994     9.25    36.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2101.0) ------>
               Distance      Elevation       Manning
                   0.00         241.81        0.0800
                  28.43         241.78        0.0800
                  85.30         237.04        0.0800
                 149.27         231.32        0.0800
                 170.60         230.10        0.0800
                 255.89         229.37        0.0800
                 277.22         228.68        0.0800
                 284.33         228.42        0.0800
                 291.43         228.16        0.0800
                 297.76         227.00    0.0800 /0.0350  Main Channel
                 298.76         225.00        0.0350      Main Channel
                 312.76         225.00        0.0350      Main Channel
                 313.76         227.00    0.0350 /0.0800  Main Channel
                 326.97         229.50        0.0800
                 348.30         230.29        0.0800
                 376.73         229.76        0.0800
                 490.46         235.75        0.0800
                 568.65         236.24        0.0800
                 661.06         241.85        0.0800
                 703.71         246.04        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.67   225.67    .141E+05        6.6         0.69      35.86
        1.33   226.33    .289E+05       20.4         1.04      23.65
        2.00   227.00    .443E+05       39.3         1.31      18.81
        2.93   227.93    .730E+05       77.8         1.57      15.64
        3.85   228.85    .123E+06      131.1         1.57      15.65
        4.78   229.78    .228E+06      205.6         1.33      18.51
        5.70   230.70    .503E+06      356.7         1.05      23.49
        6.63   231.63    .846E+06      608.7         1.06      23.17
        7.55   232.55    .123E+07      946.4         1.14      21.65
        8.48   233.48    .165E+07     1367.0         1.22      20.13
        9.41   234.41    .211E+07     1871.8         1.31      18.80
       10.33   235.33    .261E+07     2463.2         1.40      17.65
       11.26   236.26    .317E+07     2999.4         1.40      17.63
       12.18   237.18    .384E+07     3848.3         1.48      16.63
       13.11   238.11    .454E+07     4806.0         1.56      15.75
       14.03   239.03    .528E+07     5876.9         1.64      14.97
       14.96   239.96    .605E+07     7062.7         1.72      14.29
       15.88   240.88    .687E+07     8365.0         1.80      13.68
       16.81   241.81    .771E+07     9506.9         1.82      13.52

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8146) *******   153.99    9.25  36.19      4.14      1.49
     OUTFLOW: ID= 1 (6210) *******   152.63    9.50  36.19      4.12      1.49


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--------------------
| CALIB            |
| STANDHYD  (2104) |   Area    (ha)= 192.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  68.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)

     Surface Area     (ha)=     140.67        52.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=    1133.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        97.34
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.30 (ii)   17.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      35.58         7.61        40.680 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      87.50        52.79         76.39
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.99         0.60          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9283) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2104)    192.700     40.680      6.00      76.39
     OUTFLOW: ID= 1 (9283)    192.700      3.553      7.25      76.38

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.73
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 10.1659

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--------------------
| CALIB            |
| STANDHYD  (2103) |   Area    (ha)=  11.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)

     Surface Area     (ha)=       3.33         7.77
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     272.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       116.77
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       4.38 (ii)   11.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.35         2.02          2.376 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      87.50        58.57         61.46
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.99         0.66          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9284) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5600      0.2067
                         0.0400     0.1045   |   0.7400      0.2572
                         0.2200     0.1166   |   0.9300      0.3046
                         0.4000     0.1670   |   1.0900      0.3510

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2103)     11.100      2.376      6.00      61.46
     OUTFLOW: ID= 1 (9284)     11.100      0.872      6.25      61.40

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.70
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2908

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-------------------
| ADD HYD   (9258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9283):   192.70   3.553    7.25    76.38
       + ID2= 2 (9284):    11.10   0.872    6.25    61.40
         ================================================
         ID = 3 (9258):   203.80   4.160    6.75    75.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5210) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0060      0.0024
                         0.0020     0.0013   |   0.0080      0.0027
                         0.0030     0.0017   |   0.0090      0.0031
                         0.0050     0.0020   |   0.4090      0.0131

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9258)    203.800      4.160      6.75      75.57
     OUTFLOW: ID= 1 (5210)    203.800      4.139      7.00      75.57

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.49
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1076

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-------------------
| CALIB            |
| NASHYD    (2102) |   Area    (ha)=  14.38   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   0.228

     PEAK FLOW       (cms)=   0.307 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  46.997
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.531

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2102):    14.38   0.307    7.25    47.00
       + ID2= 2 (5210):   203.80   4.139    7.00    75.57
         ================================================
         ID = 3 (9210):   218.18   4.443    7.00    73.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6210): 15415.57 152.629    9.50    36.19
       + ID2= 2 (9210):   218.18   4.443    7.00    73.68
         ================================================
         ID = 3 (8150): 15633.75 156.060    9.50    36.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2121) |   Area    (ha)=  56.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  91.00   Dir. Conn.(%)=  74.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      51.77          5.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     615.85         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        262.96
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      8.80 (ii)    16.06 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=     11.96          2.10         13.407 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50         59.71         79.53
     TOTAL RAINFALL   (mm)=     88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.67          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2124) |   Area    (ha)=   4.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.30          1.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     171.27         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         73.13
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      4.08 (ii)    16.21 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.98          0.12          1.063 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=     86.50         39.64         72.44
     TOTAL RAINFALL   (mm)=     88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      0.98          0.45          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2200      0.1226
                         0.0100     0.0778   |   0.2900      0.1387
                         0.0800     0.0934   |   0.3700      0.1503
```

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                        0.1600     0.1076   |   0.4300      0.1616

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2124)     4.400     1.063      6.00      72.44
     OUTFLOW: ID= 1 (9290)     4.400     0.421      6.25      71.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.60
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1662

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-------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2121):    56.89  13.407     6.00    79.53
       + ID2= 2 (9290):     4.40   0.421     6.25    71.99
         ================================================
         ID = 3 (9264):    61.29  13.658     6.00    78.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5212) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.1000      2.1402
                         0.2080     1.2793   |   5.1480      2.2661
                         1.1880     1.5546   |   5.9930      2.3900
                         2.2120     1.7255   |   6.3930      2.4000
                         3.0680     1.9336   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9264)    61.290    13.658      6.00      78.99
     OUTFLOW: ID= 1 (5212)    61.290     5.369      6.25      78.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.31
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.3367

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-------------------
| CALIB            |
| STANDHYD  (2122) |   Area    (ha)= 267.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  24.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     77.46       189.64
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1334.42        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        66.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=    13.99 (ii)   26.62 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=    15.60        15.40        25.389 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=    86.50        40.01         51.17
     TOTAL RAINFALL   (mm)=    88.50        88.50         88.50
     RUNOFF COEFFICIENT   =     0.98         0.45          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9312) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                         0.0000     0.0000   |  13.3600      4.9180
                         0.9100     2.4658   |  17.8700      6.1368
                         5.1800     2.7404   |  22.4400      7.2882
                         9.6400     3.9605   |  26.1200      8.4139

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2122)    267.100     25.389      6.00      51.17
     OUTFLOW: ID= 1 (9312)    267.100     13.343      6.50      51.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.56
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  5.0139

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-------------------
| ADD HYD   (8152) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5212):    61.29   5.369     6.25    78.97
       + ID2= 2 (9312):   267.10  13.343     6.50    51.16
         ================================================
         ID = 3 (8152):   328.39  18.522     6.50    56.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2141.0) ------>
               Distance      Elevation       Manning
                  0.00         259.29        0.0500
                 15.33         258.91        0.0500
                 38.33         258.57        0.0500
                 65.16         257.93        0.0500
                 95.82         253.44        0.0500
                111.15         251.21        0.0500
                130.32         249.67        0.0500
                149.48         248.51        0.0500
                150.66         248.50    0.0500 /0.0370  Main Channel
                150.81         247.50        0.0370      Main Channel
                154.66         247.50        0.0370      Main Channel
                155.66         248.50    0.0370 /0.0500  Main Channel
                160.98         248.50        0.0500
                187.81         249.78        0.0500
                199.31         252.13        0.0500
                245.30         254.04        0.0500
                264.46         253.99        0.0500
                298.96         255.23        0.0500
                329.62         257.02        0.0500
                379.45         258.82        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50    248.00    .648E+04        2.1         1.00      52.30
      1.00    248.50    .139E+05        6.4         1.44      36.35
      1.61    249.11    .570E+05       22.6         1.24      42.01
      2.21    249.71    .143E+06       63.6         1.39      37.61
      2.82    250.32    .263E+06      142.9         1.70      30.69
      3.43    250.93    .403E+06      257.2         2.00      26.11
      4.04    251.54    .562E+06      410.4         2.29      22.82
      4.64    252.14    .735E+06      601.3         2.56      20.37
      5.25    252.75    .933E+06      791.0         2.66      19.67
      5.86    253.36    .117E+07     1038.0         2.79      18.74
      6.46    253.96    .144E+07     1344.4         2.93      17.82
      7.07    254.57    .178E+07     1664.1         2.93      17.83
      7.68    255.18    .217E+07     2140.2         3.10      16.87
      8.28    255.78    .259E+07     2722.9         3.30      15.83
      8.89    256.39    .304E+07     3387.1         3.50      14.94
      9.50    257.00    .351E+07     4132.7         3.69      14.16
     10.11    257.61    .402E+07     4913.0         3.83      13.64
     10.71    258.21    .458E+07     5648.3         3.87      13.50
     11.32    258.82    .521E+07     6343.1         3.82      13.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8152)  328.39    18.52    6.50  56.35      1.45      1.29
     OUTFLOW: ID= 1 (6214)  328.39    13.64    7.25  56.35      1.27      1.34
```

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--------------------
| CALIB            |
| STANDHYD  (2144) |   Area    (ha)=  93.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.82        23.27
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     787.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        75.06
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   22.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      17.75         2.35        19.261 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        40.63         72.74
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.46          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9285) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.6500      2.6150
                          0.3200     1.6583   |   6.2300      2.9579
                          1.8100     1.9916   |   7.8200      3.2041
                          3.3600     2.2943   |   9.1000      3.4456

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2144)     93.100     19.261      6.00      72.74
     OUTFLOW: ID= 1 (9285)     93.100      7.687      6.25      72.72

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.91
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.2268

--------------------
| CALIB            |
| STANDHYD  (2143) |   Area    (ha)= 158.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  26.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      41.16       117.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1027.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        82.13
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.96 (ii)   23.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.68        12.62        14.121 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50        43.27         47.16
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.49          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.9200      2.8224
                          0.5400     1.3792   |  10.5900      3.5534
                          3.0700     1.5175   |  13.3000      4.2519
                          5.7200     2.2534   |  15.4900      4.9349

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2143)    158.300     14.121      6.25      47.16
     OUTFLOW: ID= 1 (9286)    158.300      7.605      6.75      47.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.85
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.7830

--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9285):    93.10   7.687     6.25    72.72
        + ID2= 2 (9286):   158.30   7.605     6.75    47.16
          ================================================
          ID = 3 (9260):   251.40  14.740     6.50    56.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (5214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5370      0.9877
                          0.1280     0.4635   |   3.1860      1.1293
                          0.5900     0.5362   |   3.7090      1.2678
                          1.3690     0.6921   |   3.9980      1.2778
                          1.8980     0.8262   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9260)    251.400     14.740      6.50      56.63
     OUTFLOW: ID= 1 (5214)    251.400     14.251      6.75      56.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.69
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.6630

--------------------
| CALIB            |
| STANDHYD  (2142) |   Area    (ha)=  65.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.70        47.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     661.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        46.70
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.18 (ii)   23.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.84         2.89          3.637 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        25.25         31.38
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.29          0.35
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2142):    65.54   3.637     6.00    31.38
       + ID2= 2 (5214):   251.40  14.251     6.75    56.62
         ================================================
         ID = 3 (9214):   316.94  15.918     6.75    51.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8154) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6214):   328.39  13.643     7.25    56.35
       + ID2= 2 (9214):   316.94  15.918     6.75    51.40
         ================================================
         ID = 3 (8154):   645.33  28.045     6.75    53.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2163) |   Area    (ha)=  69.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.82        50.88
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     681.66        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        97.28
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.35 (ii)   20.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.75         7.00          7.575 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        50.28         53.54
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.57          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9271) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4900      1.2605
                          0.2400     0.6230   |   4.6600      1.5808
                          1.3500     0.6885   |   5.8600      1.8854
                          2.5200     1.0102   |   6.8200      2.1832

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2163)     69.700      7.575      6.25      53.54
     OUTFLOW: ID= 1 (9271)     69.700      3.913      6.75      53.53

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.65
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.4094

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--------------------
| CALIB            |
| STANDHYD  (2169) |   Area    (ha)=   3.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05         2.45
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     152.75        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        81.67
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       3.81 (ii)   15.41 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.31          0.330 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        41.29         45.81
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.47          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1800      0.0659
                          0.0100     0.0333   |   0.2400      0.0820
                          0.0700     0.0372   |   0.3000      0.0971
                          0.1300     0.0532   |   0.3500      0.1119

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2169)     3.500      0.330      6.25      45.81
     OUTFLOW: ID= 1 (9272)     3.500      0.176      6.50      45.57

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.44
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0656

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| ADD HYD   (9251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9271):    69.70   3.913     6.75    53.53
       + ID2= 2 (9272):     3.50   0.176     6.50    45.57
         ================================================
         ID = 3 (9251):    73.20   4.083     6.75    53.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5216) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7400      2.4559
                          0.1890     1.6831   |   4.6960      2.6646
                          1.0830     1.7903   |   5.4670      2.8688
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                        2.0170     2.0202   |   5.8670      2.8788
                        2.7980     2.2179   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9251)     73.200      4.083      6.75      53.15
     OUTFLOW: ID= 1 (5216)     73.200      1.680      8.25      53.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.16
                  TIME SHIFT OF PEAK FLOW          (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.9425

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--------------------
| CALIB            |
| STANDHYD  (2162) |   Area    (ha)=  72.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.51        58.06
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     695.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        69.65
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.46 (ii)   21.83 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.41         5.48          5.944 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        38.97         42.30
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.44          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.0000      0.3000
                          2.0000     0.1000   |   4.5000      0.4000
                          3.0000     0.2000   |   5.0000      0.5000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2162)     72.570      5.944      6.25      42.30
     OUTFLOW: ID= 1 (9316)     72.570      4.494      6.50      42.30

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 75.61
                  TIME SHIFT OF PEAK FLOW          (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4233

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--------------------
| ADD HYD   (9216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5216):    73.20   1.680     8.25     53.12
       + ID2= 2 (9316):    72.57   4.494     6.50     42.30
         ================================================
         ID = 3 (9216):   145.77   4.562     6.50     47.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8156) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8154):    645.33  28.045     6.75     53.92
       + ID2= 2 (9216):    145.77   4.562     6.50     47.74
         ================================================
         ID = 3 (8156):    791.10  32.221     6.75     52.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6218) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2181.0) ------>
               Distance      Elevation       Manning
                   0.00         256.38        0.0450
                   7.70         254.85        0.0450
                  15.40         253.20        0.0450
                  19.25         252.29        0.0450
                  23.10         251.17        0.0450
                  78.94         236.16        0.0450
                  80.87         235.80        0.0450
                  82.79         235.45        0.0450
                  84.57         234.60    0.0450 /0.0300  Main Channel
                  85.07         233.60        0.0300      Main Channel
                  88.57         233.60        0.0300      Main Channel
                  93.57         233.60        0.0300      Main Channel
                  94.07         234.60    0.0300 /0.0450  Main Channel
                  96.27         235.13        0.0450
                  98.19         235.20        0.0450
                 100.12         235.32        0.0450
                 138.63         239.95        0.0450
                 180.98         244.80        0.0450
                 188.69         245.00        0.0450
                 190.61         256.00        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      1.00   234.60    .181E+05       6.0          0.66      50.64
      2.13   235.73    .518E+05      23.8          0.93      36.27
      3.25   236.85    .119E+06      60.0          1.02      33.03
      4.38   237.98    .217E+06     120.6          1.12      29.99
      5.51   239.11    .346E+06     210.5          1.23      27.39
      6.63   240.23    .506E+06     334.1          1.33      25.22
      7.76   241.36    .697E+06     495.6          1.43      23.44
      8.88   242.48    .920E+06     699.8          1.53      21.91
     10.01   243.61    .117E+07     950.8          1.63      20.59
     11.14   244.74    .146E+07    1252.5          1.73      19.45
     12.26   245.86    .178E+07    1619.6          1.83      18.37
     13.39   246.99    .212E+07    2078.5          1.97      17.01
     14.52   248.12    .247E+07    2589.0          2.11      15.88
     15.64   249.24    .282E+07    3149.7          2.25      14.94
     16.77   250.37    .319E+07    3759.8          2.37      14.14
     17.89   251.49    .356E+07    4419.5          2.50      13.44
     19.02   252.62    .395E+07    5126.4          2.61      12.84
     20.15   253.75    .435E+07    5871.6          2.72      12.34
     21.27   254.87    .476E+07    6663.2          2.82      11.89

                                   <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8156)  791.10    32.22    6.75  52.78      2.39      0.95
     OUTFLOW: ID= 1 (6218)  791.10    24.63    7.25  52.78      2.16      0.93


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| CALIB            |
| STANDHYD  (2183) |   Area    (ha)=  69.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   7.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.25        54.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     679.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        95.79
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.33 (ii)   20.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
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                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.36         7.32          7.766 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        51.67         54.11
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.58          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5000      3.5000
                          0.8000     0.1000   |   6.0000      4.0000
                          1.1000     2.0000   |   6.5000      4.5000
                          2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2183)     69.300     7.766      6.25      54.11
     OUTFLOW: ID= 1 (9282)     69.300     1.093      7.50      54.11

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.07
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.9583

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--------------------
| RESERVOIR (5218) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5090      1.7553
                          0.2280     0.8236   |   5.6620      2.0069
                          1.3060     0.9528   |   6.5910      2.2530
                          2.4320     1.2300   |   6.9910      2.2630
                          3.3740     1.4683   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9282)     69.300     1.093      7.50      54.11
     OUTFLOW: ID= 1 (5218)     69.300     1.064      9.25      54.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.36
                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9239

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--------------------
| CALIB            |
| NASHYD    (2182) |   Area    (ha)=  82.95   Curve Number   (CN)= 67.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.79

     Unit Hyd Qpeak  (cms)=   1.786

     PEAK FLOW       (cms)=   1.586 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  33.573
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.379

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9218) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2182):    82.95   1.586     7.00    33.57
       + ID2= 2 (5218):    69.30   1.064     9.25    54.09
         ================================================
         ID = 3 (9218):   152.25   2.262     8.25    42.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8158) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6218):   791.10  24.631     7.25    52.78
       + ID2= 2 (9218):   152.25   2.262     8.25    42.91
         ================================================
         ID = 3 (8158):   943.35  26.380     7.25    51.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8151) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8150): 15633.75 156.060     9.50    36.72
       + ID2= 2 (8158):   943.35  26.380     7.25    51.19
         ================================================
         ID = 3 (8151): 16577.10 170.280     9.25    37.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5504) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  33.0100      0.6700
                          2.6400     0.0500   |  37.4800      0.7800
                          4.8300     0.0900   |  47.5400      1.0100
                          7.4100     0.1300   |  60.2300      1.2800
                         10.3300     0.1900   |  71.9530      1.5258
                         13.5300     0.2500   |  *******      3.0529
                         16.9900     0.3200   |  *******      5.3299
                         20.6800     0.3900   |  *******      8.4148
                         24.6000     0.4800   |  *******     11.7637
                         28.7100     0.5700   |  *******     11.7737

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8151)  ********    170.280      9.25      37.54
     OUTFLOW: ID= 1 (5504)  ********    170.284      9.25      37.54

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.9445

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6220) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2201.0) ------>
               Distance      Elevation       Manning
                   0.00         245.59        0.0600
                   5.76         245.45        0.0600
                  23.03         242.27        0.0600
                  57.58         232.35        0.0600
                  86.37         226.18        0.0600
                 109.41         224.31        0.0600
                 115.17         223.86        0.0600
                 120.92         222.78        0.0600
                 126.68         221.93        0.0600
                 128.06         221.50    0.0600 /0.0300  Main Channel
                 129.56         220.00        0.0300      Main Channel
                 141.56         220.00        0.0300      Main Channel
                 143.06         221.50    0.0300 /0.0600  Main Channel
                 149.72         223.77        0.0600
                 155.47         225.09        0.0600
                 253.36         229.21        0.0600
                 333.98         227.50        0.0600
                 454.90         229.25        0.0600
                 500.97         233.11        0.0600
```

```
            570.07        237.42        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.75   220.75    .262E+05       5.5         0.57       79.44
       1.50   221.50    .555E+05      17.5         0.86       52.89
       2.44   222.44    .103E+06      42.7         1.14       40.03
       3.37   223.37    .171E+06      79.4         1.27       35.98
       4.31   224.31    .263E+06     128.1         1.33       34.22
       5.25   225.25    .393E+06     191.7         1.34       34.19
       6.18   226.18    .594E+06     276.7         1.28       35.77
       7.12   227.12    .872E+06     399.9         1.26       36.33
       8.06   228.06    .127E+07     542.7         1.17       38.92
       8.99   228.99    .199E+07     770.0         1.06       43.01
       9.93   229.93    .297E+07    1151.8         1.06       42.95
      10.86   230.86    .400E+07    1652.9         1.13       40.33
      11.80   231.80    .507E+07    2251.8         1.22       37.53
      12.74   232.74    .618E+07    2946.5         1.31       34.97
      13.67   233.67    .733E+07    3726.8         1.39       32.79
      14.61   234.61    .853E+07    4591.0         1.48       30.96
      15.55   235.55    .977E+07    5544.1         1.55       29.37
      16.48   236.48    .111E+08    6586.7         1.63       27.99
      17.42   237.42    .124E+08    7719.2         1.71       26.77

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (5504) *******   170.28    9.25  37.54      4.93      1.34
     OUTFLOW: ID= 1 (6220) *******   165.62    9.75  37.54      4.87      1.34


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-------------------
| CALIB           |
| STANDHYD  (2207) |   Area    (ha)=  57.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   8.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.14        45.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     620.75        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        97.33
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.84 (ii)   19.65 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.31         6.37          6.779 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        53.68         56.31
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.61          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9278) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5000      2.5000
                         0.2000     0.3000   |   0.6000      3.5000
                         0.3000     0.9000   |   0.7000      4.5000
                         0.4000     2.0000   |   0.8000      5.5000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2207)     57.800      6.779      6.25      56.31
     OUTFLOW: ID= 1 (9278)     57.800      0.463      9.00      56.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.83
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                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.3149

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-------------------
| CALIB           |
| STANDHYD  (2204) |   Area    (ha)=  13.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.98         3.33
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     297.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        94.32
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.69 (ii)   16.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.88         0.48          3.199 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        50.58         75.72
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.57          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9279) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6700      0.3747
                         0.0500     0.2376   |   0.8900      0.4238
                         0.2600     0.2854   |   1.1200      0.4591
                         0.4800     0.3287   |   1.3000      0.4937

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2204)     13.300      3.199      6.00      75.72
     OUTFLOW: ID= 1 (9279)     13.300      1.270      6.25      75.64

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.71
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4971

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| ADD HYD   (9255) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9278):    57.80   0.463     9.00     56.30
       + ID2= 2 (9279):    13.30   1.270     6.25     75.64
         ==========================================================
         ID = 3 (9255):    71.10   1.590     6.25     59.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5220) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.6050      1.0142
                         0.1320     0.4759   |   3.2710      1.1595
                         0.7550     0.5505   |   3.8080      1.3018
                         1.4050     0.7107   |   4.2080      1.3118
                         1.9490     0.8484   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9255)     71.100      1.590      6.25      59.92
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     OUTFLOW: ID= 1 (5220)     71.100      0.862      7.50      59.91

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.21
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5775

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-------------------
| CALIB           |
| NASHYD    (2202) |   Area    (ha)=  98.00   Curve Number   (CN)= 74.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.50

     Unit Hyd Qpeak  (cms)=   1.115

     PEAK FLOW       (cms)=   1.377 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  40.461
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.457

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9220) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2202):    98.00   1.377     8.00     40.46
        + ID2= 2 (5220):    71.10   0.862     7.50     59.91
          ================================================
          ID = 3 (9220):   169.10   2.218     7.75     48.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8160) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6220): 16577.10 165.616     9.75     37.54
        + ID2= 2 (9220):   169.10   2.218     7.75     48.64
          ================================================
          ID = 3 (8160): 16746.20 167.454     9.75     37.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2221) |   Area    (ha)= 110.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  20.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.94         69.70
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     858.84         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         93.63
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.74 (ii)    21.72 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.93          8.92         11.767 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25            6.00
     RUNOFF VOLUME    (mm)=      86.50         47.62           55.39
     TOTAL RAINFALL   (mm)=      88.50         88.50           88.50
     RUNOFF COEFFICIENT   =       0.98          0.54            0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2224) |   Area    (ha)=  43.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  66.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.10         12.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     536.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         95.95
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.10 (ii)    18.98 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.27          1.68          9.385 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25             6.00
     RUNOFF VOLUME    (mm)=      86.50         50.86            74.38
     TOTAL RAINFALL   (mm)=      88.50         88.50            88.50
     RUNOFF COEFFICIENT   =       0.98          0.57             0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9288) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1600      1.1836
                         0.1500     0.7428   |   2.8900      1.3455
                         0.8400     0.8895   |   3.6300      1.4651
                         1.5600     1.0342   |   4.2300      1.5823

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2224)     43.200      9.385      6.00      74.38
     OUTFLOW: ID= 1 (9288)     43.200      3.794      6.25      74.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.43
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5084

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-------------------
| ADD HYD   (9261) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2221):   110.64  11.767     6.00     55.39
        + ID2= 2 (9288):    43.20   3.794     6.25     74.35
          ================================================
          ID = 3 (9261):   153.84  14.915     6.25     60.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5222) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2210      4.0213
                         0.4910     2.1348   |   9.0080      4.5380
                         2.1830     2.4433   |  15.0420      4.9977
                         3.9370     2.9883   |  15.4420      5.0077
                         5.4550     3.4692   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9261)    153.840     14.915      6.25      60.72
     OUTFLOW: ID= 1 (5222)    153.840      6.477      7.00      60.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.42
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                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.8324

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--------------------
| CALIB            |
| STANDHYD  (2222) |   Area    (ha)=  65.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.18         10.51
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     661.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        351.43
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       9.18 (ii)   15.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.30          5.85         12.451 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         68.09         76.37
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.77          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.3    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8164) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2222):    65.69  12.451     6.00    76.37
       + ID2= 2 (5222):   153.84   6.477     7.00    60.71
         ================================================
         ID = 3 (8164):   219.53  12.816     6.00    65.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2242) |   Area    (ha)=  52.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.99         33.76
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     593.01         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         87.58
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.60 (ii)   19.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.07          4.20          6.841 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         49.37         59.40
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.56          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (2244) |   Area    (ha)=  87.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  64.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.39         26.31
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     764.63         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         94.32
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.02 (ii)   20.97 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      15.37          3.45         17.651 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         50.58         73.57
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.57          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9287) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3900      2.3776
                          0.3000     1.4858   |   5.8700      2.7087
                          1.7000     1.7770   |   7.3700      2.9557
                          3.1700     2.0741   |   8.5800      3.1980

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2244)     87.700     17.651      6.00      73.57
     OUTFLOW: ID= 1 (9287)     87.700      7.134      6.25      73.56

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.42
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.9926

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5224) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4470      0.1810
                          0.0230     0.0884   |   0.5620      0.2047
                          0.1300     0.1032   |   0.6540      0.2278
                          0.2410     0.1297   |   1.0540      0.2378
                          0.3350     0.1532   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9287)     87.700      7.134      6.25      73.56
     OUTFLOW: ID= 1 (5224)     87.700      7.245      6.50      73.55

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=101.56
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3984

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2242):    52.75   6.841     6.00    59.40
       + ID2= 2 (5224):    87.70   7.245     6.50    73.55
         ================================================
         ID = 3 (9224):   140.45  12.139     6.25    68.23
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (8166) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8164):   219.53  12.816     6.00    65.40
       + ID2= 2 (9224):   140.45  12.139     6.25    68.23
         ============================================
         ID = 3 (8166):   359.98  23.745     6.25    66.50
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ROUTE CHN (6226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2261.0) ------>
              Distance      Elevation       Manning
                  0.00         245.35        0.0600
                  8.27         242.72        0.0600
                 16.54         240.01        0.0600
                 31.02         235.31        0.0600
                 41.36         233.14        0.0600
                 90.99         227.73        0.0600
                 93.06         227.50        0.0600
                 95.13         227.27        0.0600
                 95.83         227.00        0.0600
                100.83         226.50    0.0600 /0.0350  Main Channel
                101.33         225.50        0.0350      Main Channel
                101.83         226.50    0.0350 /0.0600  Main Channel
                105.83         227.00        0.0600
                107.54         227.39        0.0600
                109.60         227.62        0.0600
                111.67         227.86        0.0600
                146.83         231.76        0.0600
                173.71         234.77        0.0600
                186.12         238.23        0.0600
                202.67         238.35        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   226.00    .403E+03       0.0         0.16      330.59
      1.00   226.50    .161E+04       0.1         0.26      208.26
      1.70   227.20    .173E+05       1.5         0.27      195.72
      2.39   227.89    .541E+05       5.9         0.35      152.27
      3.09   228.59    .119E+06      16.0         0.43      124.08
      3.79   229.29    .212E+06      33.8         0.51      104.65
      4.49   229.99    .334E+06      61.2         0.59       90.97
      5.18   230.68    .484E+06      99.7         0.66       80.88
      5.88   231.38    .663E+06     151.0         0.73       73.13
      6.58   232.08    .870E+06     216.5         0.80       66.95
      7.27   232.77    .111E+07     297.5         0.87       61.91
      7.97   233.47    .137E+07     398.1         0.94       57.29
      8.67   234.17    .165E+07     518.9         1.01       53.12
      9.36   234.86    .196E+07     658.9         1.08       49.59
     10.06   235.56    .228E+07     827.0         1.17       46.02
     10.76   236.26    .262E+07    1015.4         1.25       42.96
     11.46   236.96    .296E+07    1221.2         1.33       40.41
     12.15   237.65    .332E+07    1444.6         1.40       38.26
     12.85   238.35    .368E+07    1598.2         1.40       38.42

                              <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8166)  359.98    23.74    6.25  66.50      3.40      0.46
     OUTFLOW: ID= 1 (6226)  359.98     9.43    7.00  66.50      2.64      0.38
```

```
--------------------
| CALIB              |
| NASHYD    (2267) |   Area    (ha)=  10.50   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.47
```

Unit Hyd Qpeak (cms)=   0.383

PEAK FLOW   (cms)=   0.460 (i)

TIME TO PEAK   (hrs)=   6.500
RUNOFF VOLUME   (mm)= 48.502
TOTAL RAINFALL   (mm)= 88.500
RUNOFF COEFFICIENT   =   0.548

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| RESERVOIR (9276) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5300      0.1297
                          0.0400     0.0402   |   0.7100      0.1837
                          0.2000     0.0341   |   0.8900      0.2402
                          0.3800     0.0910   |   1.0300      0.2954

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2267)     10.500      0.460      6.50      48.50
     OUTFLOW: ID= 1 (9276)     10.500      0.373      7.25      48.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 81.10
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0895

     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
```

```
--------------------
| CALIB              |
| STANDHYD  (2264) |   Area    (ha)= 117.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       88.35         29.45
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      886.19         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         94.32
                 over (min)       15.00         30.00
     Storage Coeff.  (min)=       10.94 (ii)    21.89 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       21.96          3.79      24.459 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=       86.50         50.58      75.73
     TOTAL RAINFALL   (mm)=       88.50         88.50      88.50
     RUNOFF COEFFICIENT   =        0.98          0.57       0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (9277) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.5000      8.0000
                          0.3000     2.0000   |   3.5000     10.0000
                          0.9000     5.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2264)    117.800     24.459      6.00      75.73
     OUTFLOW: ID= 1 (9277)    117.800      1.563      8.00      75.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.39
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.5131
```

```
| ADD HYD   (9253) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9276):    10.50   0.373     7.25    48.48
       + ID2= 2 (9277):   117.80   1.563     8.00    75.71
         ================================================
         ID = 3 (9253):   128.30   1.911     7.50    73.48
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR (5226) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.7530      0.6823
                          0.0890     0.3202   |   2.2010      0.7801
                          0.5080     0.3704   |   2.5620      0.8758
                          0.9450     0.4782   |   2.9620      0.8858
                          1.3110     0.5708   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9253)    128.300      1.911      7.50      73.48
     OUTFLOW: ID= 1 (5226)    128.300      1.797      8.75      73.48

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.05
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6925
```

```
| CALIB            |
| NASHYD    (2262) |   Area    (ha)= 119.28   Curve Number   (CN)= 77.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05
```

Unit Hyd Qpeak (cms)= 1.934

PEAK FLOW (cms)= 2.390 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 43.452
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.491

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (9226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2262):   119.28   2.390     7.25    43.45
       + ID2= 2 (5226):   128.30   1.797     8.75    73.48
         ================================================
         ID = 3 (9226):   247.58   4.024     8.00    59.01
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8168) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6226):   359.98   9.432     7.00    66.50
       + ID2= 2 (9226):   247.58   4.024     8.00    59.01
         ================================================
         ID = 3 (8168):   607.56  13.161     7.25    63.45
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8162) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8160): 16746.20 167.454     9.75    37.65
       + ID2= 2 (8168):   607.56  13.161     7.25    63.45
         ================================================
         ID = 3 (8162): 17353.76 176.667     9.25    38.56
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (6228) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (2281.0) ------>

Distance	Elevation	Manning	
0.00	245.00	0.0600	
18.60	244.74	0.0600	
37.20	242.47	0.0600	
93.01	233.71	0.0600	
125.57	226.95	0.0600	
213.93	221.63	0.0600	
218.58	221.15	0.0600	
223.23	220.45	0.0600	
225.03	220.55	0.0600 /0.0300	Main Channel
225.53	218.05	0.0300	Main Channel
232.53	218.05	0.0300	Main Channel
240.03	218.05	0.0300	Main Channel
241.03	220.55	0.0300 /0.0600	Main Channel
246.48	221.00	0.0600	
251.13	221.27	0.0600	
255.78	221.22	0.0600	
325.54	225.25	0.0600	
367.40	228.91	0.0600	
404.60	231.75	0.0600	
460.41	245.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.25	219.30	.338E+05	16.0	0.86	35.15
2.50	220.55	.696E+05	48.3	1.26	24.02
3.94	221.99	.168E+06	116.0	1.26	24.14
5.38	223.43	.392E+06	247.5	1.15	26.37
6.81	224.86	.743E+06	472.6	1.16	26.20
8.25	226.30	.122E+07	821.6	1.23	24.67
9.69	227.74	.179E+07	1320.1	1.34	22.59
11.13	229.18	.243E+07	1965.7	1.47	20.58
12.57	230.62	.313E+07	2744.2	1.59	19.02
14.01	232.06	.390E+07	3683.4	1.72	17.66
15.44	233.49	.472E+07	4824.1	1.86	16.30
16.88	234.93	.557E+07	6092.4	1.99	15.23
18.32	236.37	.646E+07	7503.3	2.11	14.35
19.76	237.81	.739E+07	9061.2	2.23	13.59
21.20	239.25	.836E+07	10767.6	2.34	12.94
22.64	240.69	.937E+07	12624.8	2.45	12.37
24.07	242.12	.104E+08	14634.9	2.56	11.87
25.51	243.56	.115E+08	16762.8	2.65	11.45
26.95	245.00	.127E+08	18699.9	2.69	11.28

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8162)	*******	176.67	9.25	38.56	4.60	1.20
OUTFLOW: ID= 1 (6228)	*******	173.98	10.00	38.56	4.57	1.21

```
| CALIB            |
| STANDHYD  (2287) |   Area    (ha)= 130.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  10.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	30.01	100.48	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	932.74	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		116.82	56.46	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.28 (ii)	24.73 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	3.44	7.20	8.539 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.25
RUNOFF VOLUME	(mm)=	86.50	31.79	37.26
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50

```
     RUNOFF COEFFICIENT   =       0.98         0.36          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  61.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9275) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5000      3.5000
                          0.8000     0.1000   |   6.0000      4.0000
                          1.5000     2.0000   |   6.5000      4.5000
                          2.5000     3.0000   |   7.0000      5.5000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2287)    130.500      8.539      6.25      37.26
     OUTFLOW: ID= 1 (9275)    130.500      1.803      7.50      37.26

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.11
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.3069

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5228) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.7260      2.6184
                          0.3410     1.2286   |   8.4460      2.9937
                          1.9480     1.4214   |   9.8320      3.3609
                          3.6280     1.8348   |  10.2320      3.3709
                          5.0330     2.1904   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9275)    130.500      1.803      7.50      37.26
     OUTFLOW: ID= 1 (5228)    130.500      1.592      8.75      37.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 88.30
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.3791

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2282) |   Area    (ha)= 180.03   Curve Number   (CN)= 61.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.754

     PEAK FLOW       (cms)=   2.227 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.818
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.326

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2282):   180.03   2.227     7.50    28.82
        + ID2= 2 (5228):   130.50   1.592     8.75    37.25
          ================================================
          ID = 3 (9228):   310.53   3.655     8.50    32.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD   (8170) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6228): 17353.76 173.976    10.00    38.56
        + ID2= 2 (9228):   310.53   3.655     8.50    32.36
          ================================================
          ID = 3 (8170): 17664.29 177.098    10.00    38.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2302) |   Area    (ha)=  30.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  11.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.84         21.63
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      450.70         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         73.75
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        7.29 (ii)   19.38 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.99          2.28          2.534 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=       86.50         38.37         43.67
     TOTAL RAINFALL   (mm)=       88.50         88.50         88.50
     RUNOFF COEFFICIENT   =        0.98          0.43          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2307) |   Area    (ha)= 175.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=   9.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       43.75        131.25
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1080.12         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         86.78
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       12.32 (ii)   23.65 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        4.02         14.94         16.624 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=       86.50         46.18         49.81
     TOTAL RAINFALL   (mm)=       88.50         88.50         88.50
     RUNOFF COEFFICIENT   =        0.98          0.52          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9280) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.7500      3.0604
                         0.5900     1.4722   |  11.7100      3.8736
                         3.3900     1.6096   |  14.7000      4.6556
                         6.3200     2.4308   |  17.1100      5.4201

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2307)    175.000     16.624      6.25      49.81
     OUTFLOW: ID= 1 (9280)    175.000      9.018      6.75      49.81

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.25
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.1869

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-------------------
| RESERVOIR (5230) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   8.6830      2.7782
                         0.4700     1.3193   |  10.7480      3.1570
                         2.5870     1.5374   |  12.3570      3.5304
                         5.1590     1.9534   |  12.7570      3.5404
                         6.7830     2.3333   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9280)    175.000      9.018      6.75      49.81
     OUTFLOW: ID= 1 (5230)    175.000      6.511      7.50      49.81

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 72.20
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.2872

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-------------------
| ADD HYD   (8172) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2302):    30.47   2.534     6.25    43.67
       + ID2= 2 (5230):   175.00   6.511     7.50    49.81
         ================================================
         ID = 3 (8172):   205.47   6.947     7.25    48.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2329) |   Area    (ha)=   1.80   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.22

     Unit Hyd Qpeak  (cms)=   0.143

     PEAK FLOW       (cms)=   0.093 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  31.896
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.360

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0900      0.0300
                         0.0100     0.0136   |   0.1200      0.0386
                         0.0400     0.0146   |   0.1500      0.0471
                         0.0700     0.0234   |   0.1800      0.0554

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2329)      1.800      0.093      6.00      31.90
     OUTFLOW: ID= 1 (9269)      1.800      0.054      6.75      31.72
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                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.61
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0187

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-------------------
| CALIB            |
| STANDHYD  (2327) |   Area    (ha)= 184.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   8.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       44.16        139.84
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1107.55         40.00
     Mannings n          =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         68.57
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.51 (ii)    24.95 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.74         12.17       13.748 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50         36.99        40.95
     TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
     RUNOFF COEFFICIENT   =       0.98          0.42         0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0000      4.0000
                         1.1000     0.3000   |   3.5000      4.5000
                         1.8000     1.8000   |   4.5000      6.0000
                         2.0000     2.5000   |   5.5000      8.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2327)    184.000     13.748      6.25      40.95
     OUTFLOW: ID= 1 (9270)    184.000      2.806      7.50      40.95

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.41
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.7126

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| ADD HYD   (9249) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9269):     1.80   0.054     6.75    31.72
       + ID2= 2 (9270):   184.00   2.806     7.50    40.95
         ================================================
         ID = 3 (9249):   185.80   2.849     7.50    40.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5232) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.1130      4.3262
                         0.5630     2.0299   |  13.9540      4.9462
                         3.2190     2.3484   |  16.2450      5.5530
                         5.9950     3.0315   |  16.6450      5.5630
                         8.3150     3.6189   |   0.0000      0.0000
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                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9249)    185.800      2.849      7.50      40.86
     OUTFLOW: ID= 1 (5232)    185.800      2.493      9.00      40.85

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 87.51
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.2619

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--------------------
| CALIB            |
| NASHYD    (2322) |   Area    (ha)= 129.00   Curve Number   (CN)= 58.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.209

     PEAK FLOW       (cms)=   1.558 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.877
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   129.00   1.558     7.25     25.88
       + ID2= 2 (5232):   185.80   2.493     9.00     40.85
         ================================================
         ID = 3 (9232):   314.80   3.784     9.00     34.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8173) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8172):   205.47   6.947     7.25     48.90
       + ID2= 2 (9232):   314.80   3.784     9.00     34.72
         ================================================
         ID = 3 (8173):   520.27   8.907     7.50     40.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8174) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8170): 17664.29 177.098    10.00     38.45
       + ID2= 2 (8173):   520.27   8.907     7.50     40.32
         ================================================
         ID = 3 (8174): 18184.56 181.932    10.00     38.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6234) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2341.0) ------>
              Distance      Elevation       Manning
                 0.00         228.00        0.0550
                42.86         223.21        0.0550
                85.72         219.56        0.0550
               107.15         219.42        0.0550
               128.58         219.39        0.0550
               214.30         219.30        0.0550
               225.02         219.26        0.0550
               235.73         219.24        0.0550
               255.16         219.20    0.0550 /0.0350  Main Channel
               257.16         217.20        0.0350      Main Channel
               303.16         217.20        0.0350      Main Channel
               305.16         219.20    0.0350 /0.0550  Main Channel
               310.74         219.28        0.0550
               321.45         219.27        0.0550
               332.17         219.26        0.0550
               396.46         219.29        0.0550
               782.20         222.91        0.0550
               878.64         227.43        0.0550
               964.36         227.80        0.0550
              1060.79         228.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    217.70    .887E+05       7.2          0.31      206.54
       1.00    218.20    .179E+06      22.7          0.48      131.74
       1.50    218.70    .272E+06      44.5          0.62      101.75
       2.00    219.20    .366E+06      71.8          0.75       84.97
       2.59    219.79    .993E+06     136.1          0.52      121.59
       3.17    220.37    .189E+07     258.6          0.52      121.80
       3.76    220.96    .294E+07     434.7          0.56      112.82
       4.35    221.55    .415E+07     665.9          0.61      103.88
       4.93    222.13    .551E+07     955.0          0.66       96.22
       5.52    222.72    .703E+07    1305.1          0.71       89.80
       6.11    223.31    .868E+07    1744.9          0.77       82.91
       6.69    223.89    .104E+08    2261.4          0.83       76.46
       7.28    224.48    .121E+08    2838.0          0.89       71.12
       7.87    225.07    .139E+08    3472.9          0.95       66.63
       8.45    225.65    .157E+08    4165.0          1.01       62.82
       9.04    226.24    .176E+08    4913.5          1.07       59.54
       9.63    226.83    .194E+08    5717.7          1.12       56.68
      10.21    227.41    .214E+08    6577.1          1.17       54.18
      10.80    228.00    .235E+08    6919.5          1.12       56.61

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8174) *******   181.93   10.00  38.50      2.81      0.52
     OUTFLOW: ID= 1 (6234) *******   153.06   11.75  38.50      2.67      0.52


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--------------------
| CALIB            |
| NASHYD    (2347) |   Area    (ha)= 266.10   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.00

     Unit Hyd Qpeak  (cms)=   2.276

     PEAK FLOW       (cms)=   1.772 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  24.541
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.277

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  13.3100      4.0635
                          0.9000     1.7152   |  17.8000      5.3537
                          5.1600     1.7685   |  22.3500      6.6446
                          9.6100     3.0976   |  26.0300      7.9060

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2347)    266.100      1.772      9.00      24.54
     OUTFLOW: ID= 1 (9281)    266.100      1.987     10.50      24.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=112.14
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.7597

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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--------------------
| RESERVOIR (5234) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
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--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5630     0.1745
                          0.1300     0.0819   |   0.6550     0.1995
                          0.2420     0.0947   |   0.7760     0.2240
                          0.3350     0.1223   |   1.0550     0.2340
                          0.4480     0.1460   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)    266.100      1.987     10.50      24.54
     OUTFLOW: ID= 1 (5234)    266.100      1.763     10.75      24.54

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 88.69
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2703

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| CALIB            |
| STANDHYD  (2342) |   Area    (ha)=   1.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=   8.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.23         0.83
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.06        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        29.74
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      2.16 (ii)   13.63 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.05          0.077 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00           6.00
     RUNOFF VOLUME    (mm)=      87.50        17.09          22.71
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.99         0.19           0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  39.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2342):     1.06   0.077     6.00     22.71
       + ID2= 2 (5234):   266.10   1.763    10.75     24.54
         ================================================
         ID = 3 (9234):   267.16   1.765    10.75     24.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6234): 18184.56 153.062    11.75     38.50
       + ID2= 2 (9234):   267.16   1.765    10.75     24.53
         ================================================
         ID = 3 (8176): 18451.72 154.642    11.75     38.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2369) |   Area    (ha)= 441.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=   8.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     101.64       340.26
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1716.39        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        72.62
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      16.27 (ii)   28.43 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.06        29.36         33.514 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        39.53         43.29
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.45          0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9266) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3000      8.0000
                          0.2000     2.0000   |   3.5000     10.0000
                          1.9000     7.0000   |   4.5000     13.0000
                          2.0000     7.5000   |   5.5000     14.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2369)    441.900     33.514      6.25      43.29
     OUTFLOW: ID= 1 (9266)    441.900      4.330      8.50      43.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.92
                   TIME SHIFT OF PEAK FLOW         (min)=135.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 12.5100

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5236) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.1380      1.5897
                          1.0220     0.7542   |   3.7950      2.0204
                          1.7530     0.8200   |   4.4970      2.4373
                          2.3290     1.2567   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9266)    441.900      4.330      8.50      43.28
     OUTFLOW: ID= 1 (5236)    441.900      3.907     11.00      43.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 90.22
                   TIME SHIFT OF PEAK FLOW         (min)=150.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.0868

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2362) |   Area    (ha)=  52.59   Curve Number   (CN)= 58.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.24

     Unit Hyd Qpeak  (cms)=   0.726

     PEAK FLOW       (cms)=   0.549 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  26.392
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (9236) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2362):    52.59   0.549     8.00    26.39
       + ID2= 2 (5236):   441.90   3.907    11.00    43.28
         ================================================
         ID = 3 (9236):   494.49   4.297    10.50    41.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (6238) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2381.0) ------>
              Distance      Elevation       Manning
                 0.00         241.54        0.0380
                602.55        227.00        0.0380
               1702.00        224.50        0.0380
               1721.25        223.00        0.0380
               1725.10        222.60        0.0380
               1780.94        222.50        0.0380
               1782.87        222.45        0.0380
               1784.79        222.40    0.0380 /0.0300  Main Channel
               1786.57        221.75        0.0300      Main Channel
               1787.07        220.75        0.0300      Main Channel
               1787.57        220.75        0.0300      Main Channel
               1791.57        220.75        0.0300      Main Channel
               1794.07        221.75        0.0300      Main Channel
               1798.27        222.00        0.0300      Main Channel
               1800.19        222.35    0.0300 /0.0380  Main Channel
               1802.12        222.47        0.0380
               1840.63        223.00        0.0380
               1900.00        225.00        0.0380
               1950.00        226.00        0.0380
               2242.61        240.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.80   221.55    .101E+05       5.2         1.14       32.36
       1.60   222.35    .296E+05      18.7         1.40       26.36
       2.64   223.39    .249E+06     151.8         1.35       27.33
       3.68   224.43    .613E+06     512.2         1.85       19.94
       4.71   225.46    .152E+07    1066.8         1.55       23.80
       5.75   226.50    .359E+07    2824.9         1.75       21.16
       6.79   227.54    .663E+07    6528.0         2.18       16.93
       7.83   228.58    .994E+07   12158.6         2.71       13.62
       8.87   229.62    .134E+08   19268.8         3.19       11.58
       9.91   230.66    .170E+08   27785.3         3.63       10.19
      10.94   231.69    .207E+08   37667.1         4.03        9.18
      11.98   232.73    .246E+08   48891.7         4.40        8.40
      13.02   233.77    .287E+08   61448.0         4.75        7.78
      14.06   234.81    .329E+08   75332.7         5.08        7.28
      15.10   235.85    .372E+08   90547.8         5.39        6.85
      16.14   236.89    .417E+08   *******         5.69        6.49
      17.17   237.92    .464E+08   *******         5.98        6.18
      18.21   238.96    .512E+08   *******         6.25        5.91
      19.25   240.00    .561E+08   *******         6.52        5.67

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9236)  494.49     4.30   10.50  41.49      0.66      1.14
     OUTFLOW: ID= 1 (6238)  494.49     4.26   11.25  41.49      0.65      1.14


--------------------
| CALIB            |
| STANDHYD  (2389) |   Area    (ha)=   4.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.99         3.71
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     177.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        70.90
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       4.16 (ii)   16.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.40          0.418 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        39.18         42.49
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.44          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9267) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2300      0.0785
                          0.0200     0.0364   |   0.3100      0.1005
                          0.0900     0.0393   |   0.3900      0.1220
                          0.1700     0.0616   |   0.4600      0.1429

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2389)     4.700     0.418      6.25      42.49
     OUTFLOW: ID= 1 (9267)     4.700     0.218      6.50      42.40

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.19
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0765

--------------------
| CALIB            |
| NASHYD    (2387) |   Area    (ha)=  90.20   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   1.791

     PEAK FLOW       (cms)=   1.082 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.954
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.259

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (9268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.5100      1.3564
                          0.3100     0.5624   |   6.0400      1.7959
                          1.7500     0.5748   |   7.5800      2.2374
                          3.2600     1.0285   |   8.8300      2.6688

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2387)    90.200     1.082      7.00      22.95
     OUTFLOW: ID= 1 (9268)    90.200     1.234      8.00      22.95

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=114.03
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5945

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.

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| ADD HYD   (9247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9267):     4.70   0.218     6.50    42.40
        + ID2= 2 (9268):    90.20   1.234     8.00    22.95
          ================================================
          ID = 3 (9247):    94.90   1.330     8.00    23.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5238) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.8780      1.5095
                          0.1960     0.7083   |   4.8600      1.7258
                          1.1230     0.8194   |   5.6680      1.9375
                          2.0920     1.0578   |   6.0680      1.9475
                          2.9010     1.2627   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9247)     94.900     1.330      8.00      23.91
     OUTFLOW: ID= 1 (5238)     94.900     0.651     10.25      23.90

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.96
                  TIME SHIFT OF PEAK FLOW         (min)=135.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7634

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (2382) |   Area    (ha)= 216.80   Curve Number   (CN)= 56.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.56

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   1.792 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  25.067
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.283

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9238) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2382):   216.80   1.792     8.25    25.07
        + ID2= 2 (5238):    94.90   0.651    10.25    23.90
          ================================================
          ID = 3 (9238):   311.70   2.274    10.00    24.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8180) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6238):   494.49   4.264    11.25    41.49
        + ID2= 2 (9238):   311.70   2.274    10.00    24.71
          ================================================
          ID = 3 (8180):   806.19   6.427    10.25    35.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8178) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8176): 18451.72 154.642    11.75    38.30
        + ID2= 2 (8180):   806.19   6.427    10.25    35.00
          ================================================
          ID = 3 (8178): 19257.91 160.700    11.75    38.16
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2401.0) ------>
              Distance      Elevation       Manning
                 0.00         222.00        0.0450
                11.46         221.00        0.0450
               208.98         221.00        0.0450
               404.04         220.97        0.0450
               808.08         220.83        0.0450
               905.60         220.17        0.0450
               919.53         219.43        0.0450
               933.47         219.22        0.0450
               945.26         219.21    0.0450 /0.0300  Main Channel
               946.26         217.81        0.0300      Main Channel
               975.26         217.81        0.0300      Main Channel
              1003.26         217.81        0.0300      Main Channel
              1005.26         219.21    0.0300 /0.0450  Main Channel
              1017.06         219.28        0.0450
              1030.99         219.26        0.0450
              1044.92         219.23        0.0450
              1058.86         219.23        0.0450
              1253.91         219.22        0.0450
              1323.57         221.05        0.0450
              1379.30         222.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   218.01    .307E+05       2.2          0.20      227.52
       0.40   218.21    .617E+05       7.1          0.31      143.95
       0.60   218.41    .928E+05      14.0          0.41      110.33
       0.80   218.61    .124E+06      22.6          0.49       91.46
       1.00   218.81    .156E+06      32.8          0.57       79.15
       1.20   219.01    .188E+06      44.5          0.64       70.38
       1.40   219.21    .220E+06      57.5          0.70       63.77
       1.63   219.44    .413E+06      82.5          0.54       83.52
       1.87   219.68    .632E+06     120.9          0.51       87.03
       2.10   219.91    .858E+06     170.0          0.53       84.11
       2.33   220.14    .109E+07     228.7          0.56       79.62
       2.56   220.37    .134E+07     294.4          0.59       76.03
       2.80   220.61    .162E+07     371.1          0.61       72.75
       3.03   220.84    .192E+07     456.8          0.64       70.18
       3.26   221.07    .251E+07     552.1          0.59       75.74
       3.49   221.30    .333E+07     711.8          0.57       78.07
       3.73   221.54    .417E+07     907.0          0.58       76.62
       3.96   221.77    .502E+07    1134.1          0.61       73.70
       4.19   222.00    .587E+07    1390.9          0.64       70.34

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8178) *******   160.70   11.75  38.16      2.05      0.53
     OUTFLOW: ID= 1 (6240) *******   148.59   13.25  38.16      2.00      0.52


-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0240) |   Area    (ha)= 345.47   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   3.60

     Unit Hyd Qpeak  (cms)=   1.637

     PEAK FLOW       (cms)=   1.080 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  18.240
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2407) |   Area    (ha)=  88.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=   7.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.78         71.12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     769.85         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         62.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     10.06 (ii)    22.98 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.70          5.85          6.450 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=     86.50         35.12          38.72
     TOTAL RAINFALL   (mm)=     88.50         88.50          88.50
     RUNOFF COEFFICIENT   =      0.98          0.40           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  65.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9273) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.4500      5.4723
                         0.3000     4.6746   |   5.9500      5.8930
                         1.7300     4.7225   |   7.4700      6.3047
                         3.2100     5.1511   |   8.7000      6.7071

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2407)     88.900      6.450      6.25      38.72
     OUTFLOW: ID= 1 (9273)     88.900      0.194     12.25      38.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.01
                  TIME SHIFT OF PEAK FLOW          (min)=360.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.0279

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-------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0240):   345.47   1.080    12.00    18.24
       + ID2= 2 (9273):    88.90   0.194    12.25    38.67
         ================================================
         ID = 3 (9252):   434.37   1.273    12.00    22.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8182) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6240): 19257.91 148.587    13.25    38.16
       + ID2= 2 (9252):   434.37   1.273    12.00    22.42
         ================================================
         ID = 3 (8182): 19692.28 149.820    13.00    37.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (2427) |   Area    (ha)=   5.40   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.249

     PEAK FLOW       (cms)=   0.218 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  38.583
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.436

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9274) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2700      0.0857
                         0.0200     0.0379   |   0.3600      0.1115
                         0.1000     0.0399   |   0.4500      0.1369
                         0.1900     0.0663   |   0.5300      0.1618

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2427)     5.400      0.218      6.25      38.58
     OUTFLOW: ID= 1 (9274)     5.400      0.159      7.00      38.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.00
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0577

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| RESERVOIR (5242) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0480      1.0185
                         0.0020     1.0087   |   0.0600      1.0212
                         0.0140     1.0101   |   0.0700      1.0238
                         0.0260     1.0130   |   0.4700      1.0338
                         0.0360     1.0155   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9274)     5.400      0.159      7.00      38.50
     OUTFLOW: ID= 1 (5242)     5.400      0.000     33.75      11.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.25
                  TIME SHIFT OF PEAK FLOW          (min)=******
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2041

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-------------------
| CALIB            |
| NASHYD    (2422) |   Area    (ha)= 652.48   Curve Number   (CN)= 51.6
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   5.37

     Unit Hyd Qpeak  (cms)=   2.073

     PEAK FLOW       (cms)=   1.713 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  21.652
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.245

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2422):   652.48   1.713    12.75    21.65
       + ID2= 2 (5242):     5.40   0.000    33.75    11.36
         ================================================
         ID = 3 (9242):   657.88   1.713    12.75    21.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8184) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8182): 19692.28 149.820    13.00    37.81
       + ID2= 2 (9242):   657.88   1.713    12.75    21.57
         ================================================
         ID = 3 (8184): 20350.16 151.532    13.00    37.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6244) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2441.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0450
                   2.50         220.10        0.0450
                   3.00         220.06        0.0450
                   3.64         220.07        0.0450
                   7.28         220.08        0.0450
                  10.91         220.09        0.0450
                  14.55         219.81        0.0450
                  18.19         219.29        0.0450
                  24.13         219.21    0.0450 /0.0300  Main Channel
                  24.63         217.81        0.0300      Main Channel
                  69.13         217.81        0.0300      Main Channel
                 114.13         217.81        0.0300      Main Channel
                 115.13         219.21    0.0300 /0.0450  Main Channel
                 120.06         219.25        0.0450
                 123.70         219.32        0.0450
                 127.34         219.77        0.0450
                 130.98         219.88        0.0450
                 134.61         219.99        0.0450
                 350.00         220.18        0.0450
                 360.18         225.00        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.35   218.16    .108E+06       9.0         0.29     200.52
       0.70   218.51    .216E+06      28.4         0.45     126.89
       1.05   218.86    .325E+06      55.7         0.59      97.27
       1.40   219.21    .434E+06      89.7         0.71      80.65
       1.79   219.60    .574E+06     135.9         0.81      70.36
       2.17   219.98    .726E+06     190.8         0.90      63.38
       2.56   220.37    .111E+07     264.3         0.82      69.82
       2.94   220.75    .157E+07     371.7         0.81      70.36
       3.33   221.14    .203E+07     503.4         0.85      67.30
       3.72   221.53    .250E+07     656.6         0.90      63.40
       4.10   221.91    .296E+07     829.6         0.96      59.54
       4.49   222.30    .343E+07    1021.1         1.02      56.00
       4.87   222.68    .390E+07    1230.2         1.08      52.83
       5.26   223.07    .437E+07    1456.2         1.14      50.01
       5.65   223.46    .484E+07    1698.4         1.20      47.51
       6.03   223.84    .531E+07    1956.3         1.26      45.28
       6.42   224.23    .579E+07    2229.3         1.32      43.28
       6.80   224.61    .626E+07    2517.0         1.38      41.48
       7.19   225.00    .674E+07    2819.2         1.44      39.85

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8184) *******   151.53   13.00  37.29      1.90      0.84
     OUTFLOW: ID= 1 (6244) *******   145.89   14.25  37.29      1.85      0.83


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| CALIB           |
| STANDHYD  (2441) |   Area    (ha)=  91.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       41.18         50.34
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      781.11         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         89.89
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       10.15 (ii)   21.31 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.74          6.20      7.728 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=       86.50         38.11      45.36
     TOTAL RAINFALL   (mm)=       88.50         88.50      88.50
     RUNOFF COEFFICIENT   =        0.98          0.43       0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2449) |   Area    (ha)= 143.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  17.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       48.69         94.51
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      977.07         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82         78.85
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       11.60 (ii)   23.37 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        6.36          9.79      12.639 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=       86.50         40.76      48.54
     TOTAL RAINFALL   (mm)=       88.50         88.50      88.50
     RUNOFF COEFFICIENT   =        0.98          0.46       0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9265) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.1600      7.7857
                         0.4900     6.4537   |   9.5800      8.4259
                         2.7800     6.6401   |  12.0300      9.0179
                         5.1700     7.2743   |  14.0100      9.5968

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2449)    143.200     12.639      6.00      48.54
     OUTFLOW: ID= 1 (9265)    143.200      0.453     12.25      48.51

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.58
                TIME SHIFT OF PEAK FLOW         (min)=375.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.9648

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| ADD HYD   (9245) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2441):    91.52   7.728     6.00    45.36
       + ID2= 2 (9265):   143.20   0.453    12.25    48.51
         ================================================
         ID = 3 (9245):   234.72   7.849     6.00    47.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5244) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  15.7000      6.1120
                          0.7950     2.8678   |  19.7140      6.9879
                          4.5470     3.3178   |  22.9500      7.8451
                          8.4690     4.2829   |  23.3500      7.8551
                         11.7470     5.1128   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9245)    234.720     7.849      6.00      47.29
     OUTFLOW: ID= 1 (5244)    234.720     1.415      8.00      47.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.02
                  TIME SHIFT OF PEAK FLOW         (min)=120.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  2.9429

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--------------------
| CALIB            |
| NASHYD    (2442) |   Area    (ha)=1674.00   Curve Number   (CN)= 62.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.20

     Unit Hyd Qpeak  (cms)=  12.991

     PEAK FLOW       (cms)=  12.326 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  29.139
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2442):  1674.00  12.326     9.50    29.14
       + ID2= 2 (5244):   234.72   1.415     8.00    47.28
         ================================================
         ID = 3 (9244):  1908.72  13.380     9.00    31.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8186) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6244): 20350.16 145.888    14.25    37.29
       + ID2= 2 (9244):  1908.72  13.380     9.00    31.37
         ================================================
         ID = 3 (8186): 22258.88 154.944    14.00    36.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| READ HYD  (8190) |   AREA       (ha)=*******
| DT=15.0 min      |   TPEAK     (hrs)=  11.50
--------------------   VOLUME     (mm)=  33.75
  Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Ex
  Comments:

         HOWEVER THE TABLE BELOW AND HYDROGRAPH FILES DO.
         ACTUAL PEAK FLOW: PEAK ( 190.83) + BASE (   0.00) =  190.83  (cms).
  TIME    FLOW |  TIME    FLOW |  TIME    FLOW |'  TIME    FLOW |  TIME    FLOW
   hrs     cms |   hrs     cms |   hrs     cms |   hrs     cms |   hrs     cms
  0.00   0.000 | 66.00   2.532 |132.00   0.380 |198.00   0.054 |264.00   0.007
  0.25   0.000 | 66.25   2.513 |132.25   0.377 |198.25   0.054 |264.25   0.007
  0.50   0.000 | 66.50   2.494 |132.50   0.375 |198.50   0.053 |264.50   0.007
  0.75   0.000 | 66.75   2.476 |132.75   0.372 |198.75   0.053 |264.75   0.007
  1.00   0.159 | 67.00   2.458 |133.00   0.369 |199.00   0.052 |265.00   0.007
  1.25   0.498 | 67.25   2.439 |133.25   0.367 |199.25   0.052 |265.25   0.007
  1.50   0.689 | 67.50   2.422 |133.50   0.364 |199.50   0.052 |265.50   0.007
  1.75   0.825 | 67.75   2.404 |133.75   0.361 |199.75   0.051 |265.75   0.007
  2.00   0.935 | 68.00   2.386 |134.00   0.359 |200.00   0.051 |266.00   0.007
  2.25   1.115 | 68.25   2.368 |134.25   0.356 |200.25   0.050 |266.25   0.007
  2.50   1.251 | 68.50   2.351 |134.50   0.354 |200.50   0.050 |266.50   0.007
  2.75   1.376 | 68.75   2.334 |134.75   0.351 |200.75   0.050 |266.75   0.007
  3.00   1.503 | 69.00   2.317 |135.00   0.348 |201.00   0.049 |267.00   0.007
  3.25   1.811 | 69.25   2.300 |135.25   0.346 |201.25   0.049 |267.25   0.007
  3.50   2.067 | 69.50   2.283 |135.50   0.343 |201.50   0.049 |267.50   0.007
  3.75   2.327 | 69.75   2.266 |135.75   0.341 |201.75   0.048 |267.75   0.007
  4.00   2.607 | 70.00   2.250 |136.00   0.338 |202.00   0.048 |268.00   0.006
  4.25   3.283 | 70.25   2.234 |136.25   0.336 |202.25   0.048 |268.25   0.006
  4.50   3.889 | 70.50   2.218 |136.50   0.334 |202.50   0.047 |268.50   0.006
  4.75   4.914 | 70.75   2.201 |136.75   0.331 |202.75   0.047 |268.75   0.006
  5.00   5.918 | 71.00   2.186 |137.00   0.329 |203.00   0.046 |269.00   0.006
  5.25   7.814 | 71.25   2.170 |137.25   0.326 |203.25   0.046 |269.25   0.006
  5.50   9.720 | 71.50   2.154 |137.50   0.324 |203.50   0.046 |269.50   0.006
  5.75  19.726 | 71.75   2.139 |137.75   0.322 |203.75   0.045 |269.75   0.006
  6.00  52.942 | 72.00   2.123 |138.00   0.319 |204.00   0.045 |270.00   0.006
  6.25  67.988 | 72.25   2.108 |138.25   0.317 |204.25   0.045 |270.25   0.006
  6.50  85.386 | 72.50   2.093 |138.50   0.315 |204.50   0.044 |270.50   0.006
  6.75  96.686 | 72.75   2.078 |138.75   0.312 |204.75   0.044 |270.75   0.006
  7.00 107.297 | 73.00   2.063 |139.00   0.310 |205.00   0.044 |271.00   0.006
  7.25 117.169 | 73.25   2.048 |139.25   0.308 |205.25   0.043 |271.25   0.006
  7.50 126.892 | 73.50   2.033 |139.50   0.306 |205.50   0.043 |271.50   0.006
  7.75 136.427 | 73.75   2.019 |139.75   0.303 |205.75   0.043 |271.75   0.006
  8.00 144.516 | 74.00   2.004 |140.00   0.301 |206.00   0.042 |272.00   0.006
  8.25 150.308 | 74.25   1.990 |140.25   0.299 |206.25   0.042 |272.25   0.006
  8.50 156.065 | 74.50   1.976 |140.50   0.297 |206.50   0.042 |272.50   0.006
  8.75 161.697 | 74.75   1.962 |140.75   0.295 |206.75   0.042 |272.75   0.006
  9.00 167.230 | 75.00   1.948 |141.00   0.293 |207.00   0.041 |273.00   0.006
  9.25 172.551 | 75.25   1.934 |141.25   0.291 |207.25   0.041 |273.25   0.006
  9.50 177.536 | 75.50   1.920 |141.50   0.288 |207.50   0.041 |273.50   0.005
  9.75 182.010 | 75.75   1.906 |141.75   0.286 |207.75   0.040 |273.75   0.005
 10.00 185.865 | 76.00   1.893 |142.00   0.284 |208.00   0.040 |274.00   0.005
 10.25 188.136 | 76.25   1.879 |142.25   0.282 |208.25   0.040 |274.25   0.005
 10.50 189.142 | 76.50   1.866 |142.50   0.280 |208.50   0.039 |274.50   0.005
 10.75 189.861 | 76.75   1.852 |142.75   0.278 |208.75   0.039 |274.75   0.005
 11.00 190.369 | 77.00   1.839 |143.00   0.276 |209.00   0.039 |275.00   0.005
 11.25 190.687 | 77.25   1.826 |143.25   0.274 |209.25   0.039 |275.25   0.005
 11.50 190.831 | 77.50   1.813 |143.50   0.272 |209.50   0.038 |275.50   0.005
 11.75 190.809 | 77.75   1.800 |143.75   0.270 |209.75   0.038 |275.75   0.005
 12.00 190.638 | 78.00   1.787 |144.00   0.268 |210.00   0.038 |276.00   0.005
 12.25 189.753 | 78.25   1.775 |144.25   0.266 |210.25   0.037 |276.25   0.005
 12.50 188.672 | 78.50   1.762 |144.50   0.264 |210.50   0.037 |276.50   0.005
 12.75 187.484 | 78.75   1.750 |144.75   0.262 |210.75   0.037 |276.75   0.005
 13.00 186.158 | 79.00   1.737 |145.00   0.260 |211.00   0.037 |277.00   0.005
 13.25 184.692 | 79.25   1.725 |145.25   0.259 |211.25   0.036 |277.25   0.005
 13.50 183.096 | 79.50   1.713 |145.50   0.257 |211.50   0.036 |277.50   0.005
 13.75 181.381 | 79.75   1.700 |145.75   0.255 |211.75   0.036 |277.75   0.005
 14.00 179.560 | 80.00   1.688 |146.00   0.253 |212.00   0.035 |278.00   0.005
 14.25 177.651 | 80.25   1.676 |146.25   0.251 |212.25   0.035 |278.25   0.005
 14.50 175.660 | 80.50   1.664 |146.50   0.249 |212.50   0.035 |278.50   0.005
 14.75 173.596 | 80.75   1.653 |146.75   0.247 |212.75   0.035 |278.75   0.005
 15.00 171.469 | 81.00   1.641 |147.00   0.246 |213.00   0.034 |279.00   0.005
 15.25 169.280 | 81.25   1.629 |147.25   0.244 |213.25   0.034 |279.25   0.005
 15.50 166.973 | 81.50   1.617 |147.50   0.242 |213.50   0.034 |279.50   0.005
 15.75 164.500 | 81.75   1.606 |147.75   0.240 |213.75   0.034 |279.75   0.005
 16.00 161.880 | 82.00   1.594 |148.00   0.239 |214.00   0.033 |280.00   0.004
 16.25 159.133 | 82.25   1.583 |148.25   0.237 |214.25   0.033 |280.25   0.004
 16.50 156.268 | 82.50   1.572 |148.50   0.235 |214.50   0.033 |280.50   0.004
 16.75 153.303 | 82.75   1.560 |148.75   0.233 |214.75   0.033 |280.75   0.004
 17.00 149.826 | 83.00   1.549 |149.00   0.232 |215.00   0.032 |281.00   0.004
 17.25 145.711 | 83.25   1.538 |149.25   0.230 |215.25   0.032 |281.25   0.004
 17.50 141.690 | 83.50   1.527 |149.50   0.228 |215.50   0.032 |281.50   0.004
 17.75 137.768 | 83.75   1.517 |149.75   0.227 |215.75   0.032 |281.75   0.004
 18.00 133.949 | 84.00   1.506 |150.00   0.225 |216.00   0.031 |282.00   0.004
 18.25 130.235 | 84.25   1.495 |150.25   0.223 |216.25   0.031 |282.25   0.004
 18.50 126.613 | 84.50   1.485 |150.50   0.222 |216.50   0.031 |282.50   0.004
 18.75 123.061 | 84.75   1.474 |150.75   0.220 |216.75   0.031 |282.75   0.004
 19.00 119.574 | 85.00   1.464 |151.00   0.218 |217.00   0.030 |283.00   0.004
 19.25 116.168 | 85.25   1.453 |151.25   0.217 |217.25   0.030 |283.25   0.004
 19.50 112.861 | 85.50   1.443 |151.50   0.215 |217.50   0.030 |283.50   0.004
 19.75 109.660 | 85.75   1.433 |151.75   0.214 |217.75   0.030 |283.75   0.004
 20.00 106.566 | 86.00   1.423 |152.00   0.212 |218.00   0.030 |284.00   0.004
 20.25 103.580 | 86.25   1.413 |152.25   0.211 |218.25   0.029 |284.25   0.004
 20.50 100.701 | 86.50   1.403 |152.50   0.209 |218.50   0.029 |284.50   0.004
 20.75  97.924 | 86.75   1.393 |152.75   0.208 |218.75   0.029 |284.75   0.004
 21.00  95.245 | 87.00   1.383 |153.00   0.206 |219.00   0.029 |285.00   0.004
 21.25  92.665 | 87.25   1.373 |153.25   0.205 |219.25   0.028 |285.25   0.004
 21.50  90.179 | 87.50   1.363 |153.50   0.203 |219.50   0.028 |285.50   0.004
 21.75  87.271 | 87.75   1.354 |153.75   0.202 |219.75   0.028 |285.75   0.004
 22.00  83.915 | 88.00   1.344 |154.00   0.200 |220.00   0.028 |286.00   0.004
 22.25  80.967 | 88.25   1.334 |154.25   0.199 |220.25   0.028 |286.25   0.004
 22.50  78.331 | 88.50   1.325 |154.50   0.197 |220.50   0.027 |286.50   0.004
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22.75	75.941	88.75	1.316	154.75	0.196	220.75	0.027	286.75	0.004
23.00	73.744	89.00	1.306	155.00	0.194	221.00	0.027	287.00	0.004
23.25	71.703	89.25	1.297	155.25	0.193	221.25	0.027	287.25	0.004
23.50	69.790	89.50	1.288	155.50	0.191	221.50	0.027	287.50	0.004
23.75	67.982	89.75	1.279	155.75	0.190	221.75	0.026	287.75	0.004
24.00	66.264	90.00	1.270	156.00	0.189	222.00	0.026	288.00	0.004
24.25	64.486	90.25	1.261	156.25	0.187	222.25	0.026	288.25	0.003
24.50	62.514	90.50	1.252	156.50	0.186	222.50	0.026	288.50	0.003
24.75	60.401	90.75	1.243	156.75	0.185	222.75	0.026	288.75	0.003
25.00	58.220	91.00	1.234	157.00	0.183	223.00	0.025	289.00	0.003
25.25	56.022	91.25	1.225	157.25	0.182	223.25	0.025	289.25	0.003
25.50	53.843	91.50	1.217	157.50	0.181	223.50	0.025	289.50	0.003
25.75	51.705	91.75	1.208	157.75	0.179	223.75	0.025	289.75	0.003
26.00	49.626	92.00	1.200	158.00	0.178	224.00	0.025	290.00	0.003
26.25	47.614	92.25	1.191	158.25	0.176	224.25	0.025	290.25	0.003
26.50	45.675	92.50	1.183	158.50	0.175	224.50	0.024	290.50	0.003
26.75	43.814	92.75	1.174	158.75	0.174	224.75	0.024	290.75	0.003
27.00	42.031	93.00	1.166	159.00	0.172	225.00	0.024	291.00	0.003
27.25	40.329	93.25	1.158	159.25	0.171	225.25	0.024	291.25	0.003
27.50	38.706	93.50	1.149	159.50	0.170	225.50	0.024	291.50	0.003
27.75	37.160	93.75	1.141	159.75	0.168	225.75	0.023	291.75	0.003
28.00	35.685	94.00	1.133	160.00	0.167	226.00	0.023	292.00	0.003
28.25	34.280	94.25	1.125	160.25	0.166	226.25	0.023	292.25	0.003
28.50	32.940	94.50	1.117	160.50	0.165	226.50	0.023	292.50	0.003
28.75	31.663	94.75	1.109	160.75	0.164	226.75	0.023	292.75	0.003
29.00	30.445	95.00	1.101	161.00	0.162	227.00	0.023	293.00	0.003
29.25	29.285	95.25	1.094	161.25	0.161	227.25	0.022	293.25	0.003
29.50	28.178	95.50	1.086	161.50	0.160	227.50	0.022	293.50	0.003
29.75	27.122	95.75	1.078	161.75	0.159	227.75	0.022	293.75	0.003
30.00	26.115	96.00	1.071	162.00	0.158	228.00	0.022	294.00	0.003
30.25	25.155	96.25	1.063	162.25	0.156	228.25	0.022	294.25	0.003
30.50	24.240	96.50	1.055	162.50	0.155	228.50	0.022	294.50	0.003
30.75	23.366	96.75	1.048	162.75	0.154	228.75	0.021	294.75	0.003
31.00	22.533	97.00	1.040	163.00	0.153	229.00	0.021	295.00	0.003
31.25	21.738	97.25	1.033	163.25	0.152	229.25	0.021	295.25	0.003
31.50	20.979	97.50	1.026	163.50	0.151	229.50	0.021	295.50	0.003
31.75	20.255	97.75	1.018	163.75	0.150	229.75	0.021	295.75	0.003
32.00	19.563	98.00	1.011	164.00	0.149	230.00	0.021	296.00	0.003
32.25	18.903	98.25	1.004	164.25	0.147	230.25	0.020	296.25	0.003
32.50	18.273	98.50	0.997	164.50	0.146	230.50	0.020	296.50	0.003
32.75	17.671	98.75	0.990	164.75	0.145	230.75	0.020	296.75	0.003
33.00	17.095	99.00	0.983	165.00	0.144	231.00	0.020	297.00	0.003
33.25	16.545	99.25	0.976	165.25	0.143	231.25	0.020	297.25	0.003
33.50	16.020	99.50	0.969	165.50	0.142	231.50	0.020	297.50	0.003
33.75	15.518	99.75	0.962	165.75	0.141	231.75	0.020	297.75	0.003
34.00	15.037	100.00	0.955	166.00	0.140	232.00	0.019	298.00	0.003
34.25	14.578	100.25	0.948	166.25	0.139	232.25	0.019	298.25	0.003
34.50	14.139	100.50	0.942	166.50	0.138	232.50	0.019	298.50	0.003
34.75	13.719	100.75	0.935	166.75	0.137	232.75	0.019	298.75	0.003
35.00	13.317	101.00	0.928	167.00	0.136	233.00	0.019	299.00	0.002
35.25	12.933	101.25	0.922	167.25	0.135	233.25	0.019	299.25	0.002
35.50	12.565	101.50	0.915	167.50	0.134	233.50	0.019	299.50	0.002
35.75	12.213	101.75	0.909	167.75	0.133	233.75	0.018	299.75	0.002
36.00	11.876	102.00	0.902	168.00	0.132	234.00	0.018	300.00	0.002
36.25	11.554	102.25	0.896	168.25	0.131	234.25	0.018	300.25	0.002
36.50	11.245	102.50	0.889	168.50	0.130	234.50	0.018	300.50	0.002
36.75	10.950	102.75	0.883	168.75	0.129	234.75	0.018	300.75	0.002
37.00	10.667	103.00	0.877	169.00	0.128	235.00	0.018	301.00	0.002
37.25	10.396	103.25	0.870	169.25	0.127	235.25	0.018	301.25	0.002
37.50	10.137	103.50	0.864	169.50	0.126	235.50	0.017	301.50	0.002
37.75	9.888	103.75	0.858	169.75	0.125	235.75	0.017	301.75	0.002
38.00	9.650	104.00	0.852	170.00	0.124	236.00	0.017	302.00	0.002
38.25	9.421	104.25	0.846	170.25	0.124	236.25	0.017	302.25	0.002
38.50	9.202	104.50	0.840	170.50	0.123	236.50	0.017	302.50	0.002
38.75	8.992	104.75	0.834	170.75	0.122	236.75	0.017	302.75	0.002
39.00	8.790	105.00	0.828	171.00	0.121	237.00	0.017	303.00	0.002
39.25	8.596	105.25	0.822	171.25	0.120	237.25	0.017	303.25	0.002
39.50	8.410	105.50	0.816	171.50	0.119	237.50	0.016	303.50	0.002
39.75	8.231	105.75	0.810	171.75	0.118	237.75	0.016	303.75	0.002
40.00	8.059	106.00	0.804	172.00	0.117	238.00	0.016	304.00	0.002
40.25	7.894	106.25	0.798	172.25	0.116	238.25	0.016	304.25	0.002
40.50	7.735	106.50	0.793	172.50	0.116	238.50	0.016	304.50	0.002
40.75	7.581	106.75	0.787	172.75	0.115	238.75	0.016	304.75	0.002
41.00	7.434	107.00	0.781	173.00	0.114	239.00	0.016	305.00	0.002
41.25	7.292	107.25	0.776	173.25	0.113	239.25	0.016	305.25	0.002
41.50	7.155	107.50	0.770	173.50	0.112	239.50	0.015	305.50	0.002
41.75	7.023	107.75	0.765	173.75	0.111	239.75	0.015	305.75	0.002
42.00	6.896	108.00	0.759	174.00	0.111	240.00	0.015	306.00	0.002
42.25	6.773	108.25	0.754	174.25	0.110	240.25	0.015	306.25	0.002
42.50	6.654	108.50	0.749	174.50	0.109	240.50	0.015	306.50	0.002
42.75	6.540	108.75	0.743	174.75	0.108	240.75	0.015	306.75	0.002
43.00	6.429	109.00	0.738	175.00	0.107	241.00	0.015	307.00	0.002
43.25	6.323	109.25	0.733	175.25	0.107	241.25	0.015	307.25	0.002
43.50	6.219	109.50	0.727	175.50	0.106	241.50	0.015	307.50	0.002
43.75	6.119	109.75	0.722	175.75	0.105	241.75	0.014	307.75	0.002
44.00	6.023	110.00	0.717	176.00	0.104	242.00	0.014	308.00	0.002
44.25	5.929	110.25	0.712	176.25	0.103	242.25	0.014	308.25	0.002
44.50	5.839	110.50	0.707	176.50	0.103	242.50	0.014	308.50	0.002
44.75	5.751	110.75	0.702	176.75	0.102	242.75	0.014	308.75	0.002
45.00	5.666	111.00	0.697	177.00	0.101	243.00	0.014	309.00	0.002
45.25	5.584	111.25	0.692	177.25	0.100	243.25	0.014	309.25	0.002
45.50	5.504	111.50	0.687	177.50	0.099	243.50	0.014	309.50	0.002
45.75	5.427	111.75	0.682	177.75	0.099	243.75	0.014	309.75	0.002
46.00	5.352	112.00	0.677	178.00	0.098	244.00	0.013	310.00	0.002
46.25	5.279	112.25	0.672	178.25	0.097	244.25	0.013	310.25	0.002
46.50	5.208	112.50	0.667	178.50	0.096	244.50	0.013	310.50	0.002
46.75	5.139	112.75	0.663	178.75	0.096	244.75	0.013	310.75	0.002
47.00	5.072	113.00	0.658	179.00	0.095	245.00	0.013	311.00	0.002
47.25	5.007	113.25	0.653	179.25	0.094	245.25	0.013	311.25	0.002
47.50	4.944	113.50	0.649	179.50	0.094	245.50	0.013	311.50	0.002
47.75	4.883	113.75	0.644	179.75	0.093	245.75	0.013	311.75	0.002
48.00	4.823	114.00	0.639	180.00	0.092	246.00	0.013	312.00	0.002
48.25	4.764	114.25	0.635	180.25	0.092	246.25	0.013	312.25	0.002
48.50	4.707	114.50	0.630	180.50	0.091	246.50	0.012	312.50	0.002
48.75	4.652	114.75	0.626	180.75	0.090	246.75	0.012	312.75	0.002
49.00	4.598	115.00	0.621	181.00	0.090	247.00	0.012	313.00	0.002
49.25	4.545	115.25	0.617	181.25	0.089	247.25	0.012	313.25	0.002
49.50	4.494	115.50	0.612	181.50	0.088	247.50	0.012	313.50	0.002
49.75	4.444	115.75	0.608	181.75	0.088	247.75	0.012	313.75	0.002
50.00	4.395	116.00	0.604	182.00	0.087	248.00	0.012	314.00	0.002
50.25	4.347	116.25	0.599	182.25	0.086	248.25	0.012	314.25	0.002
50.50	4.300	116.50	0.595	182.50	0.086	248.50	0.012	314.50	0.002
50.75	4.254	116.75	0.591	182.75	0.085	248.75	0.012	314.75	0.002
51.00	4.210	117.00	0.587	183.00	0.084	249.00	0.012	315.00	0.002
51.25	4.166	117.25	0.582	183.25	0.084	249.25	0.011	315.25	0.002
51.50	4.123	117.50	0.578	183.50	0.083	249.50	0.011	315.50	0.002
51.75	4.081	117.75	0.574	183.75	0.083	249.75	0.011	315.75	0.001
52.00	4.040	118.00	0.570	184.00	0.082	250.00	0.011	316.00	0.001
52.25	4.000	118.25	0.566	184.25	0.081	250.25	0.011	316.25	0.001
52.50	3.961	118.50	0.562	184.50	0.081	250.50	0.011	316.50	0.001
52.75	3.922	118.75	0.558	184.75	0.080	250.75	0.011	316.75	0.001
53.00	3.884	119.00	0.554	185.00	0.080	251.00	0.011	317.00	0.001
53.25	3.847	119.25	0.550	185.25	0.079	251.25	0.011	317.25	0.001
53.50	3.811	119.50	0.546	185.50	0.078	251.50	0.011	317.50	0.001
53.75	3.775	119.75	0.542	185.75	0.078	251.75	0.011	317.75	0.001
54.00	3.740	120.00	0.538	186.00	0.077	252.00	0.011	318.00	0.001
54.25	3.705	120.25	0.534	186.25	0.077	252.25	0.010	318.25	0.001
54.50	3.671	120.50	0.530	186.50	0.076	252.50	0.010	318.50	0.001
54.75	3.638	120.75	0.526	186.75	0.075	252.75	0.010	318.75	0.001
55.00	3.605	121.00	0.523	187.00	0.075	253.00	0.010	319.00	0.001
55.25	3.573	121.25	0.519	187.25	0.074	253.25	0.010	319.25	0.001
55.50	3.541	121.50	0.515	187.50	0.074	253.50	0.010	319.50	0.001
55.75	3.510	121.75	0.511	187.75	0.073	253.75	0.010	319.75	0.001
56.00	3.479	122.00	0.508	188.00	0.073	254.00	0.010	320.00	0.001
56.25	3.449	122.25	0.504	188.25	0.072	254.25	0.010	320.25	0.001
56.50	3.419	122.50	0.500	188.50	0.072	254.50	0.010	320.50	0.001
56.75	3.390	122.75	0.497	188.75	0.071	254.75	0.010	320.75	0.001
57.00	3.361	123.00	0.493	189.00	0.071	255.00	0.010	321.00	0.001
57.25	3.333	123.25	0.490	189.25	0.070	255.25	0.010	321.25	0.001
57.50	3.305	123.50	0.486	189.50	0.070	255.50	0.009	321.50	0.001
57.75	3.277	123.75	0.483	189.75	0.069	255.75	0.009	321.75	0.001
58.00	3.250	124.00	0.479	190.00	0.069	256.00	0.009	322.00	0.001
58.25	3.223	124.25	0.476	190.25	0.068	256.25	0.009	322.25	0.001
58.50	3.197	124.50	0.472	190.50	0.068	256.50	0.009	322.50	0.001
58.75	3.171	124.75	0.469	190.75	0.067	256.75	0.009	322.75	0.001
59.00	3.145	125.00	0.466	191.00	0.067	257.00	0.009	323.00	0.001
59.25	3.119	125.25	0.462	191.25	0.066	257.25	0.009	323.25	0.001
59.50	3.094	125.50	0.459	191.50	0.066	257.50	0.009	323.50	0.001
59.75	3.069	125.75	0.456	191.75	0.065	257.75	0.009	323.75	0.001
60.00	3.045	126.00	0.452	192.00	0.065	258.00	0.009	324.00	0.001
60.25	3.021	126.25	0.449	192.25	0.064	258.25	0.009	324.25	0.001
60.50	2.997	126.50	0.446	192.50	0.064	258.50	0.009	324.50	0.001
60.75	2.973	126.75	0.443	192.75	0.063	258.75	0.009	324.75	0.001
61.00	2.950	127.00	0.439	193.00	0.063	259.00	0.009	325.00	0.001
61.25	2.927	127.25	0.436	193.25	0.062	259.25	0.008	325.25	0.001
61.50	2.904	127.50	0.433	193.50	0.062	259.50	0.008	325.50	0.001
61.75	2.881	127.75	0.430	193.75	0.061	259.75	0.008	325.75	0.001
62.00	2.859	128.00	0.427	194.00	0.061	260.00	0.008	326.00	0.001
62.25	2.837	128.25	0.424	194.25	0.060	260.25	0.008	326.25	0.001
62.50	2.815	128.50	0.421	194.50	0.060	260.50	0.008	326.50	0.001
62.75	2.793	128.75	0.418	194.75	0.059	260.75	0.008	326.75	0.001
63.00	2.772	129.00	0.415	195.00	0.059	261.00	0.008	327.00	0.001
63.25	2.751	129.25	0.412	195.25	0.059	261.25	0.008	327.25	0.001
63.50	2.730	129.50	0.409	195.50	0.058	261.50	0.008	327.50	0.001
63.75	2.709	129.75	0.406	195.75	0.058	261.75	0.008	327.75	0.001
64.00	2.689	130.00	0.403	196.00	0.057	262.00	0.008	328.00	0.001
64.25	2.668	130.25	0.400	196.25	0.057	262.25	0.008	328.25	0.001
64.50	2.648	130.50	0.397	196.50	0.056	262.50	0.008	328.50	0.001

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 64.75   2.629 |130.75   0.394 |196.75   0.056 |262.75   0.008 |328.75   0.001
 65.00   2.609 |131.00   0.391 |197.00   0.056 |263.00   0.008 |
 65.25   2.589 |131.25   0.388 |197.25   0.055 |263.25   0.007 |
 65.50   2.570 |131.50   0.386 |197.50   0.055 |263.50   0.007 |
 65.75   2.551 |131.75   0.383 |197.75   0.054 |263.75   0.007 |
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| ADD HYD   (8188) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)     (cms)    (hrs)     (mm)
         ID1= 1 (8186): 22258.88 154.944    14.00    36.78
        + ID2= 2 (8190): 20350.16 145.888    14.25    37.29
          ================================================
          ID = 3 (8188): 42609.04 300.772    14.25    37.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (4462) |   Area    (ha)=1238.89   Curve Number   (CN)= 60.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   4.02

     Unit Hyd Qpeak  (cms)=   5.256

     PEAK FLOW       (cms)=   5.487 (i)
     TIME TO PEAK    (hrs)=  12.000
     RUNOFF VOLUME    (mm)=  28.240
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (4461) |   Area    (ha)= 236.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  17.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     110.98       125.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1254.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        91.84
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.48 (ii)   24.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       9.91        14.74        19.333 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        38.41         46.59
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.43          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5446) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  10.1800      6.2621
                          0.8000     2.9957   |  12.5050      7.1218
                          3.0350     3.4813   |  14.4090      7.9633
                          5.6510     4.4353   |  14.8090      7.9733
                          7.7470     5.2683   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (4461)    236.120     19.333      6.00      46.59
     OUTFLOW: ID= 1 (5446)    236.120      7.563      7.00      46.59

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.12
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  5.2556

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8192) |
|   1 +  2 = 3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4462):  1238.89   5.487    12.00    28.24
        + ID2= 2 (5446):   236.12   7.563     7.00    46.59
          ================================================
          ID = 3 (8192):  1475.01  10.736     7.00    31.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8194) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8188): 42609.04 300.772    14.25    37.02
        + ID2= 2 (8192):  1475.01  10.736     7.00    36.83
          ================================================
          ID = 3 (8194): 44084.05 306.544    14.25    36.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0442) |   Area    (ha)= 117.26   Curve Number   (CN)= 43.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.17

     Unit Hyd Qpeak  (cms)=   1.705

     PEAK FLOW       (cms)=   0.783 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.459
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0440) |   Area    (ha)= 226.35   Curve Number   (CN)= 60.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   3.481

     PEAK FLOW       (cms)=   2.661 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.335
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0438) |   Area    (ha)= 130.70   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.738

     PEAK FLOW       (cms)=   1.886 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.821
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0436) |   Area    (ha)= 187.51   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.73

     Unit Hyd Qpeak  (cms)=   4.391

     PEAK FLOW       (cms)=   2.626 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.543
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0434) |   Area    (ha)=  56.64   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   1.867

     PEAK FLOW       (cms)=   0.782 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.775
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0434):    56.64   0.782     6.50    17.78
       + ID2= 2 (0436):   187.51   2.626     7.00    23.54
         ================================================
         ID = 3 (8206):   244.15   3.390     6.75    22.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6438) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4381.0) ------>
               Distance      Elevation       Manning
                   0.00         256.00        0.0600
                   9.23         255.50        0.0600
                  27.69         255.00        0.0600
                  50.77         254.90        0.0600
                  64.62         254.85        0.0600
                  78.47         252.26        0.0600
                  96.93         249.44        0.0600
                 129.24         245.94        0.0600
                 145.40         245.76        0.0600
                 146.20         245.80    0.0600 /0.0350  Main Channel
                 146.70         245.30        0.0350      Main Channel
                 147.70         245.30        0.0350      Main Channel
                 148.20         245.80    0.0350 /0.0600  Main Channel
                 150.01         245.78        0.0600
                 152.32         245.79        0.0600
                 163.86         246.72        0.0600
                 175.40         249.07        0.0600
                 186.94         253.15        0.0600
                 196.17         255.38        0.0600
                 228.48         255.55        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50   245.80    .221E+04       0.9         1.02      40.44
        1.01   246.31    .352E+05      14.0         0.99      41.77
        1.53   246.83    .841E+05      47.3         1.39      29.61
        2.04   247.34    .144E+06     102.0         1.76      23.49
        2.55   247.85    .213E+06     177.3         2.07      19.99
        3.07   248.37    .291E+06     274.4         2.34      17.66
        3.58   248.88    .378E+06     394.6         2.58      15.97
        4.09   249.39    .474E+06     541.4         2.83      14.60
        4.61   249.91    .578E+06     719.9         3.08      13.38
        5.12   250.42    .688E+06     923.8         3.33      12.40
        5.63   250.93    .803E+06    1153.3         3.56      11.61
        6.14   251.44    .925E+06    1408.6         3.77      10.95
        6.66   251.96    .105E+07    1690.6         3.98      10.38
        7.17   252.47    .119E+07    2002.3         4.18       9.88
        7.68   252.98    .133E+07    2345.4         4.38       9.43
        8.20   253.50    .147E+07    2710.1         4.56       9.05
        8.71   254.01    .162E+07    3101.0         4.73       8.72
        9.22   254.52    .178E+07    3521.8         4.90       8.43
        9.74   255.04    .195E+07    3467.6         4.39       9.39

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8206)  244.15     3.39    6.75  22.21      0.60      1.01
     OUTFLOW: ID= 1 (6438)  244.15     2.96    7.75  22.21      0.58      1.02

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--------------------
| ADD HYD   (8208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0438):   130.70   1.886     6.75    20.82
       + ID2= 2 (6438):   244.15   2.963     7.75    22.21
         ================================================
         ID = 3 (8208):   374.85   4.587     7.25    21.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0440):   226.35   2.661     7.50    27.34
       + ID2= 2 (8208):   374.85   4.587     7.25    21.72
         ================================================
         ID = 3 (8210):   601.20   7.236     7.50    23.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0432) |   Area    (ha)= 114.21   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.21

     Unit Hyd Qpeak  (cms)=   1.617

     PEAK FLOW       (cms)=   1.026 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  22.408
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.253

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0430) |   Area    (ha)= 111.64   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=   3.687

     PEAK FLOW       (cms)=   2.049 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  23.287
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD    (0428) |   Area    (ha)=  50.53   Curve Number   (CN)= 51.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   1.725

     PEAK FLOW       (cms)=   0.841 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  20.682
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.234

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0426) |   Area    (ha)= 247.17   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.315

     PEAK FLOW       (cms)=   3.300 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.056
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0424) |   Area    (ha)=  49.57   Curve Number   (CN)= 59.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   2.293

     PEAK FLOW       (cms)=   1.282 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  25.630
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8198) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0424):    49.57   1.282     6.50    25.63
       + ID2= 2 (0426):   247.17   3.300     7.25    28.06
         ================================================
         ID = 3 (8198):   296.74   4.328     6.75    27.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6428) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4281.0) ------>
               Distance      Elevation       Manning
                   0.00        246.54        0.0900
                   8.80        246.29        0.0900
                  30.78        246.03        0.0900
                  41.78        243.97        0.0900
                  63.77        237.16        0.0900
                  85.76        232.53        0.0900
                  96.75        230.16        0.0900
                 109.94        228.40        0.0900
                 112.14        228.28    0.0900 /0.0450  Main Channel
                 112.84        228.00        0.0450      Main Channel
                 113.34        227.50        0.0450      Main Channel
                 114.34        227.50        0.0450      Main Channel
                 114.84        228.00        0.0450      Main Channel
                 116.54        228.29    0.0450 /0.0900  Main Channel
                 118.74        228.40        0.0900
                 120.94        228.52        0.0900
                 149.52        229.51        0.0900
                 169.31        230.69        0.0900
                 186.00        234.27        0.0900
                 217.69        243.56        0.0900

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.78    228.28    .205E+04        1.6         0.97      21.60
       1.58    229.08    .202E+05       16.6         1.02      20.37
       2.39    229.89    .665E+05       64.8         1.22      17.11
       3.19    230.69    .133E+06      158.1         1.49      14.05
       4.00    231.50    .213E+06      308.6         1.82      11.48
       4.80    232.30    .299E+06      504.9         2.11       9.89
       5.61    233.11    .394E+06      746.6         2.37       8.79
       6.41    233.91    .496E+06     1034.5         2.61       7.99
       7.21    234.71    .605E+06     1373.3         2.84       7.35
       8.02    235.52    .722E+06     1763.3         3.06       6.82
       8.82    236.32    .844E+06     2202.0         3.27       6.39
       9.63    237.13    .974E+06     2690.5         3.46       6.03
      10.43    237.93    .111E+07     3239.5         3.66       5.71
      11.23    238.73    .125E+07     3839.0         3.84       5.43
      12.04    239.54    .140E+07     4489.1         4.03       5.18
      12.84    240.34    .155E+07     5190.5         4.20       4.97
      13.65    241.15    .170E+07     5943.8         4.36       4.78
      14.45    241.95    .187E+07     6749.8         4.53       4.61
      15.26    242.76    .204E+07     7609.4         4.68       4.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8198)  296.74     4.33    6.75  27.65      0.93      0.98
     OUTFLOW: ID= 1 (6428)  296.74     4.16    7.25  27.65      0.92      0.98

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-------------------
| ADD HYD   (8200) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0428):    50.53   0.841     6.50    20.68
       + ID2= 2 (6428):   296.74   4.156     7.25    27.65
         ================================================
         ID = 3 (8200):   347.27   4.864     7.25    26.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8202) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0430):   111.64   2.049     6.50    23.29
       + ID2= 2 (8200):   347.27   4.864     7.25    26.64
         ================================================
         ID = 3 (8202):   458.91   6.730     7.00    25.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6432) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4321.0) ------>
               Distance      Elevation       Manning
                   0.00        221.00        0.0600
                  15.29        219.85        0.0600
                  45.86        219.86        0.0600
                  76.44        219.96        0.0600
                 110.84        220.23        0.0600
                 112.00        220.15        0.0600
                 114.66        220.09        0.0600
                 118.48        219.73        0.0600
                 120.80        219.70    0.0600 /0.0350  Main Channel
                 121.30        219.20        0.0350      Main Channel
                 122.30        219.20        0.0350      Main Channel
                 122.80        219.70    0.0350 /0.0600  Main Channel
                 129.95        220.11        0.0600
                 175.81        220.24        0.0600
                 214.03        220.55        0.0600
                 252.25        220.61        0.0600
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            290.47        220.70        0.0600
            328.69        221.04        0.0600
            347.80        221.08        0.0600
            378.37        221.04        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.08    219.28    .185E+03       0.0        0.23      149.38
       0.17    219.37    .399E+03       0.1        0.34      100.62
       0.25    219.45    .641E+03       0.1        0.42       80.98
       0.33    219.53    .911E+03       0.2        0.49       69.79
       0.42    219.62    .121E+04       0.3        0.55       62.35
       0.50    219.70    .154E+04       0.5        0.60       56.91
       0.61    219.81    .267E+04       0.7        0.56       61.28
       0.71    219.91    .901E+04       1.3        0.30      112.96
       0.82    220.02    .249E+05       3.4        0.28      122.71
       0.92    220.12    .452E+05       6.8        0.31      109.98
       1.03    220.23    .747E+05      12.2        0.33      102.05
       1.14    220.34    .112E+06      21.3        0.39       87.59
       1.24    220.44    .153E+06      33.0        0.44       77.01
       1.35    220.55    .196E+06      47.2        0.49       69.22
       1.46    220.66    .248E+06      62.3        0.51       66.48
       1.56    220.76    .310E+06      83.4        0.55       62.06
       1.67    220.87    .376E+06     108.8        0.59       57.56
       1.77    220.97    .444E+06     137.7        0.64       53.77
       1.88    221.08    .517E+06     163.6        0.65       52.70

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8202)  458.91     6.73    7.00  25.82      0.92      0.31
     OUTFLOW: ID= 1 (6432)  458.91     4.41    9.00  25.82      0.85      0.29


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--------------------
| ADD HYD   (8204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0432):   114.21   1.026     7.75    22.41
       + ID2= 2 (6432):   458.91   4.414     9.00    25.82
         ================================================
         ID = 3 (8204):   573.12   5.371     8.75    25.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8212) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8204):   573.12   5.371     8.75    25.14
       + ID2= 2 (8210):   601.20   7.236     7.50    23.84
         ================================================
         ID = 3 (8212):  1174.32  12.072     8.00    24.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6442) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4421.0) ------>
               Distance      Elevation       Manning
                  0.00         221.00        0.0350
                 26.73         220.80        0.0350
                 53.47         220.60        0.0350
                 66.83         220.40        0.0350
                 80.20         220.20        0.0350
                347.52         220.00        0.0350
                354.21         219.59        0.0350
                360.89         219.50        0.0350
                367.57         219.08        0.0350
                368.76         219.00    0.0350 /0.0300  Main Channel
                369.26         218.50        0.0300      Main Channel
                374.26         218.50        0.0300      Main Channel
                374.76         219.00    0.0300 /0.0350  Main Channel
                380.94         220.33        0.0350
                387.62         219.62        0.0350
                394.31         219.23        0.0350
            454.45        219.07        0.0350
            514.60        219.09        0.0350
            660.00        219.19        0.0350
            661.63        221.00        0.0350

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.12    218.62    .100E+04       0.2        0.28       92.89
       0.25    218.75    .205E+04       0.6        0.43       60.09
       0.37    218.87    .315E+04       1.1        0.55       46.99
       0.50    219.00    .430E+04       1.8        0.66       39.67
       0.63    219.13    .141E+05       3.4        0.37       69.99
       0.77    219.27    .652E+05      13.7        0.33       79.14
       0.90    219.40    .124E+06      35.5        0.45       58.02
       1.03    219.53    .183E+06      65.7        0.56       46.45
       1.17    219.67    .245E+06     103.8        0.66       39.30
       1.30    219.80    .307E+06     149.3        0.76       34.30
       1.43    219.93    .371E+06     201.6        0.85       30.65
       1.57    220.07    .440E+06     256.5        0.91       28.56
       1.70    220.20    .541E+06     325.7        0.94       27.70
       1.83    220.33    .663E+06     415.2        0.98       26.62
       1.97    220.47    .787E+06     520.3        1.03       25.21
       2.10    220.60    .913E+06     638.5        1.09       23.82
       2.23    220.73    .104E+07     767.2        1.15       22.62
       2.37    220.87    .117E+07     908.0        1.21       21.54
       2.50    221.00    .131E+07    1060.7        1.27       20.57

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8212) 1174.32    12.07    8.00  24.47      0.75      0.34
     OUTFLOW: ID= 1 (6442) 1174.32    10.36    9.50  24.47      0.72      0.34


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0442):   117.26   0.783     7.75    16.46
       + ID2= 2 (6442):  1174.32  10.360     9.50    24.47
         ================================================
         ID = 3 (8214):  1291.58  11.029     9.50    23.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8196) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8194): 44084.05 306.544    14.25    36.83
       + ID2= 2 (8214):  1291.58  11.029     9.50    23.75
         ================================================
         ID = 3 (8196): 45375.62 312.400    13.75    36.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0444) |   Area    (ha)= 221.65   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   3.656

     PEAK FLOW       (cms)=   2.441 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.392
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8216) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0444):   221.65   2.441     7.50    24.39
        + ID2= 2 (8196): 45375.62 312.400    13.75    36.45
          ================================================
          ID = 3 (8216): 45597.28 313.039    13.75    36.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company
        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat
  Output  filename: C:\Users\amanlucu\AppData\Local\Temp\ab70bd54-a452-450c-b03c-83cdc4826a98\Scenario.out
  Summary filename: C:\Users\amanlucu\AppData\Local\Temp\ab70bd54-a452-450c-b03c-83cdc4826a98\Scenario.sum


DATE: 08/29/2012                          TIME: 01:53:59

USER:


COMMENTS: _____________________________________________________


----------------------------------------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ab70bd54-a452-450c-b03c-83cdc4826a98\477750dd
| Ptotal= 42.00 mm |    Comments: 2-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.05 |  3.25    1.68 |  6.25    7.56 |  9.25    1.47
                0.50    1.05 |  3.50    1.68 |  6.50    7.56 |  9.50    1.47
                0.75    1.05 |  3.75    1.68 |  6.75    3.36 |  9.75    1.47
                1.00    1.05 |  4.00    1.68 |  7.00    3.36 | 10.00    1.47
                1.25    1.05 |  4.25    2.52 |  7.25    2.52 | 10.25    0.84
                1.50    1.05 |  4.50    2.52 |  7.50    2.52 | 10.50    0.84
                1.75    1.05 |  4.75    3.36 |  7.75    2.52 | 10.75    0.84
                2.00    1.05 |  5.00    3.36 |  8.00    2.52 | 11.00    0.84
                2.25    1.26 |  5.25    5.04 |  8.25    1.47 | 11.25    0.84
                2.50    1.26 |  5.50    5.04 |  8.50    1.47 | 11.50    0.84
                2.75    1.26 |  5.75   20.16 |  8.75    1.47 | 11.75    0.84
                3.00    1.26 |  6.00   55.44 |  9.00    1.47 | 12.00    0.84

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   1.461 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.058
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   1.066 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.329
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   0.676 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   4.345
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.103

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   0.711 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   4.368
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3501.0) ------>
              Distance      Elevation       Manning
                  0.00         287.00        0.0500
                 23.66         283.72        0.0500
                 70.98         280.94        0.0500
                112.38         280.23        0.0500
                171.52         276.80        0.0500
                260.24         274.46        0.0500
                266.16         274.26        0.0500
                272.07         274.12        0.0500
                276.49         274.12    0.0500 /0.0300  Main Channel
                276.99         273.82        0.0300      Main Channel
                277.99         273.82        0.0300      Main Channel
                279.49         273.82        0.0300      Main Channel
                280.49         274.27    0.0300 /0.0500  Main Channel
                283.90         274.27        0.0500
                289.81         274.57        0.0500
                325.30         275.75        0.0500
                396.28         278.98        0.0500
                449.51         280.97        0.0500
                496.83         283.90        0.0500
                585.54         287.92        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    274.12    .273E+04        0.9          0.99       49.81
      0.98    274.80    .583E+05       20.8          1.05       46.71
      1.66    275.48    .203E+06       95.2          1.38       35.53
      2.33    276.15    .438E+06      256.0          1.73       28.50
      3.01    276.83    .755E+06      524.8          2.05       23.97
      3.69    277.51    .114E+07      935.8          2.43       20.26
```

```
       4.37   278.19    .157E+07    1472.0          2.76      17.82
       5.05   278.87    .206E+07    2140.7          3.06      16.06
       5.72   279.54    .261E+07    2938.6          3.33      14.79
       6.40   280.22    .321E+07    3887.6          3.57      13.77
       7.08   280.90    .390E+07    4795.4          3.63      13.56
       7.76   281.58    .468E+07    6196.2          3.91      12.58
       8.43   282.25    .550E+07    7803.9          4.19      11.74
       9.11   282.93    .637E+07    9601.9          4.45      11.05
       9.79   283.61    .728E+07   11594.8          4.70      10.46
      10.47   284.29    .823E+07   13845.3          4.96       9.91
      11.15   284.97    .922E+07   16293.4          5.21       9.43
      11.82   285.64    .103E+08   18952.0          5.45       9.02
      12.50   286.32    .113E+08   21824.3          5.69       8.65

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     0.71    9.25   4.37      0.23      0.99
     OUTFLOW: ID= 1 (6350)  590.18     0.70   10.25   4.37      0.23      0.99


--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0350):   366.84   0.676     7.75     4.35
       + ID2= 2 (6350):   590.18   0.695    10.25     4.37
         ================================================
         ID = 3 (8220):   957.02   1.262     8.75     4.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3461) |   Area    (ha)=  33.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.51        13.11
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     473.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        20.73
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.12 (ii)   30.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.66         0.46          1.848 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        13.98         23.87
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.33          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0090     0.6158
                          0.2450     0.2524   |   2.6260     0.6610
                          0.6230     0.3644   |   3.2370     0.7019
                          0.9920     0.4690   |   3.6370     0.7119
                          1.2510     0.5428   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (3461)    33.620     1.848      6.00     23.87
     OUTFLOW: ID= 1 (5346)    33.620     0.559      6.75     23.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.27
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3470

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   1.434 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.622
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3462):   317.31   1.434     7.25     9.62
       + ID2= 2 (5346):    33.62   0.559     6.75    23.86
         ================================================
         ID = 3 (9346):   350.93   1.952     7.00    10.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8220):   957.02   1.262     8.75     4.36
       + ID2= 2 (9346):   350.93   1.952     7.00    10.99
         ================================================
         ID = 3 (8222):  1307.95   2.990     7.50     6.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3521.0) ------>
              Distance      Elevation       Manning
                 0.00         257.95        0.0500
                 7.83         257.34        0.0500
                15.66         256.19        0.0500
                21.53         254.01        0.0500
                41.11         244.06        0.0500
                76.35         241.38        0.0500
               111.58         239.74        0.0500
               113.54         239.61        0.0500
               113.75         239.41    0.0500 /0.0300  Main Channel
               113.85         238.81        0.0300      Main Channel
               115.50         238.81        0.0300      Main Channel
               116.15         238.81        0.0300      Main Channel
               116.25         239.41        0.0300      Main Channel
               117.46         239.52        0.0500
               119.41         239.72        0.0500
               121.37         240.04        0.0500
               131.16         241.84        0.0500
               156.61         247.03        0.0500
               176.19         251.46        0.0500
               193.80         258.79        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.60    239.41    .224E+04        2.2         1.52       17.12
      1.58    240.39    .216E+05       22.3         1.61       16.16
      2.55    241.36    .804E+05      101.0         1.96       13.27
      3.53    242.34    .173E+06      275.6         2.48       10.46
      4.50    243.31    .293E+06      553.9         2.95        8.80
      5.48    244.29    .438E+06      961.8         3.42        7.60
```

6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	2.99	7.50	6.14	0.64	1.52
OUTFLOW: ID= 1 (6352)	1307.95	2.96	8.00	6.14	0.64	1.52

ADD HYD (8224)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	381.43	1.066	7.00	5.33
+ ID2= 2 (6352):	1307.95	2.963	8.00	6.14
ID = 3 (8224):	1689.38	3.984	7.75	5.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	3.98	7.75	5.95	0.79	1.07
OUTFLOW: ID= 1 (6354)	1689.38	3.66	8.75	5.95	0.77	1.07

CALIB
STANDHYD (3541)
ID= 1 DT=15.0 min

Area (ha)= 8.01
Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.01	2.00
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	231.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	2.31
over (min)		15.00	60.00
Storage Coeff. (min)=		6.58 (ii)	54.87 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	0.807 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	29.01
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 35.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5354)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5360	0.2546
0.0270	0.1427	0.6730	0.2758
0.1550	0.1714	0.7830	0.2966
0.2890	0.1975	1.1830	0.3066
0.4010	0.2251	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3541)	8.010	0.807	6.00	29.01
OUTFLOW: ID= 1 (5354)	8.010	0.088	6.75	28.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.87
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.1572

CALIB
NASHYD (3542)
ID= 1 DT=15.0 min

Area (ha)= 254.67 Curve Number (CN)= 36.7
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.174

PEAK FLOW (cms)= 0.258 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 2.863
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.068

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9354)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.

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--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3542):   254.67   0.258     8.25     2.86
       + ID2= 2 (5354):     8.01   0.088     6.75    28.84
         ================================================
         ID = 3 (9354):   262.68   0.311     7.25     3.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6354):  1689.38   3.661     8.75     5.95
       + ID2= 2 (9354):   262.68   0.311     7.25     3.66
         ================================================
         ID = 3 (8226):  1952.06   3.950     8.75     5.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      63.86         74.97
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     962.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          5.30
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      15.49 (ii)    50.12 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.07          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.30          0.64          4.487 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00          5.88         15.43
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.14          0.37


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.24         61.72
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     989.81         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          9.35
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.76 (ii)    43.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.65          0.82          5.973 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00          6.83         18.44
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.16          0.44


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.4780      4.3560
                         0.3860     2.0347   |  14.9940      4.9991
                         3.2310     2.5818   |  18.1680      5.6243
                         5.1770     3.1417   |  18.5680      5.6343
                         7.7590     3.6318   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)    146.960      5.973      6.00      18.44
     OUTFLOW: ID= 1 (5340)    146.960      0.374      9.25      18.43

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.26
                TIME SHIFT OF PEAK FLOW         (min)=195.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.9715

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| ADD HYD   (8232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   138.83   4.487     6.00    15.43
       + ID2= 2 (5340):   146.96   0.374     9.25    18.43
         ================================================
         ID = 3 (8232):   285.79   4.643     6.00    16.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   0.844 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   4.360
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.104

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   0.897 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.074
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   2.165 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.744
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.256
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   1.234 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   6.828
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.163

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.145 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   2.885
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.069

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   0.850 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   1.407 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.039
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3641) |   Area    (ha)=   7.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.53         4.32
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    228.76        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         7.73
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      6.54 (ii)   36.33 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.18         0.05          0.201 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     40.00         5.77          11.24
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.14           0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5250      0.2044
                         0.0270     0.0959   |   0.6590      0.2337
                         0.1520     0.1110   |   0.7670      0.2624
                         0.2830     0.1432   |   1.1670      0.2724
                         0.3930     0.1710   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850     0.201      6.00      11.24
     OUTFLOW: ID= 1 (5364)     7.850     0.016      8.75      11.13

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.16
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0583

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-------------------
| CALIB           |
| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.96       116.46
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    991.36        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         3.49
               over (min)       15.00        60.00
     Storage Coeff.  (min)=     15.77 (ii)   56.73 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.07         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.13         0.61          1.303 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=     40.00         4.39           6.88
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.10           0.16

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3642):   147.42   1.303     6.00     6.88
       + ID2= 2 (5364):     7.85   0.016     8.75    11.13
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          ================================================
          ID = 3 (9364):   155.27   1.310     6.00     7.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9366):   462.62   1.407     7.75     7.04
        + ID2= 2 (9364):   155.27   1.310     6.00     7.09
          ================================================
          ID = 3 (8302):   617.89   2.105     6.75     7.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.496 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   2.665
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.063

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.367 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.995
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0358):   429.87   0.496     7.75     2.66
        + ID2= 2 (0360):   138.37   0.367     6.75     4.00
          ================================================
          ID = 3 (8306):   568.24   0.839     7.00     2.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                  0.00         261.46        0.0550
                 27.86         254.23        0.0550
                 51.07         251.96        0.0550
                 74.29         250.77        0.0550
                 97.50         249.91        0.0550
                125.36         249.40        0.0550
                150.93         247.40        0.0550
                155.93         247.33    0.0550 /0.0350  Main Channel
                157.93         246.85        0.0350      Main Channel
                159.18         246.65        0.0350      Main Channel
                160.18         246.63        0.0350      Main Channel
                160.93         246.85        0.0350      Main Channel
                161.93         247.18    0.0350 /0.0550  Main Channel
                163.18         248.03        0.0550
                168.18         248.58        0.0550
                183.18         250.18        0.0550
                201.97         252.59        0.0550
                213.57         256.02        0.0550
                225.18         260.31        0.0550
                229.82         261.00        0.0550

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.55   247.18    .556E+04       1.9         1.03       49.95
        1.28   247.91    .336E+05      16.7         1.53       33.61
        2.00   248.63    .913E+05      53.6         1.81       28.40
        2.73   249.36    .185E+06     122.3         2.05       25.18
        3.46   250.09    .344E+06     224.6         2.02       25.52
        4.19   250.82    .574E+06     417.9         2.25       22.91
        4.91   251.54    .855E+06     699.1         2.53       20.38
        5.64   252.27    .118E+07    1075.3         2.82       18.26
        6.37   253.00    .153E+07    1559.9         3.15       16.38
        7.10   253.73    .191E+07    2137.6         3.46       14.89
        7.82   254.45    .231E+07    2815.2         3.77       13.67
        8.55   255.18    .272E+07    3608.5         4.10       12.58
        9.28   255.91    .315E+07    4488.2         4.41       11.69
       10.01   256.64    .358E+07    5458.0         4.71       10.95
       10.73   257.36    .403E+07    6512.4         4.99       10.32
       11.46   258.09    .449E+07    7649.8         5.27        9.78
       12.19   258.82    .496E+07    8869.5         5.53        9.32
       12.92   259.55    .544E+07   10171.2         5.78        8.91
       13.64   260.27    .593E+07   11554.8         6.02        8.55

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24    0.84    7.00   2.99      0.25      1.03
     OUTFLOW: ID= 1 (6362)  568.24    0.75    8.25   2.99      0.22      1.03

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--------------------
| CALIB            |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         5.34          6.53
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=       281.31         40.00
     Mannings n            =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        55.44          8.33
               over (min)          15.00         45.00
     Storage Coeff.  (min)=         7.41 (ii)    36.31 (ii)
     Unit Hyd. Tpeak (min)=        15.00         45.00
     Unit Hyd. peak  (cms)=         0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.28          0.09      0.317 (iii)
     TIME TO PEAK    (hrs)=         6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=        40.00          6.27      12.00
     TOTAL RAINFALL   (mm)=        42.00         42.00      42.00
     RUNOFF COEFFICIENT   =         0.95          0.15       0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.7940      0.3091
                         0.0400     0.1451    |   0.9970      0.3534
                         0.2300     0.1678    |   1.1610      0.3968
                         0.4280     0.2166    |   1.5610      0.4068
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                        0.5940     0.2586   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3621)     11.870     0.317      6.00      12.00
     OUTFLOW: ID= 1 (5362)     11.870     0.026      8.75      11.93

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.23
                  TIME SHIFT OF PEAK FLOW          (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0947

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--------------------
| CALIB            |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.66         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     844.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          4.00
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      14.32 (ii)    53.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.07          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.10          0.50      1.243 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75       6.00
     RUNOFF VOLUME    (mm)=      40.00          4.94       8.09
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.12       0.19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3622):   106.91   1.243     6.00     8.09
        + ID2= 2 (5362):    11.87   0.026     8.75    11.93
          ================================================
          ID = 3 (9362):   118.78   1.254     6.00     8.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8304) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6362):   568.24   0.746     8.25     2.99
        + ID2= 2 (9362):   118.78   1.254     6.00     8.47
          ================================================
          ID = 3 (8304):   687.02   1.352     6.00     3.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8302):   617.89   2.105     6.75     7.05
        + ID2= 2 (8304):   687.02   1.352     6.00     3.94
          ================================================
          ID = 3 (8300):  1304.91   3.392     6.00     5.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3681.0) ------>
               Distance      Elevation       Manning
                  0.00         230.00        0.0370
                 18.48         223.26        0.0370
                 36.96         223.05        0.0370
                 64.67         222.94        0.0370
                110.87         222.86        0.0370
                133.96         222.74        0.0370
                147.82         222.65        0.0370
                170.92         222.31        0.0370
                174.79         222.26    0.0370 /0.0300  Main Channel
                174.89         221.86        0.0300      Main Channel
                175.54         221.86        0.0300      Main Channel
                176.19         221.86        0.0300      Main Channel
                176.29         222.26    0.0300 /0.0370  Main Channel
                180.16         222.25        0.0370
                184.78         222.28        0.0370
                189.40         222.31        0.0370
                332.60         222.37        0.0370
                450.00         230.00        0.0370

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   222.26    .771E+03       0.3          0.52       41.74
      0.81   222.67    .784E+05      30.3          0.51       43.17
      1.21   223.07    .210E+06     123.2          0.77       28.42
      1.62   223.48    .384E+06     301.0          1.03       21.25
      2.03   223.89    .563E+06     550.2          1.28       17.06
      2.44   224.30    .747E+06     860.7          1.51       14.46
      2.84   224.70    .934E+06    1228.1          1.73       12.68
      3.25   225.11    .113E+07    1649.3          1.92       11.37
      3.66   225.52    .132E+07    2122.3          2.11       10.37
      4.07   225.93    .152E+07    2645.5          2.29        9.58
      4.47   226.33    .172E+07    3217.8          2.45        8.92
      4.88   226.74    .193E+07    3838.3          2.61        8.38
      5.29   227.15    .214E+07    4506.3          2.76        7.92
      5.70   227.56    .236E+07    5221.3          2.91        7.52
      6.10   227.96    .258E+07    5983.0          3.05        7.17
      6.51   228.37    .280E+07    6790.9          3.19        6.87
      6.92   228.78    .303E+07    7645.0          3.32        6.60
      7.33   229.19    .326E+07    8545.1          3.45        6.35
      7.73   229.59    .349E+07    9491.0          3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                               (ha)     (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91      3.39     6.00    5.41      0.44      0.52
     OUTFLOW: ID= 1 (6368) 1304.91      2.93     8.00    5.41      0.44      0.52

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--------------------
| CALIB            |
| STANDHYD  (3681) |   Area    (ha)=   2.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.33          1.62
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     140.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          5.60
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       4.88 (ii)    38.76 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.11          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07          0.02      0.073 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      40.00          5.38      10.57
     TOTAL RAINFALL   (mm)=      42.00         42.00      42.00
     RUNOFF COEFFICIENT   =       0.95          0.13       0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 40.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5368)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1970	0.0767
0.0100	0.0360	0.2470	0.0877
0.0570	0.0416	0.2880	0.0984
0.1060	0.0537	0.6880	0.1084
0.1470	0.0642	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3681)	2.950	0.073	6.00	10.57
OUTFLOW: ID= 1 (5368)	2.950	0.006	8.75	10.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.82
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.0206

CALIB			
NASHYD (3682)	Area (ha)= 156.53	Curve Number (CN)= 45.9	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.96		

Unit Hyd Qpeak (cms)= 2.778

PEAK FLOW (cms)= 0.289 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 4.026
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.096

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9368)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3682):	156.53	0.289	7.50	4.03
+ ID2= 2 (5368):	2.95	0.006	8.75	10.26
ID = 3 (9368):	159.48	0.295	7.50	4.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8298)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6368):	1304.91	2.935	8.00	5.41
+ ID2= 2 (9368):	159.48	0.295	7.50	4.14
ID = 3 (8298):	1464.39	3.225	8.00	5.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8296)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0370):	191.85	0.850	6.75	7.22
+ ID2= 2 (8298):	1464.39	3.225	8.00	5.27
ID = 3 (8296):	1656.24	3.980	7.75	5.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84
1.97	220.48	.131E+07	1090.4	1.25	20.05
2.32	220.83	.169E+07	1647.7	1.47	17.06
2.67	221.18	.206E+07	2294.6	1.68	14.99
3.01	221.52	.244E+07	3025.6	1.87	13.46
3.36	221.87	.282E+07	3836.5	2.05	12.27
3.71	222.22	.321E+07	4723.7	2.22	11.31
4.06	222.57	.359E+07	5684.6	2.39	10.53
4.40	222.91	.398E+07	6716.6	2.55	9.87
4.75	223.26	.437E+07	7817.7	2.70	9.31
5.10	223.61	.476E+07	8986.2	2.85	8.83
5.45	223.96	.515E+07	10220.4	2.99	8.40
5.79	224.30	.555E+07	11519.1	3.13	8.03
6.14	224.65	.594E+07	12880.8	3.27	7.69
6.49	225.00	.634E+07	14304.5	3.40	7.39

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8296)	1656.24	3.98	7.75	5.50	0.49	0.76
OUTFLOW: ID= 1 (6372)	1656.24	3.87	8.25	5.50	0.47	0.74

ADD HYD (8294)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0372):	110.42	0.145	7.50	2.88
+ ID2= 2 (6372):	1656.24	3.867	8.25	5.50
ID = 3 (8294):	1766.66	4.006	8.25	5.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8292)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0374):	545.70	1.234	8.25	6.83
+ ID2= 2 (8294):	1766.66	4.006	8.25	5.34
ID = 3 (8292):	2312.36	5.240	8.25	5.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  65.1290    345.3754
                         25.4850    24.6697   |  84.9510    456.3890
                         31.1490    98.6787   |  *******    838.7689
                         39.6440    *******   |  *******    838.7789
                         48.1390    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360      5.240      8.25       5.69
     OUTFLOW: ID= 1 (5505)   2312.360      3.724     11.00       5.69

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.06
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.6074

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| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0376):   463.85   2.165     7.50    10.74
        + ID2= 2 (5505):  2312.36   3.724    11.00     5.69
          ================================================
          ID = 3 (8272):  2776.21   5.215    10.00     6.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   8.977
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.214

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.160
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.123

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   0.992 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   5.541
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   6.132
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   0.799 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0386):   241.27   0.799     7.25     6.78
        + ID2= 2 (0388):   220.77   0.615     7.50     6.13
          ================================================
          ID = 3 (8286):   462.04   1.411     7.25     6.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   3.759
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.407 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   3.195
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.076

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   0.697 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   5.118
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.407     6.75     3.20
       + ID2= 2 (0382):   216.59   0.697     6.75     5.12
         ================================================
         ID = 3 (8290):   398.60   1.104     6.75     4.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30        0.0300      Main Channel
                79.39         279.30        0.0300      Main Channel
                79.64         279.30        0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.34   279.64    .715E+03       0.2         0.85       63.42
       1.10   280.40    .507E+05      21.9         1.40       38.54
       1.85   281.15    .141E+06      91.8         2.10       25.69
       2.61   281.91    .269E+06     218.9         2.63       20.46
       3.36   282.66    .445E+06     407.1         2.96       18.23
       4.12   283.42    .681E+06     698.3         3.31       16.26
       4.87   284.17    .977E+06    1111.8         3.68       14.65
       5.63   284.93    .133E+07    1674.3         4.06       13.27
       6.39   285.69    .173E+07    2457.8         4.59       11.73
       7.14   286.44    .215E+07    3378.8         5.07       10.63
       7.90   287.20    .261E+07    4418.4         5.47        9.85
       8.65   287.95    .310E+07    5676.3         5.92        9.11
       9.41   288.71    .361E+07    7150.5         6.40        8.42
      10.17   289.47    .414E+07    8783.1         6.86        7.86
      10.92   290.22    .469E+07   10575.1         7.30        7.38
      11.68   290.98    .525E+07   12520.4         7.72        6.98
      12.43   291.73    .582E+07   14619.0         8.12        6.64
      13.19   292.49    .642E+07   16863.2         8.50        6.34
      13.94   293.24    .703E+07   19259.8         8.86        6.08

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     1.10    6.75   4.24      0.37      0.86
```

```
     OUTFLOW: ID= 1 (6384)  398.60     0.87    8.00   4.24      0.36      0.86
```

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--------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.343     7.50     3.76
       + ID2= 2 (6384):   398.60   0.866     8.00     4.24
         ================================================
         ID = 3 (8288):   597.67   1.204     8.00     4.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   1.411     7.25     6.47
       + ID2= 2 (8288):   597.67   1.204     8.00     4.08
         ================================================
         ID = 3 (8284):  1059.71   2.590     7.75     5.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   0.992     7.75     5.54
       + ID2= 2 (8284):  1059.71   2.590     7.75     5.12
         ================================================
         ID = 3 (8280):  1479.71   3.582     7.75     5.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   0.666 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   6.993
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   1.341 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   5.547
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   1.341     8.00     5.55
       + ID2= 2 (0392):   167.22   0.666     7.00     6.99
```

```
          ================================================
          ID = 3 (8282):   773.94   1.958     7.50     5.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71   3.582     7.75     5.24
       + ID2= 2 (8282):   773.94   1.958     7.50     5.86
          ================================================
          ID = 3 (8278):  2253.65   5.533     7.75     5.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.54   251.74    .827E+04       4.5         1.51      30.71
       2.19   253.39    .758E+05      73.2         2.69      17.27
       3.83   255.03    .282E+06     331.8         3.27      14.17
       5.48   256.68    .633E+06     917.3         4.03      11.51
       7.12   258.32    .112E+07    1889.5         4.69       9.90
       8.77   259.97    .179E+07    3410.2         5.31       8.73
      10.41   261.61    .259E+07    5627.6         6.05       7.66
      12.06   263.26    .351E+07    8605.1         6.83       6.79
      13.70   264.90    .447E+07   12544.9         7.81       5.94
      15.35   266.55    .546E+07   17101.4         8.71       5.32
      16.99   268.19    .648E+07   22251.7         9.56       4.85
      18.64   269.84    .752E+07   27979.0        10.36       4.48
      20.28   271.48    .858E+07   34269.0        11.11       4.17
      21.93   273.13    .967E+07   41110.8        11.83       3.92
      23.57   274.77    .108E+08   48495.9        12.51       3.71
      25.22   276.42    .119E+08   56418.1        13.17       3.52
      26.86   278.06    .131E+08   64410.6        13.69       3.39
      28.51   279.71    .143E+08   73002.1        14.18       3.27
      30.15   281.35    .156E+08   81379.3        14.50       3.20

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65     5.53    7.75   5.45      0.57      1.52
     OUTFLOW: ID= 1 (6394) 2253.65     5.37    8.25   5.45      0.56      1.52


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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   0.799     7.25     5.16
       + ID2= 2 (6394):  2253.65   5.366     8.25     5.45

          ================================================
          ID = 3 (8276):  2579.10   6.118     8.25     5.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.75   228.95    .780E+04       2.2         0.98      58.06
       2.54   230.74    .277E+06     145.1         1.78      31.76
       4.33   232.53    .786E+06     609.1         2.63      21.50
       6.13   234.33    .140E+07    1481.5         3.59      15.77
       7.92   236.12    .207E+07    2677.3         4.39      12.90
       9.71   237.91    .280E+07    4184.8         5.09      11.14
      11.50   239.70    .357E+07    6001.4         5.71       9.93
      13.29   241.49    .441E+07    8129.1         6.27       9.03
      15.09   243.29    .530E+07   10549.4         6.77       8.37
      16.88   245.08    .625E+07   13300.6         7.24       7.83
      18.67   246.87    .726E+07   16396.2         7.68       7.38
      20.46   248.66    .834E+07   19809.8         8.07       7.02
      22.26   250.46    .949E+07   23532.5         8.43       6.72
      24.05   252.25    .107E+08   27641.2         8.77       6.46
      25.84   254.04    .120E+08   32155.2         9.10       6.22
      27.63   255.83    .134E+08   36901.0         9.37       6.05
      29.42   257.62    .149E+08   42147.7         9.64       5.88
      31.22   259.42    .164E+08   48149.1         9.97       5.68
      33.01   261.21    .181E+08   54644.8        10.29       5.51

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10     6.12    8.25   5.42      0.80      0.99
     OUTFLOW: ID= 1 (6396) 2579.10     5.54    9.25   5.42      0.79      0.99


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--------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   1.174     7.75     8.98
       + ID2= 2 (6396):  2579.10   5.542     9.25     5.42
          ================================================
          ID = 3 (8274):  2884.31   6.553     9.25     5.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21   5.215    10.00     6.53
       + ID2= 2 (8274):  2884.31   6.553     9.25     5.79
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          ================================================
          ID = 3 (8270):  5660.52  11.652     9.50     6.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  60.8810    135.6832
                        31.1490    24.6697   |  96.2770    900.4431
                        36.8120    37.0045   |  96.6770    900.4531
                        45.3070    86.3439   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     11.652      9.50       6.16
     OUTFLOW: ID= 1 (5506)   5660.520      9.673     11.75       6.16

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 83.02
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.6665

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   0.781 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.974
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.467 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.188
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   0.710 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   6.803
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.162

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.390 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   4.872
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   0.938 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   5.517
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0398):   328.19   0.938     7.00     5.52
        + ID2= 2 (0400):    93.97   0.390     6.50     4.87
          ================================================
          ID = 3 (8268):   422.16   1.286     7.00     5.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4021.0) ------>
               Distance      Elevation       Manning
                  0.00         238.50        0.0360
                 11.50         238.00        0.0360
                 23.00         237.93        0.0360
                 34.49         236.39        0.0360
                 63.24         233.98        0.0360
                 97.73         228.15        0.0360
                123.60         227.08        0.0360
                126.48         226.61        0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25        0.0330      Main Channel
                129.35         225.25        0.0330      Main Channel
                130.85         225.25        0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59        0.0360
                143.72         227.42        0.0360
                169.59         227.88        0.0360
                192.59         231.19        0.0360
                218.46         233.02        0.0360
                241.45         235.50        0.0360
                284.57         236.43        0.0360

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.41   225.66    .391E+04       1.7         1.36       38.31
       0.81   226.06    .804E+04       5.0         1.93       27.02
       1.22   226.47    .124E+05       9.1         2.30       22.61
       1.84   227.09    .308E+05      23.3         2.36       22.03
       2.46   227.71    .904E+05      62.0         2.14       24.31
       3.09   228.34    .223E+06     188.3         2.63       19.75
       3.71   228.96    .379E+06     410.2         3.38       15.39
       4.33   229.58    .550E+06     711.5         4.04       12.89
       4.95   230.20    .737E+06    1091.3         4.62       11.25
       5.58   230.83    .939E+06    1550.6         5.15       10.10
       6.20   231.45    .116E+07    2072.4         5.59        9.31
       6.82   232.07    .140E+07    2659.2         5.93        8.77
       7.44   232.69    .167E+07    3345.8         6.27        8.30
       8.07   233.32    .195E+07    4159.0         6.64        7.83
```

```
      8.69   233.94    .226E+07    5100.8          7.03       7.39
      9.31   234.56    .259E+07    6081.3          7.32       7.11
      9.93   235.18    .295E+07    7183.1          7.60       6.84
     10.56   235.81    .334E+07    8145.2          7.62       6.83
     11.18   236.43    .379E+07    9116.0          7.51       6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8268)  422.16     1.29    7.00   5.37      0.31      1.36
    OUTFLOW: ID= 1 (6402)  422.16     1.15    7.75   5.37      0.28      1.36


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------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6402):   244.00   0.710     7.75     6.80
       + ID2= 2 (6402):   422.16   1.155     7.75     5.37
         ================================================
         ID = 3 (8266):   666.16   1.865     7.75     5.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   0.467     7.50     4.19
       + ID2= 2 (8266):   666.16   1.865     7.75     5.90
         ================================================
         ID = 3 (8264):   912.62   2.329     7.75     5.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   0.781     6.75     7.97
       + ID2= 2 (8264):   912.62   2.329     7.75     5.44
         ================================================
         ID = 3 (8262):  1055.27   3.000     7.50     5.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52   9.673    11.75     6.16
       + ID2= 2 (8262):  1055.27   3.000     7.50     5.78
         ================================================
         ID = 3 (8260):  6715.79  11.084    11.25     6.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   0.897     6.75     6.07
       + ID2= 2 (8260):  6715.79  11.084    11.25     6.10
         ================================================
         ID = 3 (8258):  6947.41  11.368    11.25     6.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)

         ID1= 1 (0410):   572.01   0.844     8.25     4.36
       + ID2= 2 (8258):  6947.41  11.368    11.25     6.10
         ================================================
         ID = 3 (8256):  7519.42  12.064    11.00     5.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |  90.6140     67.8416
                         39.6440    12.3348    |  *******    160.3529
                         48.1390    18.5023    |  *******    160.3629
                         67.9600    37.0045    |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8256)   7519.421     12.064     11.00       5.96
    OUTFLOW: ID= 1 (5507)   7519.421     11.816     12.00       5.96

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.95
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.6767

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------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.81

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   0.476 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=   5.148
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.123

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)= 156.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
------------------

                               IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       81.49         75.23
    Dep. Storage     (mm)=        2.00          5.00
    Average Slope     (%)=        0.50          0.50
    Length            (m)=     1022.15         40.00
    Mannings n          =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=       55.44         20.02
              over (min)         15.00         45.00
    Storage Coeff.  (min)=       16.06 (ii)    36.42 (ii)
    Unit Hyd. Tpeak (min)=       15.00         45.00
    Unit Hyd. peak  (cms)=        0.07          0.03
                                                          *TOTALS*
    PEAK FLOW       (cms)=        3.58          2.35          4.547 (iii)
    TIME TO PEAK    (hrs)=        6.00          6.50           6.00
    RUNOFF VOLUME    (mm)=       40.00         13.12          18.77
    TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
    RUNOFF COEFFICIENT   =        0.95          0.31           0.45


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.8    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| STANDHYD  (4144) |   Area    (ha)=   2.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
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                               IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        0.63          1.47
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     118.32        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        19.55
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.41 (ii)   24.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.06      0.068 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      40.00        16.03      18.42
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.38       0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9429) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1000      0.0386
                         0.0100     0.0195   |   0.1400      0.0480
                         0.0400     0.0218   |   0.1700      0.0569
                         0.0700     0.0312   |   0.2000      0.0655

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4144)    2.100      0.068      6.00      18.42
     OUTFLOW: ID= 1 (9429)    2.100      0.023      7.00      18.20

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.26
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0205

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-------------------
| ADD HYD   (9424) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4141):   156.72   4.547     6.00    18.77
       + ID2= 2 (9429):     2.10   0.023     7.00    18.20
         ================================================
         ID = 3 (9424):   158.82   4.550     6.00    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.4896
                         0.1870     1.6651   |   5.4940      5.4773
                         2.0210     2.0447   |   6.0800      6.4738
                         2.9590     2.4658   |   6.4800      6.4838
                         3.7490     3.5575   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9424)  158.820      4.550      6.00      18.76
     OUTFLOW: ID= 1 (5414)  158.820      1.102      7.75      18.75

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.21
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.8569

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| CALIB            |
| STANDHYD  (4142) |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15         13.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     440.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         20.02
               over (min)        15.00         45.00
     Storage Coeff.  (min)=       9.70 (ii)    30.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.80          0.48       1.001 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50        6.00
     RUNOFF VOLUME    (mm)=      40.00         13.12       18.77
     TOTAL RAINFALL   (mm)=      42.00         42.00       42.00
     RUNOFF COEFFICIENT   =       0.95          0.31        0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   1.001     6.00    18.77
       + ID2= 2 (5414):   158.82   1.102     7.75    18.75
         ================================================
         ID = 3 (8254):   187.96   1.286     7.50    18.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (4121) |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90        111.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1160.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         10.44
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      17.33 (ii)    43.75 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.40          1.64       4.048 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50        6.00
     RUNOFF VOLUME    (mm)=      40.00          7.68       12.85
     TOTAL RAINFALL   (mm)=      42.00         42.00       42.00
     RUNOFF COEFFICIENT   =       0.95          0.18        0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.5000      1.0500
```

```
                      0.3860     0.5085   |   7.9000      1.1500
                      1.8460     0.6103   |   9.3000      1.2500
                      3.5050     0.7566   |   9.7000      1.2600
                      4.7890     0.8929   |   0.0000      0.0000

                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4121)    202.000      4.048      6.00      12.85
    OUTFLOW: ID= 1 (5412)    202.000      2.756      6.50      12.85

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 68.09
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.6928

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--------------------
| CALIB            |
| STANDHYD  (4122) |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      23.12         13.58
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     494.64         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=      55.44         19.63
              over (min)        15.00         45.00
    Storage Coeff.  (min)=      10.39 (ii)    30.91 (ii)
    Unit Hyd. Tpeak (min)=      15.00         45.00
    Unit Hyd. peak  (cms)=       0.09          0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=       1.04          0.45          1.224 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.50           6.00
    RUNOFF VOLUME    (mm)=      40.00         10.26          16.80
    TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
    RUNOFF COEFFICIENT   =       0.95          0.24           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  51.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   1.224     6.00     16.80
       + ID2= 2 (5412):   202.00   2.756     6.50     12.85
         ==============================================
         ID = 3 (9412):   238.70   3.427     6.50     13.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   1.286     7.50     18.75
       + ID2= 2 (9412):   238.70   3.427     6.50     13.45
         ==============================================
         ID = 3 (8252):   426.66   4.210     6.50     15.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4161.0) ------>
              Distance      Elevation       Manning
                 0.00         270.07        0.0340
                20.67         267.91        0.0340
                62.01         264.33        0.0340
               113.69         259.75        0.0340
               165.37         253.30        0.0340
               227.38         246.29        0.0340
               232.55         246.03        0.0340
               237.72         246.16        0.0340
               241.39         246.02    0.0340 /0.0300  Main Channel
               241.64         245.75        0.0300      Main Channel
               242.89         245.75        0.0300      Main Channel
               244.14         245.75        0.0300      Main Channel
               244.39         246.02    0.0300 /0.0340  Main Channel
               248.06         246.20        0.0340
               253.22         246.28        0.0340
               258.39         246.63        0.0340
               346.25         252.57        0.0340
               413.43         257.77        0.0340
               465.11         261.78        0.0340
               511.62         270.00        0.0340

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27    246.02    .295E+04        0.6        0.75       88.26
       1.53    247.28    .168E+06       69.7        1.65       40.13
       2.79    248.54    .490E+06      299.5        2.42       27.28
       4.06    249.81    .962E+06      740.1        3.05       21.67
       5.32    251.07    .158E+07     1440.0        3.61       18.33
       6.58    252.33    .235E+07     2443.8        4.12       16.06
       7.84    253.59    .327E+07     3811.2        4.63       14.30
       9.10    254.85    .432E+07     5565.1        5.11       12.94
      10.37    256.12    .550E+07     7721.3        5.57       11.88
      11.63    257.38    .682E+07    10309.9        6.00       11.02
      12.89    258.64    .827E+07    13360.6        6.42       10.31
      14.15    259.90    .985E+07    16884.5        6.81        9.72
      15.42    261.17    .116E+08    20818.4        7.14        9.26
      16.68    262.43    .134E+08    25510.4        7.53        8.78
      17.94    263.69    .154E+08    30958.0        7.97        8.30
      19.20    264.95    .175E+08    36988.3        8.38        7.89
      20.46    266.21    .197E+08    43617.1        8.78        7.53
      21.73    267.48    .220E+08    50868.1        9.17        7.22
      22.99    268.74    .244E+08    58854.0        9.56        6.92

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.66     4.21    6.50  15.79      0.34      0.77
    OUTFLOW: ID= 1 (6416)  426.66     2.42    7.75  15.79      0.30      0.76

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--------------------
| CALIB            |
| NASHYD    (4164) |   Area    (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   0.714 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.679
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   4.4700      2.5000
                         0.9000     1.0000    |   5.9800      3.0000
                         1.7300     1.5000    |   7.5000      3.5000
                         3.2200     2.0000    |   8.7400      4.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4164)     89.300      0.714      7.50      11.68
    OUTFLOW: ID= 1 (9427)     89.300      0.379      9.75      11.68

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.04
               TIME SHIFT OF PEAK FLOW         (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.4213
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-------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.5980      0.7565
                         0.0330     0.3532   |   1.8570      0.8137
                         0.7450     0.4481   |   2.0990      0.8707
                         1.0270     0.5154   |   2.4990      0.8807
                         1.3050     0.6350   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      0.379      9.75      11.68
     OUTFLOW: ID= 1 (5416)     89.300      0.335     11.25      11.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 88.54
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3936

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-------------------
| CALIB             |
| NASHYD    (4162) |   Area    (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   0.907 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.888
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.164

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9416) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4162):   349.99   0.907     8.00     6.89
       + ID2= 2 (5416):    89.30   0.335    11.25    11.65
         ================================================
         ID = 3 (9416):   439.29   1.005    11.00     7.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6416):   426.66   2.418     7.75    15.79
       + ID2= 2 (9416):   439.29   1.005    11.00     7.86
         ================================================
         ID = 3 (8250):   865.95   3.332     8.00    11.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0418) |   Area    (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.825

     PEAK FLOW       (cms)=   0.571 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.539
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.61          6.09
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     240.83         40.00
     Mannings n         =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         15.57
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.75 (ii)    29.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.12          0.18          0.233 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00         13.06         15.76
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.95          0.31          0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4300      0.1618
                         0.0300     0.0818   |   0.5800      0.2012
                         0.1700     0.0912   |   0.7300      0.2384
                         0.3100     0.1306   |   0.8500      0.2747

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4184)     8.700      0.233      6.00      15.76
     OUTFLOW: ID= 1 (9428)     8.700      0.047      7.75      15.68

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.96
                  TIME SHIFT OF PEAK FLOW         (min)=105.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0829

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-------------------
| ADD HYD   (9423) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   174.09   0.571     7.50     7.54
       + ID2= 2 (9428):     8.70   0.047     7.75    15.68
         ================================================
         ID = 3 (9423):   182.79   0.618     7.75     7.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8250):   865.95   3.332     8.00    11.76
       + ID2= 2 (9423):   182.79   0.618     7.75     7.93
         ================================================
         ID = 3 (8248):  1048.74   3.944     8.00    11.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8246) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (0420):   175.82   0.476     7.00     5.15
        + ID2= 2 (8248):  1048.74   3.944     8.00    11.09
          ================================================
          ID = 3 (8246):  1224.56   4.396     7.75    10.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5507):  7519.42  11.816    12.00     5.96
        + ID2= 2 (8246):  1224.56   4.396     7.75    10.24
          ================================================
          ID = 3 (8244):  8743.98  14.432    11.25     6.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB             |
| STANDHYD  (4227) |   Area    (ha)=  66.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  15.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.37         47.43
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     667.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44          5.33
               over (min)        15.00         60.00
     Storage Coeff.  (min)=      12.44 (ii)    47.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.21          0.42          1.332 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.75           6.00
     RUNOFF VOLUME    (mm)=      40.00          6.55          11.56
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.16           0.28

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (9426) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3400      1.2303
                         0.2300     0.6171   |   4.4700      1.5350
                         1.3000     0.6860   |   5.6100      1.8228
                         2.4100     0.9909   |   6.5300      2.1041

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (4227)     66.800     1.332      6.00      11.56
     OUTFLOW: ID= 1 (9426)     66.800     0.173      8.75      11.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.98
                  TIME SHIFT OF PEAK FLOW          (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4642
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| RESERVOIR (5422) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.3110      2.6782
                         0.2180     1.7874   |   5.4130      2.9186
                         1.2490     1.9110   |   6.3010      3.1540
                         2.3250     2.1760   |   6.7010      3.1640
                         3.2250     2.4038   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9426)     66.800     0.173      8.75      11.55
     OUTFLOW: ID= 1 (5422)     66.800     0.054     20.00      11.52

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.22
                  TIME SHIFT OF PEAK FLOW          (min)=675.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4429
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-------------------
| CALIB             |
| NASHYD    (4222) |   Area    (ha)= 713.41   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.252

     PEAK FLOW       (cms)=   1.046 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=   5.383
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (9422) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4222):   713.41   1.046     9.50     5.38
        + ID2= 2 (5422):    66.80   0.054    20.00    11.52
          ================================================
          ID = 3 (9422):   780.21   1.070     9.50     5.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8244):  8743.98  14.432    11.25     6.56
        + ID2= 2 (9422):   780.21   1.070     9.50     5.91
          ================================================
          ID = 3 (8242):  9524.19  15.441    11.00     6.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (8242)   9524.190    15.441     11.00      6.51
     OUTFLOW: ID= 1 (5508)   9524.190    14.957     12.25      6.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.86
                  TIME SHIFT OF PEAK FLOW          (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.0355
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-------------------
| CALIB             |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090
```

```
     PEAK FLOW       (cms)=   1.223 (i)
     TIME TO PEAK    (hrs)=  22.500
     RUNOFF VOLUME    (mm)=  10.068
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     168.98       264.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1699.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.80        12.12
               over (min)        30.00        60.00
     Storage Coeff.  (min)=      25.40 (ii)   50.28 (ii)
     Unit Hyd. Tpeak (min)=      30.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.45         3.96          8.562 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.75          6.25
     RUNOFF VOLUME    (mm)=      40.00        10.20         16.16
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.24          0.38

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.78        77.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1050.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        16.86
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.33 (ii)   38.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.83         2.00          5.643 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00        11.82         19.43
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.28          0.46


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   9.5300      3.8529
                         0.6370     1.6350   |  12.1350      4.2725
                         2.7300     2.1009   |  14.3850      4.6808
                         5.1010     2.7445   |  14.7850      4.6908
                         7.0460     3.2936   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620      5.643      6.00      19.43
     OUTFLOW: ID= 1 (5338)    165.620      1.359      7.50      19.43

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.08
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.8017

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-------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   433.29   8.562     6.25    16.16
       + ID2= 2 (5338):   165.62   1.359     7.50    19.43
         ================================================
         ID = 3 (8310):   598.91   8.998     6.25    17.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (3342) |   Area    (ha)= 586.87   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.20

     Unit Hyd Qpeak  (cms)=   1.221

     PEAK FLOW       (cms)=   0.275 (i)
     TIME TO PEAK    (hrs)=  15.500
     RUNOFF VOLUME    (mm)=   5.784
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.95        16.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     470.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.79
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      10.09 (ii)   35.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.91         0.31          1.028 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         8.18         14.86
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.19          0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6690      0.4664
                         0.0400     0.1927   |   0.8520      0.5318
                         0.1900     0.2643   |   1.0360      0.5973
                         0.3830     0.3576   |   1.4360      0.6073
```

```
                        0.4460     0.3863   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.230      1.028      6.00      14.86
     OUTFLOW: ID= 1 (5334)     33.230      0.210      7.25      14.83

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.40
                  TIME SHIFT OF PEAK FLOW          (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2739

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   586.87   0.275    15.50     5.78
       + ID2= 2 (5334):    33.23   0.210     7.25    14.83
         ================================================
         ID = 3 (8314):   620.10   0.341     8.00     6.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.146 (i)
     TIME TO PEAK    (hrs)=  14.000
     RUNOFF VOLUME    (mm)=   5.040
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.120

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   1.868 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.059
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   0.907 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  15.663
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   1.868     8.25    12.06
       + ID2= 2 (0284):    78.93   0.907     6.50    15.66
         ================================================
```

```
         ID = 3 (8388):   528.31   2.560     7.50    12.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2861.0) ------>
               Distance       Elevation       Manning
                  0.00          233.00        0.0450
                 20.58          228.51        0.0450
                 41.17          227.74        0.0450
                 51.46          227.41        0.0450
                 97.77          225.96        0.0450
                149.23          223.94        0.0450
                200.69          220.84        0.0450
                226.42          220.66        0.0450
                238.85          220.22        0.0450
                241.35          220.01    0.0450 /0.0350  Main Channel
                241.85          219.70        0.0350      Main Channel
                245.85          219.72        0.0350      Main Channel
                246.35          220.06        0.0350      Main Channel
                248.85          220.23        0.0350      Main Channel
                303.60          221.64        0.0350      Main Channel
                380.79          224.98        0.0450
                432.25          229.54        0.0450
                457.98          233.33        0.0450
                483.71          234.27        0.0450
                509.44          233.81        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.31   220.01    .382E+04       0.8         0.57       82.89
       1.06   220.76    .525E+05      12.1         0.66       72.51
       1.81   221.51    .240E+06      88.6         1.05       45.21
       2.56   222.26    .510E+06     261.7         1.46       32.47
       3.31   223.01    .843E+06     533.8         1.81       26.34
       4.06   223.76    .124E+07     913.6         2.10       22.64
       4.81   224.51    .171E+07    1399.0         2.34       20.33
       5.56   225.26    .225E+07    2051.0         2.60       18.27
       6.31   226.01    .285E+07    2907.0         2.91       16.35
       7.06   226.76    .352E+07    3902.5         3.16       15.04
       7.82   227.52    .426E+07    5069.9         3.39       14.01
       8.57   228.27    .507E+07    6433.0         3.62       13.13
       9.32   229.02    .593E+07    8069.2         3.89       12.24
      10.07   229.77    .681E+07    9926.7         4.16       11.44
      10.82   230.52    .772E+07   11962.8         4.42       10.75
      11.57   231.27    .864E+07   14167.1         4.68       10.17
      12.32   232.02    .959E+07   16537.1         4.92        9.66
      13.07   232.77    .105E+08   19070.7         5.16        9.22
      13.82   233.52    .115E+08   21790.4         5.39        8.82

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     2.56    7.50  12.60      0.43      0.59
     OUTFLOW: ID= 1 (6286)  528.31     2.18    9.25  12.60      0.40      0.58


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--------------------
| CALIB            |
| STANDHYD  (2861) |   Area    (ha)=  54.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  19.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.69         30.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     604.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      55.44         24.91
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.72 (ii)    30.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03

                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.29          1.27          1.824 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      40.00         17.65         21.89
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     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.42           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6700      1.4285
                          0.1860     0.6703   |   4.6080      1.6332
                          1.0630     0.7754   |   5.3640      1.8336
                          1.9790     1.0010   |   5.7640      1.8436
                          2.7460     1.1950   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2861)     54.860      1.824      6.00      21.89
     OUTFLOW: ID= 1 (5286)     54.860      0.537      7.50      21.88

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.46
                   TIME SHIFT OF PEAK FLOW         (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7139

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2862) |   Area    (ha)= 205.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.24       160.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1170.90        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        15.99
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.43 (ii)   39.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.16         3.81          4.545 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      40.00        14.75          17.28
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.35           0.41

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2862):   205.65   4.545     6.50    17.28
        + ID2= 2 (5286):    54.86   0.537     7.50    21.88
          ================================================
          ID = 3 (9286):   260.51   4.681     6.50    18.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8386) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6286):   528.31   2.176     9.25    12.60
        + ID2= 2 (9286):   260.51   4.681     6.50    18.24
          ================================================
          ID = 3 (8386):   788.82   5.423     6.50    14.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   0.899 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=   6.167
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.147

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.488 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   3.912
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.093

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3001) |   Area    (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.04         0.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      24.49        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44         9.13
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       1.71 (ii)   29.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.003 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      40.00         6.68          11.01
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.16           0.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
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--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0060      0.0023
                          0.0020     0.0012   |   0.0070      0.0026
                          0.0030     0.0016   |   0.0090      0.0029
                          0.0040     0.0019   |   0.4090      0.0129

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)      0.090      0.003      6.00      11.01
     OUTFLOW: ID= 1 (5300)      0.090      0.001      6.75       9.72

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.16
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0004

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--------------------
| CALIB            |
| NASHYD    (3002) |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   0.562 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.959
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3002):   258.84   0.562     7.50     4.96
        + ID2= 2 (5300):     0.09   0.001     6.75     9.72
          ================================================
          ID = 3 (9300):   258.93   0.563     7.50     4.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9298):   330.51   0.488     8.00     3.91
        + ID2= 2 (9300):   258.93   0.563     7.50     4.96
          ================================================
          ID = 3 (8395):   589.44   1.047     8.00     4.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   1.075 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  12.562
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   1.470 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.485
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.297

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0288):   340.83   1.075     9.75    12.56
        + ID2= 2 (0290):   269.18   1.470     7.50    12.49
          ================================================
          ID = 3 (8397):   610.01   2.456     8.00    12.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   1.427 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  11.580
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   2.131 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   8.698
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.207

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   0.809 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   5.913
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0292):   738.49   2.131     8.25     8.70
        + ID2= 2 (0294):   274.15   0.809     7.25     5.91
          ================================================
          ID = 3 (8398):  1012.64   2.892     8.00     7.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (2961.0) ------>

Distance	Elevation	Manning	
0.00	243.98	0.0400	
42.59	243.18	0.0400	
85.17	241.81	0.0400	
120.66	240.50	0.0400	
156.15	239.56	0.0400	
198.74	236.15	0.0400	
237.78	234.01	0.0400	
241.33	233.82	0.0400	
248.77	233.12	0.0400 /0.0400	Main Channel
249.87	232.32	0.0400	Main Channel
250.37	231.80	0.0400	Main Channel
250.87	232.23	0.0400	Main Channel
251.97	233.10	0.0400 /0.0400	Main Channel
255.37	233.22	0.0400	
259.07	233.87	0.0400	
262.62	234.12	0.0400	
266.17	234.23	0.0400	
283.91	234.73	0.0400	
337.15	241.75	0.0400	
351.34	244.00	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	232.23	.510E+03	0.1	0.53	81.07
0.87	232.67	.213E+04	0.7	0.83	51.49
1.30	233.10	.501E+04	2.2	1.10	38.75
1.98	233.78	.242E+05	12.6	1.34	31.93
2.66	234.46	.738E+05	42.1	1.46	29.21
3.34	235.14	.177E+06	127.9	1.84	23.13
4.02	235.82	.314E+06	281.4	2.29	18.61
4.70	236.50	.481E+06	509.4	2.71	15.73
5.38	237.18	.672E+06	815.6	3.11	13.73
6.06	237.86	.886E+06	1200.7	3.46	12.30
6.74	238.54	.112E+07	1669.4	3.80	11.23
7.42	239.22	.139E+07	2226.9	4.11	10.38
8.10	239.90	.168E+07	2808.4	4.28	9.95
8.78	240.58	.202E+07	3470.4	4.40	9.68
9.46	241.26	.240E+07	4331.7	4.61	9.24
10.14	241.94	.283E+07	5335.2	4.83	8.84
10.82	242.62	.330E+07	6482.6	5.03	8.48
11.50	243.30	.381E+07	7764.1	5.21	8.18
12.18	243.98	.439E+07	9101.2	5.31	8.04

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8398)	1012.64	2.89	8.00	7.94	1.35	1.11
OUTFLOW: ID= 1 (6296)	1012.64	2.79	8.75	7.94	1.34	1.11

```
--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0296):	293.65	1.427	7.75	11.58
+ ID2= 2 (6296):	1012.64	2.793	8.75	7.94
ID = 3 (8396):	1306.29	4.146	8.50	8.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8396):	1306.29	4.146	8.50	8.76
+ ID2= 2 (8397):	610.01	2.456	8.00	12.53
ID = 3 (8394):	1916.30	6.591	8.25	9.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8394):	1916.30	6.591	8.25	9.96
+ ID2= 2 (8395):	589.44	1.047	8.00	4.37
ID = 3 (8392):	2505.74	7.623	8.25	8.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (3021.0) ------>

Distance	Elevation	Manning	
0.00	228.10	0.0400	
18.47	227.12	0.0400	
36.95	226.12	0.0400	
46.18	225.84	0.0400	
55.42	225.58	0.0400	
272.47	222.88	0.0400	
277.09	222.76	0.0400	
281.71	222.58	0.0400	
288.54	222.18	0.0400 /0.0300	Main Channel
288.64	221.00	0.0300	Main Channel
290.94	221.00	0.0300	Main Channel
291.04	221.00	0.0300	Main Channel
291.54	222.75	0.0300 /0.0400	Main Channel
300.18	222.83	0.0400	
304.80	223.04	0.0400	
309.42	223.25	0.0400	
318.65	223.69	0.0400	
360.22	225.57	0.0400	
397.16	227.60	0.0400	
457.20	228.35	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	221.29	.228E+04	0.2	0.32	165.63
0.59	221.59	.465E+04	0.7	0.45	116.15
0.88	221.88	.713E+04	1.2	0.54	96.87
1.18	222.18	.971E+04	1.9	0.61	86.20
1.57	222.57	.175E+05	3.3	0.59	88.86
1.97	222.97	.427E+05	6.4	0.47	111.39
2.36	223.36	.115E+06	16.1	0.44	119.14
2.76	223.76	.237E+06	37.1	0.49	106.49
3.15	224.15	.409E+06	72.9	0.56	93.40
3.55	224.55	.631E+06	127.0	0.63	82.76
3.94	224.94	.903E+06	202.4	0.70	74.37
4.34	225.34	.123E+07	301.8	0.77	67.68
4.73	225.73	.160E+07	433.5	0.85	61.37
5.13	226.13	.200E+07	602.2	0.95	55.29
5.52	226.52	.242E+07	804.7	1.05	50.13
5.92	226.92	.286E+07	1034.2	1.14	46.11
6.31	227.31	.332E+07	1290.5	1.22	42.88
6.71	227.71	.380E+07	1560.9	1.29	40.55
7.10	228.10	.432E+07	1835.6	1.34	39.19

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (8392)	2505.74	7.62	8.25	8.65	2.02	0.47
OUTFLOW: ID= 1 (6302)	2505.74	6.16	10.50	8.65	1.94	0.48

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--------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0302):	473.90	0.899	8.75	6.17
+ ID2= 2 (6302):	2505.74	6.159	10.50	8.65
ID = 3 (8390):	2979.64	6.993	10.50	8.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   5.423     6.50    14.46
       + ID2= 2 (8390):  2979.64   6.993    10.50     8.25
         ================================================
         ID = 3 (8348):  3768.46   9.856    10.00     9.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.450 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=   7.337
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.175

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   2.320 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  14.568
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   2.409 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  14.678
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.349

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   0.742 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.858
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| CALIB             |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   1.889 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.150
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   1.889     7.50    11.15
       + ID2= 2 (0276):    90.89   0.742     6.75    12.86
         ================================================
         ID = 3 (8360):   483.38   2.585     7.25    11.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   2.409     8.25    14.68
       + ID2= 2 (8360):   483.38   2.585     7.25    11.47
         ================================================
         ID = 3 (8358):   968.87   4.901     7.75    13.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   224.76    .263E+04       0.8          0.65      58.31
      1.36   225.62    .278E+05      13.4          1.10      34.54
      2.22   226.48    .855E+05      52.6          1.40      27.09
      3.09   227.35    .157E+06     120.4          1.74      21.78
      3.95   228.21    .242E+06     216.3          2.04      18.64
      4.81   229.07    .340E+06     341.8          2.29      16.56
      5.67   229.93    .450E+06     498.3          2.52      15.06
      6.53   230.79    .574E+06     688.3          2.73      13.90
      7.40   231.66    .711E+06     913.8          2.93      12.97
      8.26   232.52    .861E+06    1173.4          3.11      12.23
      9.12   233.38    .103E+07    1461.3          3.24      11.72
      9.98   234.24    .121E+07    1793.3          3.37      11.26
```

```
      10.85   235.11    .142E+07    2141.0          3.45      11.02
      11.71   235.97    .165E+07    2530.4          3.50      10.86
      12.57   236.83    .192E+07    2954.0          3.51      10.81
      13.43   237.69    .226E+07    3160.3          3.18      11.93
      14.29   238.55    .271E+07    3869.4          3.26      11.67
      15.16   239.42    .320E+07    4740.3          3.38      11.24
      16.02   240.28    .373E+07    5688.4          3.48      10.92

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8358)  968.87     4.90    7.75  13.08      0.78      0.75
    OUTFLOW: ID= 1 (6280)  968.87     4.56    8.75  13.08      0.76      0.74


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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0280):   299.86   2.320     7.00    14.57
      + ID2= 2 (6280):   968.87   4.564     8.75    13.08
        ================================================
        ID = 3 (8354):  1268.73   6.519     8.25    13.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

    Unit Hyd Qpeak  (cms)=   3.429

    PEAK FLOW       (cms)=   1.320 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  13.984
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.333

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

    Unit Hyd Qpeak  (cms)=   3.807

    PEAK FLOW       (cms)=   1.091 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  11.050
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.263

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

    Unit Hyd Qpeak  (cms)=   3.786

    PEAK FLOW       (cms)=   0.901 (i)
    TIME TO PEAK    (hrs)=   9.750
    RUNOFF VOLUME    (mm)=   7.566
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.180

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (2641) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00

-------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      13.18          4.39
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     342.34         40.00
    Mannings n          =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=      55.44         10.89
              over (min)        15.00         45.00
    Storage Coeff.  (min)=       8.33 (ii)    34.30 (ii)
    Unit Hyd. Tpeak (min)=      15.00         45.00
    Unit Hyd. peak  (cms)=       0.09          0.03
                                                          *TOTALS*
    PEAK FLOW       (cms)=       1.68          0.08          1.712 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.50           6.00
    RUNOFF VOLUME    (mm)=      40.00         10.04          31.01
    TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
    RUNOFF COEFFICIENT   =       0.95          0.24           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5264) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1760      0.5589
                         0.0600     0.3133   |   1.4770      0.6054
                         0.3410     0.3763   |   1.7190      0.6511
                         0.6340     0.4336   |   2.1190      0.6611
                         0.8800     0.4941   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2641)     17.580      1.712      6.00      31.01
    OUTFLOW: ID= 1 (5264)     17.580      0.236      6.75      30.94

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.80
               TIME SHIFT OF PEAK FLOW         (min)= 45.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.3541

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (2642) |   Area    (ha)= 336.37   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.28

    Unit Hyd Qpeak  (cms)=   3.192

    PEAK FLOW       (cms)=   0.853 (i)
    TIME TO PEAK    (hrs)=   8.250
    RUNOFF VOLUME    (mm)=   8.986
    TOTAL RAINFALL   (mm)=  42.000
    RUNOFF COEFFICIENT   =   0.214

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2642):   336.37   0.853     8.25     8.99
      + ID2= 2 (5264):    17.58   0.236     6.75    30.94
        ================================================
        ID = 3 (9264):   353.95   0.988     8.00    10.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0266):   508.09   0.901     9.75     7.57
       + ID2= 2 (9264):   353.95   0.988     8.00    10.08
         ================================================
         ID = 3 (8380):   862.04   1.852     8.25     8.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2681.0) ------>
               Distance      Elevation       Manning
                   0.00         274.03        0.0500
                  10.55         272.73        0.0500
                  21.10         271.28        0.0500
                  50.12         266.83        0.0500
                  87.04         260.36        0.0500
                  92.32         260.06        0.0500
                  94.95         259.93        0.0500
                 101.00         256.87        0.0500
                 103.00         256.58    0.0500 /0.0350  Main Channel
                 104.00         256.32        0.0350      Main Channel
                 106.00         256.05        0.0350      Main Channel
                 108.00         256.25        0.0350      Main Channel
                 110.78         256.65    0.0350 /0.0500  Main Channel
                 113.42         256.81        0.0500
                 116.06         257.00        0.0500
                 155.62         260.24        0.0500
                 187.27         263.35        0.0500
                 211.01         267.22        0.0500
                 224.20         269.60        0.0500
                 261.13         272.68        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.53   256.58    .697E+04       2.1         0.97      55.64
        1.38   257.43    .477E+05      25.9         1.76      30.66
        2.22   258.27    .123E+06      84.3         2.22      24.26
        3.07   259.12    .231E+06     185.4         2.60      20.72
        3.92   259.97    .371E+06     335.8         2.92      18.42
        4.77   260.82    .560E+06     547.6         3.15      17.06
        5.61   261.66    .790E+06     845.6         3.46      15.57
        6.46   262.51    .106E+07    1225.0         3.75      14.37
        7.31   263.36    .136E+07    1693.3         4.02      13.37
        8.16   264.21    .169E+07    2283.2         4.35      12.36
        9.00   265.05    .206E+07    2969.1         4.66      11.54
        9.85   265.90    .245E+07    3754.4         4.96      10.86
       10.70   266.75    .286E+07    4643.0         5.24      10.28
       11.55   267.60    .331E+07    5636.1         5.50       9.78
       12.39   268.44    .378E+07    6746.2         5.76       9.34
       13.24   269.29    .428E+07    7972.2         6.01       8.96
       14.09   270.14    .482E+07    9218.9         6.18       8.71
       14.94   270.99    .539E+07   10550.5         6.32       8.52
       15.78   271.83    .601E+07   12024.7         6.46       8.33

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.04     1.85    8.25   8.60      0.47      0.97
     OUTFLOW: ID= 1 (6268)  862.04     1.78   10.00   8.60      0.45      0.97


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| ADD HYD   (8382) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):   215.76   1.091     7.00    11.05
       + ID2= 2 (6268):   862.04   1.779    10.00     8.60
         ================================================
         ID = 3 (8382):  1077.80   2.636     8.75     9.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (2701.0) ------>
               Distance      Elevation       Manning
                   0.00         245.98        0.0500
                   8.14         245.66        0.0500
                  16.28         245.16        0.0500
                  20.35         244.84        0.0500
                  38.66         242.98        0.0500
                  48.83         240.65        0.0500
                  63.07         235.91        0.0500
                  65.11         235.18        0.0500
                  68.43         234.34    0.0500 /0.0300  Main Channel
                  68.68         233.95        0.0300      Main Channel
                  69.18         233.89        0.0300      Main Channel
                  69.68         233.95        0.0300      Main Channel
                  71.21         234.48    0.0300 /0.0500  Main Channel
                  81.38         236.44        0.0500
                  95.63         236.66        0.0500
                 120.04         237.00        0.0500
                 148.53         241.77        0.0500
                 158.70         242.34        0.0500
                 187.18         244.03        0.0500
                 201.42         244.36        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.45   234.34    .217E+04       0.7         0.99      52.83
        0.98   234.87    .966E+04       4.6         1.49      35.20
        1.50   235.39    .250E+05      13.7         1.73      30.41
        2.03   235.92    .475E+05      29.5         1.95      26.87
        2.56   236.45    .772E+05      52.5         2.14      24.50
        3.09   236.98    .142E+06      82.4         1.83      28.73
        3.61   237.50    .246E+06     158.1         2.03      25.91
        4.14   238.03    .357E+06     262.0         2.31      22.73
        4.67   238.56    .477E+06     392.1         2.59      20.27
        5.20   239.09    .604E+06     547.8         2.86      18.38
        5.72   239.61    .739E+06     729.2         3.11      16.90
        6.25   240.14    .882E+06     936.5         3.34      15.70
        6.78   240.67    .103E+07    1169.7         3.57      14.72
        7.31   241.20    .119E+07    1425.9         3.77      13.94
        7.83   241.72    .136E+07    1710.4         3.96      13.26
        8.36   242.25    .154E+07    1967.9         4.02      13.07
        8.89   242.78    .174E+07    2264.9         4.09      12.83
        9.42   243.31    .196E+07    2589.3         4.15      12.65
        9.94   243.83    .221E+07    2953.5         4.22      12.46

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.80     2.64    8.75   9.09      0.71      1.19
     OUTFLOW: ID= 1 (6270) 1077.80     2.57    9.50   9.09      0.70      1.19

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| ADD HYD   (8384) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0270):   243.61   1.320     7.50    13.98
       + ID2= 2 (6270):  1077.80   2.574     9.50     9.09
         ================================================
         ID = 3 (8384):  1321.41   3.729     9.00     9.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0262)  |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   1.720 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.597
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.348

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   0.722 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.980
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   0.405 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.355
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   0.650 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   5.543
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2561.0) ------>
              Distance      Elevation       Manning
                  0.00         276.07        0.0400
                 11.68         273.71        0.0400
                 23.36         271.35        0.0400
                 29.19         270.30        0.0400
                 35.03         269.44        0.0400
                 55.47         267.90        0.0400
                 78.82         266.24        0.0400
                 90.50         265.63        0.0400
                102.18         265.40        0.0400
                105.10         264.95    0.0400 /0.0350  Main Channel
                108.02         264.39        0.0350      Main Channel
                110.94         264.72        0.0350      Main Channel
                113.86         265.19    0.0350 /0.0400  Main Channel
                116.78         265.49        0.0400
                143.05         268.24        0.0400
                172.25         270.53        0.0400
                207.28         271.95        0.0400
                233.55         273.72        0.0400
                256.91         274.98        0.0400
                289.02         275.97        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.56   264.95    .723E+04       1.9          0.90      62.51
      1.14   265.53    .307E+05      13.5          1.49      37.92
      1.72   266.11    .951E+05      48.6          1.73      32.62
      2.30   266.69    .191E+06     117.8          2.09      27.03
      2.88   267.27    .314E+06     225.2          2.43      23.24
      3.46   267.85    .464E+06     375.5          2.74      20.59
      4.04   268.43    .641E+06     573.2          3.03      18.62
      4.62   269.01    .846E+06     821.9          3.29      17.15
      5.20   269.59    .108E+07    1135.0          3.56      15.87
      5.78   270.17    .134E+07    1525.1          3.86      14.64
      6.36   270.75    .162E+07    1971.1          4.12      13.71
      6.94   271.33    .194E+07    2474.0          4.33      13.04
      7.52   271.91    .228E+07    3065.0          4.55      12.42
      8.10   272.49    .266E+07    3773.4          4.80      11.75
      8.68   273.07    .306E+07    4566.3          5.05      11.17
      9.26   273.65    .348E+07    5443.7          5.30      10.66
      9.84   274.23    .393E+07    6389.6          5.51      10.25
     10.42   274.81    .440E+07    7426.2          5.72       9.88
     11.00   275.39    .490E+07    8490.1          5.86       9.63

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     0.65   8.25   5.54      0.19      0.90
     OUTFLOW: ID= 1 (6256)  403.00     0.62  10.00   5.54      0.18      0.90

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--------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0256):   145.79   0.405     8.00     8.36
        + ID2= 2 (6256):   403.00   0.617    10.00     5.54
          ================================================
          ID = 3 (8370):   548.79   0.986     9.50     6.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   0.529 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.304
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   0.922 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=   5.563
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   0.446 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.494
     TOTAL RAINFALL   (mm)=  42.000
```

RUNOFF COEFFICIENT = 0.178

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0246):		759.61	0.922	10.00	5.56
+ ID2= 2 (0248):		146.04	0.446	7.50	7.49
ID = 3 (8364):		905.65	1.303	8.50	5.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)		905.65	1.30	8.50	5.87	0.61	0.71
OUTFLOW: ID= 1 (6250)		905.65	1.21	10.75	5.87	0.59	0.70

ADD HYD (8366)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0250):		192.88	0.529	8.25	9.30
+ ID2= 2 (6250):		905.65	1.210	10.75	5.87
ID = 3 (8366):		1098.53	1.691	10.25	6.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8366):		1098.53	1.691	10.25	6.48
+ ID2= 2 (8370):		548.79	0.986	9.50	6.29
ID = 3 (8368):		1647.32	2.669	10.00	6.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (2521) | ID= 1 DT=15.0 min | Area (ha)= 32.51 | Total Imp(%)= 75.00 | Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	24.38	8.13	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	465.55	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	12.46	
over (min)		15.00	45.00	
Storage Coeff. (min)=		10.02 (ii)	34.63 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.03	
				TOTALS
PEAK FLOW	(cms)=	2.96	0.16	3.022 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.00
RUNOFF VOLUME	(mm)=	40.00	11.36	31.41
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.27	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 70.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5252) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.1750	1.0334
0.1100	0.5793	2.7310	1.1195
0.6300	0.6958	3.1790	1.2039
1.1730	0.8017	3.5790	1.2139
1.6270	0.9137	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2521)	32.510	3.022	6.00	31.41
OUTFLOW: ID= 1 (5252)	32.510	0.456	6.75	31.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.08
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.6578

CALIB | NASHYD (2522) | ID= 1 DT=15.0 min | Area (ha)= 287.47 Curve Number (CN)= 71.5 | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30 | U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 3.448

PEAK FLOW (cms)= 0.958 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.794
TOTAL RAINFALL (mm)= 42.000

RUNOFF COEFFICIENT = 0.233

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9252)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2522):		287.47	0.958	8.00	9.79
+ ID2= 2 (5252):		32.51	0.456	6.75	31.37
ID = 3 (9252):		319.98	1.334	7.00	11.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8368):		1647.32	2.669	10.00	6.41
+ ID2= 2 (9252):		319.98	1.334	7.00	11.99
ID = 3 (8372):		1967.30	3.668	9.00	7.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8372)	1967.30	3.67	9.00	7.32	0.52	0.90
OUTFLOW: ID= 1 (6258)	1967.30	3.40	11.25	7.32	0.52	0.91

ADD HYD (8374)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0258):		181.99	0.722	8.00	12.98
+ ID2= 2 (6258):		1967.30	3.396	11.25	7.32
ID = 3 (8374):		2149.29	3.999	10.75	7.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (2601) | Area (ha)= 56.22
ID= 1 DT=15.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 48.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	36.54	19.68	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	612.21	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		55.44	44.84	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.81 (ii)	26.55 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	3.32	1.08	4.004 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	40.00	19.27	29.22
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.46	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5260) | IN= 2---> OUT= 1 | DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.7610	1.6799
	0.1900	0.8974	4.7220	1.8499
	1.0890	1.0678	5.4970	2.0146
	2.0290	1.2667	5.8970	2.0246
	2.8140	1.4621	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2601)	56.220	4.004	6.00	29.22
OUTFLOW: ID= 1 (5260)	56.220	0.782	7.00	29.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.53
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 1.0129

CALIB NASHYD (2602) | ID= 1 DT=15.0 min	Area (ha)= 420.02 Curve Number (CN)= 83.3
	Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
	U.H. Tp(hrs)= 1.30

Unit Hyd Qpeak (cms)= 3.946

PEAK FLOW (cms)= 1.850 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 15.446
TOTAL RAINFALL (mm)= 42.000

RUNOFF COEFFICIENT = 0.368

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2602):	420.02	1.850	8.25	15.45
	+ ID2= 2 (5260):	56.22	0.782	7.00	29.20
	ID = 3 (9260):	476.24	2.460	7.00	17.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8374):	2149.29	3.999	10.75	7.80
	+ ID2= 2 (9260):	476.24	2.460	7.00	17.07
	ID = 3 (8376):	2625.53	5.889	10.00	9.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0262):	341.31	1.720	8.00	14.60
	+ ID2= 2 (8376):	2625.53	5.889	10.00	9.48
	ID = 3 (8378):	2966.84	7.378	9.75	10.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8378):	2966.84	7.378	9.75	10.07
	+ ID2= 2 (8384):	1321.41	3.729	9.00	9.99
	ID = 3 (8362):	4288.25	11.073	9.25	10.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (8362)	4288.25	11.07	9.25	10.05	1.31	1.04
OUTFLOW:	ID= 1 (6272)	4288.25	10.99	10.00	10.05	1.30	1.04

CALIB
STANDHYD (2721) | Area (ha)= 2.21
ID= 1 DT=15.0 min | Total Imp(%)= 49.00 Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.08	1.13
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		55.44	23.13
over (min)		15.00	30.00
Storage Coeff. (min)=		4.47 (ii)	23.69 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.06	0.05	0.097 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	40.00	15.45	20.11
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.37	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5272)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1480	0.0589
0.0070	0.0284	0.1850	0.0669
0.0430	0.0331	0.2160	0.0746
0.0800	0.0419	0.6160	0.0846
0.1100	0.0497	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2721)	2.210	0.097	6.00	20.11
OUTFLOW:	ID= 1 (5272)	2.210	0.013	7.75	19.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.16
TIME SHIFT OF PEAK FLOW (min)=105.00

MAXIMUM STORAGE USED (ha.m.)= 0.0292

CALIB			
NASHYD (2722)	Area (ha)= 155.17	Curve Number (CN)= 75.3	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.09		

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 0.753 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 11.276
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9272)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2722):	155.17	0.753	7.75	11.28
	+ ID2= 2 (5272):	2.21	0.013	7.75	19.64
	ID = 3 (9272):	157.38	0.766	7.75	11.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8356)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6272):	4288.25	10.989	10.00	10.05
	+ ID2= 2 (9272):	157.38	0.766	7.75	11.39
	ID = 3 (8356):	4445.63	11.586	9.75	10.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8354):	1268.73	6.519	8.25	13.43
	+ ID2= 2 (8356):	4445.63	11.586	9.75	10.09
	ID = 3 (8352):	5714.36	17.689	9.00	10.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.90	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	220.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43
2.56	220.93	.708E+06	109.5	0.58	107.67
3.25	221.62	.118E+07	224.3	0.71	87.36
3.94	222.31	.168E+07	376.5	0.84	74.48
4.63	223.00	.222E+07	567.9	0.96	65.26
5.32	223.69	.279E+07	794.7	1.07	58.58
6.02	224.39	.339E+07	1056.2	1.17	53.52
6.71	225.08	.402E+07	1352.4	1.26	49.52
7.40	225.77	.468E+07	1677.3	1.34	46.46
8.09	226.46	.536E+07	2050.0	1.43	43.58
8.79	227.16	.607E+07	2457.9	1.52	41.14
9.48	227.85	.680E+07	2901.0	1.60	39.05
10.17	228.54	.755E+07	3352.7	1.66	37.53
10.86	229.23	.834E+07	3812.5	1.71	36.48
11.55	229.92	.919E+07	4241.8	1.73	36.13
12.25	230.62	.101E+08	4697.0	1.74	35.93
12.94	231.31	.111E+08	5186.3	1.74	35.83

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8352)	5714.36	17.69	9.00	10.83	1.35	0.45
OUTFLOW:	ID= 1 (6304)	5714.36	14.52	11.75	10.83	1.28	0.44

ADD HYD (8350)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0304):	292.37	0.450	10.50	7.34
	+ ID2= 2 (6304):	5714.36	14.520	11.75	10.83
	ID = 3 (8350):	6006.73	14.962	11.75	10.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8346)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (8348):	3768.46	9.856	10.00	9.55
	+ ID2= 2 (8350):	6006.73	14.962	11.75	10.66
	ID = 3 (8346):	9775.19	24.252	11.25	10.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8344)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0306):	283.97	0.146	14.00	5.04
	+ ID2= 2 (8346):	9775.19	24.252	11.25	10.24
	ID = 3 (8344):	10059.16	24.388	11.25	10.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5509)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	370.0451
	41.0590	56.7403	*******	863.4386
	48.1390	86.3439	*******	********
	56.6340	*******	*******	********
	67.9600	*******	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.

```
                              (ha)      (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********     24.388     11.25      10.09
     OUTFLOW: ID= 1 (5509)   ********     19.104     14.50      10.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.33
                  TIME SHIFT OF PEAK FLOW         (min)=195.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 26.4011

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0332) |   Area     (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.069 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  11.219
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0330) |   Area     (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   2.745 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.500
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3321.0) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.0380
                25.85         227.20        0.0380
                96.94         226.44        0.0380
               168.03         227.38        0.0380
               219.73         225.62        0.0380
               342.52         221.57        0.0380
               368.37         221.42        0.0380
               374.83         221.23        0.0380
               379.79         220.98    0.0380 /0.0300  Main Channel
               380.29         220.47        0.0300      Main Channel
               381.29         220.47        0.0300      Main Channel
               382.79         220.47        0.0300      Main Channel
               383.29         220.98    0.0300 /0.0380  Main Channel
               394.22         221.22        0.0380
               400.68         221.33        0.0380
               407.14         221.44        0.0380
               491.16         225.70        0.0380
               568.71         227.55        0.0380
               607.49         230.14        0.0380
               639.80         234.08        0.0380

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.51   220.98    .554E+04       0.9         0.56      107.27
      1.20   221.67    .885E+05      12.1         0.49      122.32
      1.88   222.35    .309E+06      64.7         0.76       79.70
      2.57   223.04    .615E+06     165.4         0.97       61.99
      3.25   223.72    .101E+07     322.1         1.16       52.06
      3.94   224.41    .148E+07     542.9         1.33       45.51
      4.62   225.09    .204E+07     835.4         1.48       40.77
      5.31   225.78    .269E+07    1202.8         1.62       37.27
      5.99   226.46    .344E+07    1618.0         1.70       35.46
      6.68   227.15    .447E+07    1932.0         1.56       38.56
      7.36   227.83    .580E+07    2763.9         1.72       34.96
      8.05   228.52    .718E+07    3861.9         1.95       30.97
      8.73   229.20    .859E+07    5115.4         2.16       27.98
      9.42   229.89    .100E+08    6519.2         2.35       25.64
     10.10   230.57    .115E+08    8092.3         2.55       23.69
     10.79   231.26    .130E+08    9821.5         2.73       22.05
     11.47   231.94    .145E+08   11690.0         2.92       20.68
     12.16   232.63    .160E+08   13694.9         3.09       19.52
     12.84   233.31    .176E+08   15833.9         3.26       18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     2.74    7.50  13.50      0.63      0.55
     OUTFLOW: ID= 1 (6332)  468.30     2.16    9.75  13.50      0.59      0.55

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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0332):   393.44   1.069    10.00    11.22
       + ID2= 2 (6332):   468.30   2.156     9.75    13.50
         ==========================================
         ID = 3 (8322):   861.74   3.223     9.75    12.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0328) |   Area     (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   1.670 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  12.082
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0326) |   Area     (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   2.547 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  13.570
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3181) |   Area     (ha)= 357.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  32.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      200.09        157.21
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1543.37         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.80         21.86
               over (min)         30.00         45.00
     Storage Coeff.  (min)=       23.97 (ii)    43.63 (ii)
     Unit Hyd. Tpeak (min)=       30.00         45.00
     Unit Hyd. peak  (cms)=        0.04          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        8.72          4.83      12.259 (iii)
     TIME TO PEAK    (hrs)=        6.25          6.50        6.25
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     RUNOFF VOLUME    (mm)=      40.00        15.05          23.03
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.36           0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  22.8580     8.7280
                          0.8190     2.5190   |  27.5380     9.6853
                          4.2860     5.8947   |  32.5800    10.8345
                         11.0600     6.7336   |  32.9800    10.8445
                         16.3830     7.4416   |   0.0000     0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    357.300     12.259      6.25      23.03
     OUTFLOW: ID= 1 (5318)    357.300      2.969      7.75      23.03

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.22
                   TIME SHIFT OF PEAK FLOW         (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.6144

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-------------------
| CALIB           |
| STANDHYD  (3182) |   Area    (ha)= 126.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  12.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.49        99.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     916.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        11.72
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.05 (ii)   40.27 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.70         1.73          2.374 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      40.00        11.51          14.93
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.27           0.36

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3182):   126.13   2.374     6.00    14.93
        + ID2= 2 (5318):   357.30   2.969     7.75    23.03
          ==========================================
          ID = 3 (8334):   483.43   3.978     7.00    20.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (3201.0) ------>
                Distance      Elevation       Manning
                    0.00         249.00        0.0380
                   22.92         245.86        0.0380
                   45.83         244.87        0.0380
                   91.66         243.11        0.0380
                  126.03         239.53        0.0380
                  160.41         237.17        0.0380
                  166.14         237.06        0.0380
                  177.59         237.13        0.0380
                  183.32         237.20        0.0380
                  189.05         236.70    0.0380 /0.0350  Main Channel
                  193.05         235.89       0.0350       Main Channel
                  197.05         236.64    0.0350 /0.0380  Main Channel
                  200.51         236.74        0.0380
                  206.24         237.03        0.0380
                  246.34         238.82        0.0380
                  263.53         243.87        0.0380
                  389.56         247.64        0.0380
                  452.58         247.74        0.0380
                  498.41         248.60        0.0380
                  567.16         249.84        0.0380

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.37   236.26    .270E+04        0.4          0.58     107.96
        0.75   236.64    .108E+05        2.6          0.92      68.01
        1.48   237.37    .877E+05       27.4          1.17      53.35
        2.20   238.09    .277E+06      122.1          1.65      37.83
        2.93   238.82    .540E+06      299.7          2.08      30.01
        3.66   239.55    .857E+06      587.8          2.57      24.29
        4.39   240.28    .120E+07      977.8          3.04      20.52
        5.11   241.00    .158E+07     1458.1          3.46      18.02
        5.84   241.73    .198E+07     2028.6          3.84      16.23
        6.57   242.46    .240E+07     2690.5          4.19      14.86
        7.29   243.18    .285E+07     3431.8          4.50      13.84
        8.02   243.91    .335E+07     4149.1          4.64      13.44
        8.75   244.64    .393E+07     4746.6          4.51      13.80
        9.47   245.36    .463E+07     5618.6          4.53      13.75
       10.20   246.09    .545E+07     6781.8          4.66      13.39
       10.93   246.82    .635E+07     8274.5          4.87      12.79
       11.66   247.55    .733E+07     9988.0          5.10      12.23
       12.38   248.27    .853E+07    11422.0          5.01      12.45
       13.11   249.00    .989E+07    13749.7          5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.43     3.98    7.00  20.92      0.79      0.93
     OUTFLOW: ID= 1 (6320)  483.43     3.36    8.50  20.92      0.77      0.92


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-------------------
| CALIB           |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   0.723 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.875
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.330

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.38       106.80
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1137.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        25.79
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            over (min)       15.00         45.00
     Storage Coeff.  (min)=      17.13 (ii)   35.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.28          4.31          5.421 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      40.00         17.63          21.21
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.42           0.50

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.4940      4.4477
                          0.2490     1.8139   |   9.8910      4.7762
                          1.2830     3.1517   |  12.4550      5.0763
                          3.7490     3.7610   |  12.8550      5.0863
                          5.0040     4.0198   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180      5.421      6.50      21.21
     OUTFLOW: ID= 1 (5320)    194.180      0.961      8.50      21.20

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.73
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.7368

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--------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56   0.723     6.75    13.88
       + ID2= 2 (5320):   194.18   0.961     8.50    21.20
         ================================================
         ID = 3 (9320):   278.74   1.542     8.00    18.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43   3.359     8.50    20.92
       + ID2= 2 (9320):   278.74   1.542     8.00    18.97
         ================================================
         ID = 3 (8332):   762.17   4.874     8.25    20.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   1.153 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  12.276
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.72          12.74
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        0.50           0.50
     Length            (m)=      532.04          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       55.44          46.55
               over (min)         15.00          30.00
     Storage Coeff.  (min)=       10.86 (ii)     25.38 (ii)
     Unit Hyd. Tpeak (min)=       15.00          30.00
     Unit Hyd. peak  (cms)=        0.08           0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=        2.48           0.74          2.941 (iii)
     TIME TO PEAK    (hrs)=        6.00           6.25           6.00
     RUNOFF VOLUME    (mm)=       40.00          16.78          27.46
     TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
     RUNOFF COEFFICIENT   =        0.95           0.40           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8400      1.3064
                          0.1440     0.7144   |   3.5660      1.4269
                          0.8230     0.8540   |   4.1520      1.5451
                          1.5320     0.9987   |   4.5520      1.5551
                          2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460      2.941      6.00      27.46
     OUTFLOW: ID= 1 (5314)     42.460      0.400      7.25      27.43

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.61
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7689

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--------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3142):   122.75   1.153     6.50    12.28
       + ID2= 2 (5314):    42.46   0.400     7.25    27.43
         ================================================
         ID = 3 (9314):   165.21   1.478     7.00    16.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3161.0) ------>
              Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
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              207.98        235.25        0.0310      Main Channel
              209.98        235.53        0.0310      Main Channel
              210.48        236.00    0.0310 /0.0350  Main Channel
              216.42        236.73        0.0350
              258.31        239.09        0.0350
              328.12        239.84        0.0350
              439.83        241.47        0.0350
              530.58        242.08        0.0350
              586.43        242.93        0.0350
              691.16        248.00        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   235.62    .215E+04        0.7         0.77      53.88
       0.75   236.00    .634E+04        3.5         1.36      30.45
       1.46   236.71    .297E+05       19.3         1.62      25.66
       2.16   237.41    .103E+06       75.8         1.84      22.60
       2.87   238.12    .229E+06      202.8         2.21      18.79
       3.57   238.82    .407E+06      423.3         2.59      16.03
       4.28   239.53    .654E+06      727.7         2.77      14.97
       4.99   240.24    .103E+07     1242.0         3.01      13.76
       5.69   240.94    .151E+07     2002.3         3.31      12.54
       6.40   241.65    .210E+07     2987.9         3.55      11.70
       7.10   242.35    .286E+07     4302.8         3.75      11.07
       7.81   243.06    .374E+07     6165.3         4.10      10.11
       8.51   243.76    .468E+07     8642.4         4.60       9.03
       9.22   244.47    .565E+07    11496.3         5.06       8.20
       9.93   245.18    .666E+07    14714.1         5.50       7.54
      10.63   245.88    .770E+07    18290.3         5.91       7.02
      11.34   246.59    .877E+07    22221.9         6.30       6.58
      12.04   247.29    .988E+07    26464.4         6.67       6.22
      12.75   248.00    .110E+08    31061.3         7.01       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     1.48    7.00  16.17      0.48      0.88
     OUTFLOW: ID= 1 (6316)  165.21     1.21    7.75  16.17      0.45      0.84


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   1.556 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  15.187
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.44        13.18
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     487.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        46.22
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.30 (ii)   24.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.02         0.77         2.508 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      40.00        19.50         28.52
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.46          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.3160      0.9307
                         0.0930     0.5020   |   2.9060      1.0021
                         0.5400     0.6637   |   3.5360      1.0731
                         1.1940     0.7495   |   3.9360      1.0831
                         1.6920     0.8359   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3161)     35.620      2.508      6.00      28.52
     OUTFLOW: ID= 1 (5316)     35.620      0.439      7.00      28.48

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.52
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6274

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   1.556     7.00    15.19
       + ID2= 2 (5316):    35.62   0.439     7.00    28.48
         ================================================
         ID = 3 (9316):   232.34   1.996     7.00    17.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   1.206     7.75    16.17
       + ID2= 2 (9316):   232.34   1.996     7.00    17.22
         ================================================
         ID = 3 (8338):   397.55   3.121     7.50    16.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   1.796 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.533
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   1.176 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=   7.070
     TOTAL RAINFALL   (mm)=  42.000
```

```
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   0.603 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.758
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0308):   529.30   1.176     8.50     7.07
       + ID2= 2 (0310):   138.28   0.603     7.00     7.76
         ================================================
         ID = 3 (8342):   667.58   1.702     8.00     7.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3121.0) ------>
               Distance      Elevation       Manning
                   0.00         265.94        0.0360
                  38.07         265.43        0.0360
                  59.82         263.98        0.0360
                 103.32         254.59        0.0360
                 157.70         252.16        0.0360
                 217.52         250.45        0.0360
                 233.84         247.69        0.0360
                 234.71         247.27        0.0360
                 239.71         246.38        0.0360
                 244.71         246.12    0.0360 /0.0330  Main Channel
                 247.71         245.17        0.0330      Main Channel
                 249.71         245.19        0.0330      Main Channel
                 251.71         245.64    0.0330 /0.0360  Main Channel
                 259.71         246.67        0.0360
                 282.78         247.12        0.0360
                 315.41         251.60        0.0360
                 424.17         256.13        0.0360
                 478.55         257.04        0.0360
                 516.62         259.37        0.0360
                 538.37         266.00        0.0360

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
        0.47   245.64    .111E+04         3.1          1.78        6.07
        1.54   246.71    .103E+05        53.9          3.39        3.19
        2.61   247.78    .414E+05       281.3          4.40        2.45
        3.68   248.85    .839E+05       749.1          5.79        1.87
        4.74   249.91    .136E+06      1463.2          6.97        1.55
        5.81   250.98    .201E+06      2354.8          7.61        1.42
        6.88   252.05    .295E+06      3533.0          7.76        1.39
        7.95   253.12    .427E+06      5303.9          8.05        1.34
        9.02   254.19    .594E+06      7856.5          8.58        1.26
       10.09   255.26    .792E+06     11449.2          9.37        1.15
       11.15   256.32    .101E+07     15862.4         10.15        1.06
       12.22   257.39    .127E+07     21074.5         10.75        1.01
       13.29   258.46    .155E+07     28184.1         11.78        0.92
       14.36   259.53    .185E+07     36386.2         12.77        0.85
       15.43   260.60    .215E+07     46110.6         13.89        0.78
       16.50   261.67    .246E+07     56822.5         14.95        0.72
       17.56   262.73    .278E+07     68498.1         15.97        0.68
       18.63   263.80    .310E+07     81118.8         16.94        0.64
       19.70   264.87    .344E+07     93603.2         17.66        0.61
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     1.70    8.00   7.21      0.26      1.78
     OUTFLOW: ID= 1 (6312)  667.58     1.70    8.00   7.21      0.26      1.78


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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   1.796     8.00    13.53
       + ID2= 2 (6312):   667.58   1.699     8.00     7.21
         ================================================
         ID = 3 (8340):  1027.02   3.494     8.00     9.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.55   3.121     7.50    16.79
       + ID2= 2 (8340):  1027.02   3.494     8.00     9.42
         ================================================
         ID = 3 (8336):  1424.57   6.538     7.50    11.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.17   4.874     8.25    20.21
       + ID2= 2 (8336):  1424.57   6.538     7.50    11.48
         ================================================
         ID = 3 (8330):  2186.74  11.309     8.00    14.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation       Manning
                  0.00         234.38        0.0360
                 33.57         232.48        0.0360
                 67.14         230.14        0.0360
                 83.93         228.80        0.0360
                134.29         227.62        0.0360
                209.82         225.10        0.0360
                218.21         224.86        0.0360
                226.61         224.47        0.0360
                234.00         223.86    0.0360 /0.0300  Main Channel
                234.10         223.66        0.0300      Main Channel
                235.00         223.66        0.0300      Main Channel
                235.90         223.66        0.0300      Main Channel
                236.00         223.86    0.0300 /0.0360  Main Channel
                243.39         224.92        0.0360
                251.78         224.89        0.0360
                335.71         225.64        0.0360
                562.32         226.53        0.0360
                637.85         228.36        0.0360
                705.00         229.80        0.0360
                830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.20   223.86    .145E+04         0.2          0.43      147.27
       0.73   224.39    .159E+05         2.8          0.68       93.11
       1.27   224.93    .561E+05        11.0          0.75       85.19
       1.80   225.46    .217E+06        45.6          0.80       79.20
       2.33   225.99    .566E+06       134.4          0.91       70.20
       2.87   226.53    .122E+07       338.1          1.06       59.97
```

```
       3.40   227.06    .206E+07     744.3          1.38      46.16
       3.94   227.60    .298E+07    1295.9          1.66      38.38
       4.47   228.13    .399E+07    1979.9          1.90      33.59
       5.00   228.66    .509E+07    2807.5          2.11      30.21
       5.54   229.20    .627E+07    3815.1          2.32      27.41
       6.07   229.73    .753E+07    4984.1          2.53      25.17
       6.60   230.26    .884E+07    6346.3          2.74      23.20
       7.14   230.80    .102E+08    7861.2          2.95      21.61
       7.67   231.33    .116E+08    9526.4          3.14      20.29
       8.21   231.87    .131E+08   11342.2          3.32      19.18
       8.74   232.40    .146E+08   13309.6          3.49      18.22
       9.27   232.93    .161E+08   15414.0          3.66      17.41
       9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.74    11.31    8.00  14.52      1.27      0.75
     OUTFLOW: ID= 1 (6324) 2186.74     9.41    9.50  14.52      1.16      0.73


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   2.290 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  12.941
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.308

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.06         7.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     299.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      55.44        26.32
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.69 (ii)   25.94 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.39         0.526 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      40.00        17.77        21.10
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.42         0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5324) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.9000      0.3505
                          0.0460     0.1645   |  1.1310      0.4008
                          0.2610     0.1903   |  1.3160      0.4499
                          0.4860     0.2456   |  1.7160      0.4599
                          0.6740     0.2932   |  0.0000      0.0000


                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3241)     13.460      0.526      6.00      21.10
     OUTFLOW: ID= 1 (5324)     13.460      0.114      7.25      21.03

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.64
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1732

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9324) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3242):   602.18   2.290     8.75     12.94
        + ID2= 2 (5324):    13.46   0.114     7.25     21.03
          ================================================
          ID = 3 (9324):   615.64   2.354     8.50     13.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6324):  2186.74   9.411     9.50     14.52
        + ID2= 2 (9324):   615.64   2.354     8.50     13.12
          ================================================
          ID = 3 (8328):  2802.38  11.718     9.50     14.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   2.099 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  13.561
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0322):   513.13   2.099     8.50     13.56
        + ID2= 2 (8328):  2802.38  11.718     9.50     14.21
          ================================================
          ID = 3 (8326):  3315.51  13.778     9.50     14.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0326):   678.91   2.547     9.00     13.57
        + ID2= 2 (8326):  3315.51  13.778     9.50     14.11
          ================================================
          ID = 3 (8324):  3994.42  16.316     9.50     14.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```
          <------ DATA FOR SECTION (3281.0) ------>
          Distance      Elevation       Manning
              0.00         228.00        0.0380
             18.58         224.97        0.0380
             78.98         223.52        0.0380
            125.44         223.28        0.0380
            171.90         221.71        0.0380
            213.72         219.65        0.0380
            218.36         219.40        0.0380
            223.01         219.19        0.0380
            225.95         219.14    0.0380 /0.0320  Main Channel
            226.45         218.14        0.0320      Main Channel
            236.95         218.14        0.0320      Main Channel
            245.85         218.14        0.0320      Main Channel
            245.95         219.14    0.0320 /0.0380  Main Channel
            246.24         219.16        0.0380
            250.88         219.24        0.0380
            255.53         219.39        0.0380
            325.22         221.47        0.0380
            367.03         223.14        0.0380
            404.20         225.17        0.0380
            459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   218.64    .373E+05       3.2         0.33     192.37
      1.00   219.14    .752E+05      10.1         0.51     124.71
      1.52   219.66    .149E+06      22.2         0.57     112.06
      2.04   220.18    .279E+06      43.4         0.59     107.06
      2.56   220.70    .464E+06      77.0         0.63     100.52
      3.08   221.22    .705E+06     125.7         0.68      93.56
      3.61   221.75    .100E+07     192.7         0.73      86.62
      4.13   222.27    .135E+07     278.1         0.79      80.92
      4.65   222.79    .176E+07     385.9         0.84      75.86
      5.17   223.31    .222E+07     514.9         0.89      71.82
      5.69   223.83    .280E+07     662.7         0.90      70.40
      6.21   224.35    .345E+07     867.7         0.96      66.35
      6.73   224.87    .417E+07    1107.0         1.01      62.81
      7.25   225.39    .494E+07    1400.0         1.08      58.80
      7.78   225.92    .573E+07    1732.2         1.15      55.17
      8.30   226.44    .655E+07    2099.9         1.22      52.02
      8.82   226.96    .740E+07    2502.8         1.29      49.29
      9.34   227.48    .828E+07    2940.9         1.36      46.90
      9.86   228.00    .918E+07    3414.3         1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.42    16.32    9.50  14.02      1.27      0.54
    OUTFLOW: ID= 1 (6328) 3994.42    13.67   11.25  14.02      1.16      0.53


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-------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   1.670    9.00    12.08
       + ID2= 2 (6328):  3994.42  13.669   11.25    14.02
         ================================================
         ID = 3 (8320):  4487.34  15.203   11.00    13.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.34  15.203   11.00    13.81
       + ID2= 2 (8322):   861.74   3.223    9.75    12.46
         ================================================
         ID = 3 (8318):  5349.08  18.289   10.75    13.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.16  19.104   14.50    10.09
       + ID2= 2 (8318):  5349.08  18.289   10.75    13.59
         ================================================
         ID = 3 (8316): 15408.24  34.763   12.75    11.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   0.341    8.00     6.27
       + ID2= 2 (8316): 15408.24  34.763   12.75    11.30
         ================================================
         ID = 3 (8312): 16028.34  35.069   12.75    11.11

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.91   8.998    6.25    17.06
       + ID2= 2 (8312): 16028.34  35.069   12.75    11.11
         ================================================
         ID = 3 (8308): 16627.25  36.062   12.25    11.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  *******     74.0090
                       66.5450    18.5023    |  *******    ********
                       98.5430    37.0045    |  *******    ********

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     36.062     12.25      11.32
    OUTFLOW: ID= 1 (5510)   ********     35.558     13.25      11.32

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.60
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  9.8897

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   1.223   22.50    10.07
       + ID2= 2 (5510): 16627.25  35.558   13.25    11.32
         ================================================
         ID = 3 (8240): 19412.25  36.601   13.25    11.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.19  14.957   12.25     6.51
       + ID2= 2 (8240): 19412.25  36.601   13.25    11.15
         ================================================
         ID = 3 (8238): 28936.44  51.353   13.00     9.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (3427) |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
```

```
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    112.23       137.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1289.44        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44        11.27
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     18.47 (ii)   44.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.40         2.18          9.251 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     40.00        10.21          20.04
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.24           0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4700      5.4211
                          0.8500     3.0375   |  16.6800      6.4838
                          4.8400     3.5126   |  20.9500      7.4161
                          9.0000     4.5390   |  24.3900      8.3284

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3427)    249.400      9.251      6.00      20.04
     OUTFLOW: ID= 1 (9425)    249.400      1.618      7.75      20.04

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.49
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.1322

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6600     12.0067
                          1.2080    11.1244   |   4.4200     12.4001
                          2.0570    11.3002   |   5.2300     12.7452
                          2.7240    11.3602   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9425)    249.400      1.618      7.75      20.04
     OUTFLOW: ID= 1 (5342)    249.400      0.296     21.75      20.03

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.32
                   TIME SHIFT OF PEAK FLOW         (min)=840.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.7302

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3422) |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   0.924 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   5.483
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3422):   755.17   0.924    10.25     5.48
        + ID2= 2 (5342):   249.40   0.296    21.75    20.03
          ================================================
          ID = 3 (9342):  1004.57   1.100    11.25     9.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8238): 28936.44  51.353    13.00     9.62
        + ID2= 2 (9342):  1004.57   1.100    11.25     9.09
          ================================================
          ID = 3 (8236): 29941.01  52.403    13.00     9.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8232):   285.79   4.643     6.00    16.97
        + ID2= 2 (8236): 29941.01  52.403    13.00     9.60
          ================================================
          ID = 3 (8234): 30226.80  52.798    12.75     9.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     60.43       128.41
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1122.02        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     55.44         4.48
               over (min)       15.00        60.00
     Storage Coeff.  (min)=     16.99 (ii)   54.05 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.07         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.81         0.88          5.059 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.75           6.00
     RUNOFF VOLUME    (mm)=     40.00         5.89          14.08
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.95         0.14           0.34


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     60.51        94.64
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1017.02        40.00
     Mannings n           =     0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      55.44         4.86
               over (min)        15.00        60.00
     Storage Coeff.  (min)=      16.01 (ii)   51.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.91         0.73         5.112 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.75          6.00
     RUNOFF VOLUME    (mm)=      40.00         6.15         15.97
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.15          0.38


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.6700      6.1252
                         0.3000     1.6125   |   3.3150      7.0314
                         0.8100     3.0036   |   3.8990      7.9700
                         1.4170     4.2559   |   4.2990      7.9800
                         1.8540     5.0526   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150      5.112      6.00      15.97
     OUTFLOW: ID= 1 (5344)    155.150      0.359      9.50      15.96

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.03
                  TIME SHIFT OF PEAK FLOW         (min)=210.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.7739

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-------------------
| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3442):   188.84   5.059     6.00    14.08
       + ID2= 2 (5344):   155.15   0.359     9.50    15.96
         ================================================
         ID = 3 (9344):   343.99   5.190     6.00    14.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8234): 30226.80  52.798    12.75     9.67
       + ID2= 2 (9344):   343.99   5.190     6.00    14.92
         ================================================
         ID = 3 (8230): 30570.79  53.191    12.75     9.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06   3.950     8.75     5.65
       + ID2= 2 (8230): 30570.79  53.191    12.75     9.73
         ================================================
         ID = 3 (8228): 32522.85  55.690    12.50     9.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   1.461     8.25     4.06
       + ID2= 2 (8228): 32522.85  55.690    12.50     9.49
         ================================================
         ID = 3 (8190): 33538.07  56.608    12.50     9.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   2 **
  ****************************


-------------------
|    READ STORM     |    Filename: C:\Users\amanlucu\AppD
|                   |              ata\Local\Temp\
|                   |              ab70bd54-a452-450c-b03c-83cdc4826a98\10083009
| Ptotal= 54.40 mm  |    Comments: 5-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.36 |  3.25    2.18 |  6.25    9.79 |  9.25    1.90
                0.50    1.36 |  3.50    2.18 |  6.50    9.79 |  9.50    1.90
                0.75    1.36 |  3.75    2.18 |  6.75    4.35 |  9.75    1.90
                1.00    1.36 |  4.00    2.18 |  7.00    4.35 | 10.00    1.90
                1.25    1.36 |  4.25    3.26 |  7.25    3.26 | 10.25    1.09
                1.50    1.36 |  4.50    3.26 |  7.50    3.26 | 10.50    1.09
                1.75    1.36 |  4.75    4.35 |  7.75    3.26 | 10.75    1.09
                2.00    1.36 |  5.00    4.35 |  8.00    3.26 | 11.00    1.09
                2.25    1.63 |  5.25    6.53 |  8.25    1.90 | 11.25    1.09
                2.50    1.63 |  5.50    6.53 |  8.50    1.90 | 11.50    1.09
                2.75    1.63 |  5.75   26.11 |  8.75    1.90 | 11.75    1.09
                3.00    1.63 |  6.00   71.81 |  9.00    1.90 | 12.00    1.09

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-------------------
| CALIB             |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   2.534 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.976
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.128

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   1.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.056
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   1.170 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=   7.450
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137
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     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   1.224 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=   7.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3501.0) ------>
               Distance      Elevation       Manning
                   0.00         287.00        0.0500
                  23.66         283.72        0.0500
                  70.98         280.94        0.0500
                 112.38         280.23        0.0500
                 171.52         276.80        0.0500
                 260.24         274.46        0.0500
                 266.16         274.26        0.0500
                 272.07         274.12        0.0500
                 276.49         274.12    0.0500 /0.0300  Main Channel
                 276.99         273.82        0.0300      Main Channel
                 277.99         273.82        0.0300      Main Channel
                 279.49         273.82        0.0300      Main Channel
                 280.49         274.27    0.0300 /0.0500  Main Channel
                 283.90         274.27        0.0500
                 289.81         274.57        0.0500
                 325.30         275.75        0.0500
                 396.28         278.98        0.0500
                 449.51         280.97        0.0500
                 496.83         283.90        0.0500
                 585.54         287.92        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.30   274.12    .273E+04       0.9         0.99      49.81
        0.98   274.80    .583E+05      20.8         1.05      46.71
        1.66   275.48    .203E+06      95.2         1.38      35.53
        2.33   276.15    .438E+06     256.0         1.73      28.50
        3.01   276.83    .755E+06     524.8         2.05      23.97
        3.69   277.51    .114E+07     935.8         2.43      20.26
        4.37   278.19    .157E+07    1472.0         2.76      17.82
        5.05   278.87    .206E+07    2140.7         3.06      16.06
        5.72   279.54    .261E+07    2938.6         3.33      14.79
        6.40   280.22    .321E+07    3887.6         3.57      13.77
        7.08   280.90    .390E+07    4795.4         3.63      13.56
        7.76   281.58    .468E+07    6196.2         3.91      12.58
        8.43   282.25    .550E+07    7803.9         4.19      11.74
        9.11   282.93    .637E+07    9601.9         4.45      11.05
        9.79   283.61    .728E+07   11594.8         4.70      10.46
       10.47   284.29    .823E+07   13845.3         4.96       9.91
       11.15   284.97    .922E+07   16293.4         5.21       9.43
       11.82   285.64    .103E+08   18952.0         5.45       9.02
       12.50   286.32    .113E+08   21824.3         5.69       8.65

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     1.22   9.25   7.49      0.31      0.99
     OUTFLOW: ID= 1 (6350)  590.18     1.20  10.25   7.49      0.31      0.99


-------------------------------------------------------------------------------
--------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0350):   366.84   1.170     7.75     7.45
        + ID2= 2 (6350):   590.18   1.197    10.25     7.49
          ================================================
          ID = 3 (8220):   957.02   2.179     8.75     7.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (3461) |   Area    (ha)=  33.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  38.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.51         13.11
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     473.43         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         53.28
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.13 (ii)    22.89 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.21          0.92          2.791 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40         21.82         33.44
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.96          0.40          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  69.8     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0090      0.6158
                          0.2450     0.2524   |   2.6260      0.6610
                          0.6230     0.3644   |   3.2370      0.7019
                          0.9920     0.4690   |   3.6370      0.7119
                          1.2510     0.5428   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3461)     33.620      2.791      6.00      33.44
     OUTFLOW: ID= 1 (5346)     33.620      0.994      6.50      33.43

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.62
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.4723

-------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   2.390 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.763
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.290

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (3462):   317.31   2.390     7.25    15.76
        + ID2= 2 (5346):    33.62   0.994     6.50    33.43
          ================================================
          ID = 3 (9346):   350.93   3.244     6.75    17.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8220):   957.02   2.179     8.75     7.47
        + ID2= 2 (9346):   350.93   3.244     6.75    17.46
          ================================================
          ID = 3 (8222):  1307.95   4.977     7.25    10.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3521.0) ------>
               Distance      Elevation       Manning
                   0.00         257.95        0.0500
                   7.83         257.34        0.0500
                  15.66         256.19        0.0500
                  21.53         254.01        0.0500
                  41.11         244.06        0.0500
                  76.35         241.38        0.0500
                 111.58         239.74        0.0500
                 113.54         239.61        0.0500
                 113.75         239.41    0.0500 /0.0300  Main Channel
                 113.85         238.81        0.0300      Main Channel
                 115.50         238.81        0.0300      Main Channel
                 116.15         238.81        0.0300      Main Channel
                 116.25         239.41        0.0300      Main Channel
                 117.46         239.52        0.0500
                 119.41         239.72        0.0500
                 121.37         240.04        0.0500
                 131.16         241.84        0.0500
                 156.61         247.03        0.0500
                 176.19         251.46        0.0500
                 193.80         258.79        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.60   239.41    .224E+04       2.2         1.52      17.12
        1.58   240.39    .216E+05      22.3         1.61      16.16
        2.55   241.36    .804E+05     101.0         1.96      13.27
        3.53   242.34    .173E+06     275.6         2.48      10.46
        4.50   243.31    .293E+06     553.9         2.95       8.80
        5.48   244.29    .438E+06     961.8         3.42       7.60
        6.45   245.26    .599E+06    1534.4         3.99       6.51
        7.43   246.24    .770E+06    2228.4         4.51       5.76
        8.41   247.22    .951E+06    3043.6         4.98       5.21
        9.38   248.19    .114E+07    3982.1         5.43       4.78
       10.36   249.17    .134E+07    5040.1         5.85       4.44
       11.33   250.14    .155E+07    6218.5         6.24       4.16
       12.31   251.12    .177E+07    7518.6         6.61       3.93
       13.29   252.10    .200E+07    8969.0         6.98       3.72
       14.26   253.07    .224E+07   10554.1         7.35       3.53
       15.24   254.05    .248E+07   12257.1         7.71       3.37
       16.21   255.02    .272E+07   14045.1         8.03       3.23
       17.19   256.00    .298E+07   15954.8         8.34       3.11
       18.16   256.97    .325E+07   17780.4         8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     4.98    7.25  10.15      0.74      1.53
     OUTFLOW: ID= 1 (6352) 1307.95     4.93    7.75  10.15      0.73      1.53


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| ADD HYD   (8224) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0352):   381.43   1.840     7.00     9.06
        + ID2= 2 (6352):  1307.95   4.929     7.75    10.15
          ================================================
          ID = 3 (8224):  1689.38   6.703     7.50     9.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3541.0) ------>
               Distance      Elevation       Manning
                   0.00         253.92        0.0500
                   7.95         251.83        0.0500
                  15.89         249.97        0.0500
                  19.87         249.05        0.0500
                  47.68         242.00        0.0500
                  67.55         237.10        0.0500
                  83.44         231.11        0.0500
                  85.43         230.75        0.0500
                  85.66         230.61    0.0500 /0.0300  Main Channel
                  85.76         230.01        0.0300      Main Channel
                  87.41         230.01        0.0300      Main Channel
                  88.06         230.01        0.0300      Main Channel
                  88.16         230.61    0.0300 /0.0500  Main Channel
                  89.40         230.72        0.0500
                  91.39         230.88        0.0500
                  93.37         231.03        0.0500
                 133.11         233.96        0.0500
                 150.99         235.39        0.0500
                 172.84         239.03        0.0500
                 196.68         250.00        0.0500

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.60   230.61    .451E+04       1.5         1.06      49.40
        1.62   231.63    .394E+05      14.6         1.16      45.13
        2.64   232.65    .128E+06      58.8         1.44      36.30
        3.66   233.67    .269E+06     149.7         1.74      30.00
        4.68   234.69    .463E+06     301.5         2.04      25.58
        5.70   235.71    .705E+06     530.5         2.36      22.14
        6.72   236.73    .980E+06     848.4         2.71      19.25
        7.74   237.75    .128E+07    1237.9         3.02      17.29
        8.76   238.77    .162E+07    1706.7         3.30      15.83
        9.78   239.79    .199E+07    2291.9         3.61      14.45
       10.81   240.82    .237E+07    2973.7         3.92      13.30
       11.83   241.84    .278E+07    3742.2         4.21      12.38
       12.85   242.86    .321E+07    4599.1         4.49      11.62
       13.87   243.88    .365E+07    5544.6         4.75      10.98
       14.89   244.90    .412E+07    6579.7         5.00      10.44
       15.91   245.92    .461E+07    7705.9         5.23       9.97
       16.93   246.94    .512E+07    8924.6         5.46       9.55
       17.95   247.96    .564E+07   10237.5         5.68       9.19
       18.97   248.98    .619E+07   11646.2         5.89       8.86

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8224) 1689.38     6.70    7.50   9.90      1.01      1.09
     OUTFLOW: ID= 1 (6354) 1689.38     6.15    8.75   9.90      0.96      1.09


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--------------------
| CALIB            |
| STANDHYD  (3541) |   Area    (ha)=   8.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.01          2.00
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      231.08         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81          4.66
               over (min)         15.00         45.00
     Storage Coeff.  (min)=        5.94 (ii)    42.42 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
```

```
     PEAK FLOW       (cms)=       1.06         0.02          1.066 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         5.78          38.41
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.11           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  35.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5354) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5360     0.2546
                         0.0270     0.1427   |   0.6730     0.2758
                         0.1550     0.1714   |   0.7830     0.2966
                         0.2890     0.1975   |   1.1830     0.3066
                         0.4010     0.2251   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3541)    8.010     1.066      6.00      38.41
     OUTFLOW: ID= 1 (5354)    8.010     0.230      6.25      38.25

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.54
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1863

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (3542) |   Area    (ha)= 254.67   Curve Number   (CN)= 36.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.174

     PEAK FLOW       (cms)=   0.451 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   4.974
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.091

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3542):   254.67   0.451     8.00     4.97
       + ID2= 2 (5354):     8.01   0.230     6.25    38.25
         ================================================
         ID = 3 (9354):   262.68   0.563     6.75     5.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6354):  1689.38   6.147     8.75     9.90
       + ID2= 2 (9354):   262.68   0.563     6.75     5.99
         ================================================
         ID = 3 (8226):  1952.06   6.641     8.50     9.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
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```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      63.86         74.97
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     962.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         11.66
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.97 (ii)    39.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.82          1.32          6.344 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40          9.82          21.74
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.18           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.24         61.72
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     989.81         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         15.65
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.21 (ii)    36.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.64          1.51          8.256 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         11.26          25.66
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.21           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  11.4780     4.3560
                         0.3860     2.0347   |  14.9940     4.9991
                         3.2310     2.5818   |  18.1680     5.6243
                         5.1770     3.1417   |  18.5680     5.6343
                         7.7590     3.6318   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)  146.960     8.256      6.00      25.66
     OUTFLOW: ID= 1 (5340)  146.960     1.670      7.00      25.65

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.22
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.2884

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| ADD HYD   (8232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   138.83   6.344     6.00    21.74
        + ID2= 2 (5340):   146.96   1.670     7.00    25.65
          ================================================
          ID = 3 (8232):   285.79   6.561     6.00    23.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.460 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   7.475
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   1.542 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  10.251
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.188

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   3.568 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  17.440
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.092 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  11.459
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.255 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   5.010
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   1.448 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.065
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   2.387 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.788
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3641) |   Area    (ha)=   7.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.53         4.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     228.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        13.04
               over (min)        15.00        45.00
     Storage Coeff.  (min)=       5.90 (ii)   30.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.10          0.277 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         9.59          16.44
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.18           0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
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```
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5250      0.2044
                         0.0270     0.0959   |   0.6590      0.2337
                         0.1520     0.1110   |   0.7670      0.2624
                         0.2830     0.1432   |   1.1670      0.2724
                         0.3930     0.1710   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850     0.277      6.00      16.44
     OUTFLOW: ID= 1 (5364)     7.850     0.024      8.50      16.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.70
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0857

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96       116.46
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     991.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         7.70
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.22 (ii)   44.05 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.53         1.27          2.031 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         7.46          10.60
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.14           0.19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3642):   147.42   2.031     6.00    10.60
       + ID2= 2 (5364):     7.85   0.024     8.50    16.33
         ================================================
         ID = 3 (9364):   155.27   2.040     6.00    10.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0366):   462.62   2.387     7.50    11.79
       + ID2= 2 (9364):   155.27   2.040     6.00    10.89
         ================================================
         ID = 3 (8302):   617.89   3.765     6.50    11.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   0.870 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   4.638
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   0.641 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   6.867
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   0.870     7.50     4.64
       + ID2= 2 (0360):   138.37   0.641     6.75     6.87
         ================================================
         ID = 3 (8306):   568.24   1.473     7.00     5.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                  0.00         261.46        0.0550
                 27.86         254.23        0.0550
                 51.07         251.96        0.0550
                 74.29         250.77        0.0550
                 97.50         249.91        0.0550
                125.36         249.40        0.0550
                150.93         247.40        0.0550
                155.93         247.33    0.0550 /0.0350  Main Channel
                157.93         246.85        0.0350      Main Channel
                159.18         246.65        0.0350      Main Channel
                160.18         246.63        0.0350      Main Channel
                160.93         246.85        0.0350      Main Channel
                161.93         247.18    0.0350 /0.0550  Main Channel
                163.18         248.03        0.0550
                168.18         248.58        0.0550
                183.18         250.18        0.0550
                201.97         252.59        0.0550
                213.57         256.02        0.0550
                225.18         260.31        0.0550
                229.82         261.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55   247.18    .556E+04       1.9         1.03       49.95
       1.28   247.91    .336E+05      16.7         1.53       33.61
       2.00   248.63    .913E+05      53.6         1.81       28.40
       2.73   249.36    .185E+06     122.3         2.05       25.18
       3.46   250.09    .344E+06     224.6         2.02       25.52
       4.19   250.82    .574E+06     417.9         2.25       22.91
       4.91   251.54    .855E+06     699.1         2.53       20.38
       5.64   252.27    .118E+07    1075.3         2.82       18.26
       6.37   253.00    .153E+07    1559.9         3.15       16.38
       7.10   253.73    .191E+07    2137.6         3.46       14.89
       7.82   254.45    .231E+07    2815.2         3.77       13.67
       8.55   255.18    .272E+07    3608.5         4.10       12.58
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      9.28   255.91    .315E+07    4488.2          4.41      11.69
     10.01   256.64    .358E+07    5458.0          4.71      10.95
     10.73   257.36    .403E+07    6512.4          4.99      10.32
     11.46   258.09    .449E+07    7649.8          5.27       9.78
     12.19   258.82    .496E+07    8869.5          5.53       9.32
     12.92   259.55    .544E+07   10171.2          5.78       8.91
     13.64   260.27    .593E+07   11554.8          6.02       8.55

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8306)  568.24     1.47    7.00   5.18      0.44      1.03
    OUTFLOW: ID= 1 (6362)  568.24     1.30    8.25   5.18      0.38      1.03


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-------------------
| CALIB           |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       5.34         6.53
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     281.31        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      71.81        14.02
              over (min)        15.00        45.00
    Storage Coeff.  (min)=       6.68 (ii)   30.15 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.37         0.16        0.438 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      52.40        10.39        17.53
    TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
    RUNOFF COEFFICIENT   =       0.96         0.19         0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7940      0.3091
                         0.0400     0.1451   |   0.9970      0.3534
                         0.2300     0.1678   |   1.1610      0.3968
                         0.4280     0.2166   |   1.5610      0.4068
                         0.5940     0.2586   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3621)     11.870      0.438      6.00      17.53
    OUTFLOW: ID= 1 (5362)     11.870      0.038      8.50      17.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.73
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1389

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-------------------
| CALIB           |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      25.66        81.25
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     844.24        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      71.81         8.81
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      12.91 (ii)   41.18 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       1.49         1.05        1.900 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      52.40         8.34        12.31
    TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
    RUNOFF COEFFICIENT   =       0.96         0.15         0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9362) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3622):   106.91   1.900     6.00    12.31
       + ID2= 2 (5362):    11.87   0.038     8.50    17.46
         ================================================
         ID = 3 (9362):   118.78   1.915     6.00    12.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6362):   568.24   1.303     8.25     5.18
       + ID2= 2 (9362):   118.78   1.915     6.00    12.82
         ================================================
         ID = 3 (8304):   687.02   2.105     6.50     6.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   3.765     6.50    11.56
       + ID2= 2 (8304):   687.02   2.105     6.50     6.50
         ================================================
         ID = 3 (8300):  1304.91   5.871     6.50     8.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3681.0) ------>
              Distance      Elevation       Manning
                 0.00         230.00        0.0370
                18.48         223.26        0.0370
                36.96         223.05        0.0370
                64.67         222.94        0.0370
               110.87         222.86        0.0370
               133.96         222.74        0.0370
               147.82         222.65        0.0370
               170.92         222.31        0.0370
               174.79         222.26    0.0370 /0.0300  Main Channel
               174.89         221.86        0.0300      Main Channel
               175.54         221.86        0.0300      Main Channel
               176.19         221.86        0.0300      Main Channel
               176.29         222.26    0.0300 /0.0370  Main Channel
               180.16         222.25        0.0370
               184.78         222.28        0.0370
               189.40         222.31        0.0370
```

```
            332.60        222.37        0.0370
            450.00        230.00        0.0370

   <---------- TRAVEL TIME TABLE ---------->
    DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
     (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
    0.40   222.26    .771E+03        0.3         0.52      41.74
    0.81   222.67    .784E+05       30.3         0.51      43.17
    1.21   223.07    .210E+06      123.2         0.77      28.42
    1.62   223.48    .384E+06      301.0         1.03      21.25
    2.03   223.89    .563E+06      550.2         1.28      17.06
    2.44   224.30    .747E+06      860.7         1.51      14.46
    2.84   224.70    .934E+06     1228.1         1.73      12.68
    3.25   225.11    .113E+07     1649.3         1.92      11.37
    3.66   225.52    .132E+07     2122.3         2.11      10.37
    4.07   225.93    .152E+07     2645.5         2.29       9.58
    4.47   226.33    .172E+07     3217.8         2.45       8.92
    4.88   226.74    .193E+07     3838.3         2.61       8.38
    5.29   227.15    .214E+07     4506.3         2.76       7.92
    5.70   227.56    .236E+07     5221.3         2.91       7.52
    6.10   227.96    .258E+07     5983.0         3.05       7.17
    6.51   228.37    .280E+07     6790.9         3.19       6.87
    6.92   228.78    .303E+07     7645.0         3.32       6.60
    7.33   229.19    .326E+07     8545.1         3.45       6.35
    7.73   229.59    .349E+07     9491.0         3.57       6.13

                             <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91     5.87    6.50   8.90      0.48      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     4.88    7.75   8.90      0.46      0.52


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-------------------
| CALIB           |
| STANDHYD  (3681) |   Area    (ha)=   2.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.33         1.62
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    140.24        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        12.31
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      4.40 (ii)   29.13 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.09         0.04        0.109 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     52.40         8.98        15.48
     TOTAL RAINFALL   (mm)=     54.40        54.40        54.40
     RUNOFF COEFFICIENT   =      0.96         0.17         0.28

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  40.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5368) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1970     0.0767
                         0.0100     0.0360   |   0.2470     0.0877
                         0.0570     0.0416   |   0.2880     0.0984
                         0.1060     0.0537   |   0.6880     0.1084
                         0.1470     0.0642   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3681)     2.950     0.109      6.00      15.48
     OUTFLOW: ID= 1 (5368)     2.950     0.008      8.50      15.18


                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.76
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0306

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3682) |   Area    (ha)= 156.53   Curve Number   (CN)= 45.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   2.778

     PEAK FLOW       (cms)=   0.503 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.921
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.127

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (9368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3682):   156.53   0.503     7.25     6.92
        + ID2= 2 (5368):     2.95   0.008     8.50    15.18
          ================================================
          ID = 3 (9368):   159.48   0.511     7.25     7.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6368):  1304.91   4.883     7.75     8.90
        + ID2= 2 (9368):   159.48   0.511     7.25     7.07
          ================================================
          ID = 3 (8298):  1464.39   5.390     7.75     8.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0370):   191.85   1.448     6.75    12.06
        + ID2= 2 (8298):  1464.39   5.390     7.75     8.70
          ================================================
          ID = 3 (8296):  1656.24   6.710     7.50     9.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3721.0) ------>
               Distance      Elevation       Manning
                   0.00         225.00        0.0390
                  30.80         219.38        0.0390
                  61.61         219.30        0.0390
                  77.01         219.27        0.0390
                 469.76         219.14        0.0390
                 477.46         219.13        0.0390
                 485.16         219.10        0.0390
                 492.86         219.09        0.0390
                 495.56         219.09    0.0390 /0.0310  Main Channel
                 495.66         218.51        0.0310      Main Channel
                 500.56         218.51        0.0310      Main Channel
                 505.46         218.51        0.0310      Main Channel
                 505.56         219.09    0.0310 /0.0390  Main Channel
                 508.26         219.09        0.0390
                 515.96         219.10        0.0390
                 523.67         219.21        0.0390
```

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            562.17        219.32        0.0390
            654.58        219.43        0.0390
            731.59        219.46        0.0390
            762.39        225.00        0.0390

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.29   218.80    .431E+04       1.7         0.58      43.48
      0.58   219.09    .867E+04       5.1         0.89      28.32
      0.93   219.44    .200E+06      58.2         0.44      57.35
      1.28   219.79    .568E+06     278.6         0.74      33.99
      1.62   220.13    .939E+06     630.2         1.01      24.84
      1.97   220.48    .131E+07    1090.4         1.25      20.05
      2.32   220.83    .169E+07    1647.7         1.47      17.06
      2.67   221.18    .206E+07    2294.6         1.68      14.99
      3.01   221.52    .244E+07    3025.6         1.87      13.46
      3.36   221.87    .282E+07    3836.5         2.05      12.27
      3.71   222.22    .321E+07    4723.7         2.22      11.31
      4.06   222.57    .359E+07    5684.6         2.39      10.53
      4.40   222.91    .398E+07    6716.6         2.55       9.87
      4.75   223.26    .437E+07    7817.7         2.70       9.31
      5.10   223.61    .476E+07    8986.2         2.85       8.83
      5.45   223.96    .515E+07   10220.4         2.99       8.40
      5.79   224.30    .555E+07   11519.1         3.13       8.03
      6.14   224.65    .594E+07   12880.8         3.27       7.69
      6.49   225.00    .634E+07   14304.5         3.40       7.39

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24     6.71    7.50   9.09      0.59      0.86
     OUTFLOW: ID= 1 (6372) 1656.24     6.48    8.25   9.09      0.59      0.87


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--------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0372):   110.42   0.255     7.50     5.01
        + ID2= 2 (6372):  1656.24   6.484     8.25     9.09
          ================================================
          ID = 3 (8294):  1766.66   6.731     8.00     8.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0374):   545.70   2.092     8.25    11.46
        + ID2= 2 (8294):  1766.66   6.731     8.00     8.83
          ================================================
          ID = 3 (8292):  2312.36   8.818     8.25     9.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  65.1290    345.3754
                          25.4850    24.6697   |  84.9510    456.3890
                          31.1490    98.6787   |  *******    838.7689
                          39.6440    *******   |  *******    838.7789
                          48.1390    *******   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     8.818      8.25       9.45
     OUTFLOW: ID= 1 (5505)   2312.360     6.272     10.75       9.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.13
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.0742

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--------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0376):   463.85   3.568     7.50    17.44
        + ID2= 2 (5505):  2312.36   6.272    10.75     9.45
          ================================================
          ID = 3 (8272):  2776.21   8.743    10.00    10.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   1.961 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.789
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   1.379 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   8.784
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   1.700 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.400
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   1.051 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.350
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   1.360 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.386
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   1.360     7.25    11.39
       + ID2= 2 (0388):   220.77   1.051     7.50    10.35
         ================================================
         ID = 3 (8286):   462.04   2.411     7.25    10.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.598 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.477
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.119

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.715 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   5.531
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.102

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.712
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.715     6.50     5.53
       + ID2= 2 (0382):   216.59   1.207     6.75     8.71
         ================================================
         ID = 3 (8290):   398.60   1.920     6.75     7.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30        0.0300      Main Channel
                79.39         279.30        0.0300      Main Channel
                79.64         279.30        0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.34   279.64    .715E+03       0.2          0.85       63.42
       1.10   280.40    .507E+05      21.9          1.40       38.54
       1.85   281.15    .141E+06      91.8          2.10       25.69
       2.61   281.91    .269E+06     218.9          2.63       20.46
       3.36   282.66    .445E+06     407.1          2.96       18.23
       4.12   283.42    .681E+06     698.3          3.31       16.26
       4.87   284.17    .977E+06    1111.8          3.68       14.65
       5.63   284.93    .133E+07    1674.3          4.06       13.27
       6.39   285.69    .173E+07    2457.8          4.59       11.73
       7.14   286.44    .215E+07    3378.8          5.07       10.63
       7.90   287.20    .261E+07    4418.4          5.47        9.85
       8.65   287.95    .310E+07    5676.3          5.92        9.11
       9.41   288.71    .361E+07    7150.5          6.40        8.42
      10.17   289.47    .414E+07    8783.1          6.86        7.86
      10.92   290.22    .469E+07   10575.1          7.30        7.38
      11.68   290.98    .525E+07   12520.4          7.72        6.98
      12.43   291.73    .582E+07   14619.0          8.12        6.64
      13.19   292.49    .642E+07   16863.2          8.50        6.34
      13.94   293.24    .703E+07   19259.8          8.86        6.08

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     1.92    6.75   7.26      0.40      0.88
     OUTFLOW: ID= 1 (6384)  398.60     1.50    8.00   7.26      0.39      0.87

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--------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   0.598     7.25     6.48
       + ID2= 2 (6384):   398.60   1.505     8.00     7.26
         ================================================
         ID = 3 (8288):   597.67   2.089     8.00     7.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   2.411     7.25    10.89
       + ID2= 2 (8288):   597.67   2.089     8.00     7.00
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          ================================================
          ID = 3 (8284):  1059.71   4.450     7.75     8.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0390):   420.00   1.700     7.50     9.40
        + ID2= 2 (8284):  1059.71   4.450     7.75     8.70
          ================================================
          ID = 3 (8280):  1479.71   6.150     7.75     8.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   1.133 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.712
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   2.295 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   9.412
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0378):   606.72   2.295     8.00     9.41
        + ID2= 2 (0392):   167.22   1.133     7.00    11.71
          ================================================
          ID = 3 (8282):   773.94   3.350     7.50     9.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8280):  1479.71   6.150     7.75     8.90
        + ID2= 2 (8282):   773.94   3.350     7.50     9.91
          ================================================
          ID = 3 (8278):  2253.65   9.491     7.50     9.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3941.0) ------>
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```
                Distance      Elevation       Manning
                   0.00         283.00        0.0380
                  13.48         282.87        0.0380
                  53.92         280.08        0.0380
                  74.13         276.62        0.0380
                  97.72         265.45        0.0380
                 114.57         256.93        0.0380
                 131.42         253.04        0.0380
                 134.79         252.58        0.0380
                 138.53         251.74    0.0380 /0.0300  Main Channel
                 139.03         251.20        0.0300      Main Channel
                 141.53         251.20        0.0300      Main Channel
                 144.03         251.20        0.0300      Main Channel
                 144.53         251.74    0.0300 /0.0380  Main Channel
                 148.27         252.69        0.0380
                 151.64         252.97        0.0380
                 185.34         255.08        0.0380
                 219.03         257.54        0.0380
                 262.84         259.43        0.0380
                 310.02         262.80        0.0380
                 333.60         283.00        0.0380

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.54   251.74    .827E+04       4.5         1.51       30.71
        2.19   253.39    .758E+05      73.2         2.69       17.27
        3.83   255.03    .282E+06     331.8         3.27       14.17
        5.48   256.68    .633E+06     917.3         4.03       11.51
        7.12   258.32    .112E+07    1889.5         4.69        9.90
        8.77   259.97    .179E+07    3410.2         5.31        8.73
       10.41   261.61    .259E+07    5627.6         6.05        7.66
       12.06   263.26    .351E+07    8605.1         6.83        6.79
       13.70   264.90    .447E+07   12544.9         7.81        5.94
       15.35   266.55    .546E+07   17101.4         8.71        5.32
       16.99   268.19    .648E+07   22251.7         9.56        4.85
       18.64   269.84    .752E+07   27979.0        10.36        4.48
       20.28   271.48    .858E+07   34269.0        11.11        4.17
       21.93   273.13    .967E+07   41110.8        11.83        3.92
       23.57   274.77    .108E+08   48495.9        12.51        3.71
       25.22   276.42    .119E+08   56418.1        13.17        3.52
       26.86   278.06    .131E+08   64410.6        13.69        3.39
       28.51   279.71    .143E+08   73002.1        14.18        3.27
       30.15   281.35    .156E+08   81379.3        14.50        3.20

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65     9.49    7.50   9.24      0.66      1.56
    OUTFLOW: ID= 1 (6394) 2253.65     9.22    8.25   9.24      0.65      1.56

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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0394):   325.45   1.379     7.25     8.78
        + ID2= 2 (6394):  2253.65   9.215     8.25     9.24
          ================================================
          ID = 3 (8276):  2579.10  10.506     8.00     9.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3961.0) ------>
               Distance      Elevation       Manning
                  0.00         263.00        0.0410
                 11.75         257.14        0.0410
                 23.50         253.97        0.0410
                 41.13         247.83        0.0410
                 76.38         232.09        0.0410
                135.13         229.07        0.0410
                149.82         228.97        0.0410
                152.75         228.96    0.0410 /0.0300  Main Channel
                154.19         228.73        0.0300      Main Channel
                154.69         228.20        0.0300      Main Channel
                155.69         228.20        0.0300      Main Channel
                156.69         228.20        0.0300      Main Channel
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            157.19        228.73        0.0300      Main Channel
            158.63        228.95    0.0300 /0.0410  Main Channel
            161.57        228.96        0.0410
            164.51        229.71        0.0410
            196.82        241.70        0.0410
            223.26        249.21        0.0410
            246.76        255.13        0.0410
            290.82        263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   228.95    .780E+04       2.2          0.98      58.06
       2.54   230.74    .277E+06     145.1          1.78      31.76
       4.33   232.53    .786E+06     609.1          2.63      21.50
       6.13   234.33    .140E+07    1481.5          3.59      15.77
       7.92   236.12    .207E+07    2677.3          4.39      12.90
       9.71   237.91    .280E+07    4184.8          5.09      11.14
      11.50   239.70    .357E+07    6001.4          5.71       9.93
      13.29   241.49    .441E+07    8129.1          6.27       9.03
      15.09   243.29    .530E+07   10549.4          6.77       8.37
      16.88   245.08    .625E+07   13300.6          7.24       7.83
      18.67   246.87    .726E+07   16396.2          7.68       7.38
      20.46   248.66    .834E+07   19809.8          8.07       7.02
      22.26   250.46    .949E+07   23532.5          8.43       6.72
      24.05   252.25    .107E+08   27641.2          8.77       6.46
      25.84   254.04    .120E+08   32155.2          9.10       6.22
      27.63   255.83    .134E+08   36901.0          9.37       6.05
      29.42   257.62    .149E+08   42147.7          9.64       5.88
      31.22   259.42    .164E+08   48149.1          9.97       5.68
      33.01   261.21    .181E+08   54644.8         10.29       5.51

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10    10.51    8.00   9.19      0.85      1.00
     OUTFLOW: ID= 1 (6396) 2579.10     9.52    9.25   9.19      0.84      1.00


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------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   1.961     7.50    14.79
       + ID2= 2 (6396):  2579.10   9.515     9.25     9.19
         ================================================
         ID = 3 (8274):  2884.31  11.197     9.00     9.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21   8.743    10.00    10.79
       + ID2= 2 (8274):  2884.31  11.197     9.00     9.78
         ================================================
         ID = 3 (8270):  5660.52  19.715     9.25    10.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     19.715      9.25      10.27
     OUTFLOW: ID= 1 (5506)   5660.520     16.265     11.75      10.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.50
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 12.8857
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------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.319 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.237
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.243

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   0.810 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   7.191
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.206 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.417
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.675 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.305
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   1.617 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   9.360
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.172
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8268)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0398):	328.19	1.617	7.00	9.36
	+ ID2= 2 (0400):	93.97	0.675	6.50	8.30
	ID = 3 (8268):	422.16	2.224	6.75	9.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6402)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (4021.0) ------>

Distance	Elevation	Manning	
0.00	238.50	0.0360	
11.50	238.00	0.0360	
23.00	237.93	0.0360	
34.49	236.39	0.0360	
63.24	233.98	0.0360	
97.73	228.15	0.0360	
123.60	227.08	0.0360	
126.48	226.61	0.0360	
127.60	226.47	0.0360 /0.0330	Main Channel
127.85	225.25	0.0330	Main Channel
129.35	225.25	0.0330	Main Channel
130.85	225.25	0.0330	Main Channel
131.10	226.47	0.0330 /0.0360	Main Channel
132.22	226.59	0.0360	
143.72	227.42	0.0360	
169.59	227.88	0.0360	
192.59	231.19	0.0360	
218.46	233.02	0.0360	
241.45	235.50	0.0360	
284.57	236.43	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	225.66	.391E+04	1.7	1.36	38.31
0.81	226.06	.804E+04	5.0	1.93	27.02
1.22	226.47	.124E+05	9.1	2.30	22.61
1.84	227.09	.308E+05	23.3	2.36	22.03
2.46	227.71	.904E+05	62.0	2.14	24.31
3.09	228.34	.223E+06	188.3	2.63	19.75
3.71	228.96	.379E+06	410.2	3.38	15.39
4.33	229.58	.550E+06	711.5	4.04	12.89
4.95	230.20	.737E+06	1091.3	4.62	11.25
5.58	230.83	.939E+06	1550.6	5.15	10.10
6.20	231.45	.116E+07	2072.4	5.59	9.31
6.82	232.07	.140E+07	2659.2	5.93	8.77
7.44	232.69	.167E+07	3345.8	6.27	8.30
8.07	233.32	.195E+07	4159.0	6.64	7.83
8.69	233.94	.226E+07	5100.8	7.03	7.39
9.31	234.56	.259E+07	6081.3	7.32	7.11
9.93	235.18	.295E+07	7183.1	7.60	6.84
10.56	235.81	.334E+07	8145.2	7.62	6.83
11.18	236.43	.379E+07	9116.0	7.51	6.92

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8268)	422.16	2.22	6.75	9.12	0.47	1.43
OUTFLOW:	ID= 1 (6402)	422.16	2.00	7.75	9.12	0.44	1.39

ADD HYD (8266)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0402):	244.00	1.206	7.50	11.42
	+ ID2= 2 (6402):	422.16	1.996	7.75	9.12
	ID = 3 (8266):	666.16	3.200	7.75	9.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8264)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0404):	246.46	0.810	7.50	7.19
	+ ID2= 2 (8266):	666.16	3.200	7.75	9.96
	ID = 3 (8264):	912.62	4.005	7.75	9.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8262)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0406):	142.65	1.319	6.75	13.24
	+ ID2= 2 (8264):	912.62	4.005	7.75	9.22
	ID = 3 (8262):	1055.27	5.146	7.25	9.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (5506):	5660.52	16.265	11.75	10.27
	+ ID2= 2 (8262):	1055.27	5.146	7.25	9.76
	ID = 3 (8260):	6715.79	18.663	11.25	10.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8258)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0408):	231.62	1.542	6.75	10.25
	+ ID2= 2 (8260):	6715.79	18.663	11.25	10.19
	ID = 3 (8258):	6947.41	19.154	11.00	10.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8256)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0410):	572.01	1.460	8.25	7.48
	+ ID2= 2 (8258):	6947.41	19.154	11.00	10.19
	ID = 3 (8256):	7519.42	20.346	10.75	9.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5507)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	90.6140	67.8416
39.6440	12.3348	*******	160.3529
48.1390	18.5023	*******	160.3629
67.9600	37.0045	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (8256)	7519.421	20.346	10.75	9.99
OUTFLOW:	ID= 1 (5507)	7519.421	19.905	11.75	9.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.84

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                  TIME SHIFT OF PEAK FLOW        (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.1970

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--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   0.822 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.762
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)= 156.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      81.49         75.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1022.15         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         51.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.48 (ii)    28.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.85          4.61          7.731 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         20.60          27.28
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.38           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4144) |   Area    (ha)=   2.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.63          1.47
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     118.32         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         49.61
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       3.97 (ii)    18.13 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.11          0.113 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=      52.40         24.76          27.52
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.46           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9429) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1000      0.0386
                          0.0100     0.0195   |   0.1400      0.0480
                          0.0400     0.0218   |   0.1700      0.0569
                          0.0700     0.0312   |   0.2000      0.0655

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4144)      2.100      0.113      6.25      27.52
     OUTFLOW: ID= 1 (9429)      2.100      0.053      6.75      27.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.76
                TIME SHIFT OF PEAK FLOW        (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0262

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--------------------
| ADD HYD   (9424) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4141):   156.72   7.731     6.00    27.28
       + ID2= 2 (9429):     2.10   0.053     6.75    27.30
         ================================================
         ID = 3 (9424):   158.82   7.737     6.00    27.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.7060      4.4896
                          0.1870     1.6651   |   5.4940      5.4773
                          2.0210     2.0447   |   6.0800      6.4738
                          2.9590     2.4658   |   6.4800      6.4838
                          3.7490     3.5575   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9424)    158.820      7.737      6.00      27.28
     OUTFLOW: ID= 1 (5414)    158.820      2.545      7.00      27.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.89
                TIME SHIFT OF PEAK FLOW        (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.2825

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15         13.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     440.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         51.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.74 (ii)    22.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.07          0.96          1.675 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         20.60          27.28
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.38           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   1.675     6.00    27.28
       + ID2= 2 (5414):   158.82   2.545     7.00    27.26
         ================================================
         ID = 3 (8254):   187.96   3.020     6.75    27.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4121) |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90       111.10
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1160.46        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        17.38
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.63 (ii)   37.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.61         2.99          5.830 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        12.58         18.95
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.23          0.35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.5000     1.0500
                          0.3860     0.5085   |   7.9000     1.1500
                          1.8460     0.6103   |   9.3000     1.2500
                          3.5050     0.7566   |   9.7000     1.2600
                          4.7890     0.8929   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4121)    202.000     5.830      6.00      18.95
     OUTFLOW: ID= 1 (5412)    202.000     4.284      6.50      18.95

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.48
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8453

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--------------------
| CALIB            |
| STANDHYD  (4122) |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.12        13.58
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     494.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        51.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.37 (ii)   23.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.39         0.92          1.959 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        16.36         24.29
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.30          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   1.959     6.00    24.29
       + ID2= 2 (5412):   202.00   4.284     6.50    18.95
         ================================================
         ID = 3 (9412):   238.70   5.407     6.25    19.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   3.020     6.75    27.27
       + ID2= 2 (9412):   238.70   5.407     6.25    19.77
         ================================================
         ID = 3 (8252):   426.66   8.117     6.50    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4161.0) ------>
               Distance      Elevation       Manning
                   0.00         270.07        0.0340
                  20.67         267.91        0.0340
                  62.01         264.33        0.0340
                 113.69         259.75        0.0340
                 165.37         253.30        0.0340
                 227.38         246.29        0.0340
                 232.55         246.03        0.0340
                 237.72         246.16        0.0340
                 241.39         246.02    0.0340 /0.0300  Main Channel
                 241.64         245.75        0.0300      Main Channel
                 242.89         245.75        0.0300      Main Channel
                 244.14         245.75        0.0300      Main Channel
                 244.39         246.02    0.0300 /0.0340  Main Channel
                 248.06         246.20        0.0340
                 253.22         246.28        0.0340
                 258.39         246.63        0.0340
                 346.25         252.57        0.0340
                 413.43         257.77        0.0340
                 465.11         261.78        0.0340
                 511.62         270.00        0.0340

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   246.02    .295E+04       0.6         0.75       88.26
       1.53   247.28    .168E+06      69.7         1.65       40.13
       2.79   248.54    .490E+06     299.5         2.42       27.28
```

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       4.06   249.81    .962E+06     740.1          3.05      21.67
       5.32   251.07    .158E+07    1440.0          3.61      18.33
       6.58   252.33    .235E+07    2443.8          4.12      16.06
       7.84   253.59    .327E+07    3811.2          4.63      14.30
       9.10   254.85    .432E+07    5565.1          5.11      12.94
      10.37   256.12    .550E+07    7721.3          5.57      11.88
      11.63   257.38    .682E+07   10309.9          6.00      11.02
      12.89   258.64    .827E+07   13360.6          6.42      10.31
      14.15   259.90    .985E+07   16884.5          6.81       9.72
      15.42   261.17    .116E+08   20818.4          7.14       9.26
      16.68   262.43    .134E+08   25510.4          7.53       8.78
      17.94   263.69    .154E+08   30958.0          7.97       8.30
      19.20   264.95    .175E+08   36988.3          8.38       7.89
      20.46   266.21    .197E+08   43617.1          8.78       7.53
      21.73   267.48    .220E+08   50868.1          9.17       7.22
      22.99   268.74    .244E+08   58854.0          9.56       6.92

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8252)  426.66     8.12    6.50  23.07      0.41      0.80
    OUTFLOW: ID= 1 (6416)  426.66     4.60    7.50  23.07      0.34      0.77


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--------------------
| CALIB            |
| NASHYD    (4164) |   Area    (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.169 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.827
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.4700      2.5000
                          0.9000     1.0000   |   5.9800      3.0000
                          1.7300     1.5000   |   7.5000      3.5000
                          3.2200     2.0000   |   8.7400      4.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4164)     89.300      1.169      7.50      18.83
     OUTFLOW: ID= 1 (9427)     89.300      0.616      9.50      18.82

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.71
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6857

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--------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5980      0.7565
                          0.0330     0.3532   |   1.8570      0.8137
                          0.7450     0.4481   |   2.0990      0.8707
                          1.0270     0.5154   |   2.4990      0.8807
                          1.3050     0.6350   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      0.616      9.50      18.82
     OUTFLOW: ID= 1 (5416)     89.300      0.593     10.50      18.79

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.28
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4281

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| CALIB            |
| NASHYD    (4162) |   Area    (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   1.536 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  11.553
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9416) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4162):   349.99   1.536     8.00    11.55
        + ID2= 2 (5416):    89.30   0.593    10.50    18.79
          ================================================
          ID = 3 (9416):   439.29   1.882    10.00    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6416):   426.66   4.601     7.50    23.07
        + ID2= 2 (9416):   439.29   1.882    10.00    13.02
          ================================================
          ID = 3 (8250):   865.95   6.117     7.75    17.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.825

     PEAK FLOW       (cms)=   0.966 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.572
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.231

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.61          6.09
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     240.83         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         25.10
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.08 (ii)    24.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.16          0.32          0.361 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40         20.65         23.82
     TOTAL RAINFALL   (mm)=      54.40         54.40         54.40
     RUNOFF COEFFICIENT   =       0.96          0.38          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4300      0.1618
                         0.0300     0.0818   |   0.5800      0.2012
                         0.1700     0.0912   |   0.7300      0.2384
                         0.3100     0.1306   |   0.8500      0.2747

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4184)     8.700      0.361      6.00      23.82
     OUTFLOW: ID= 1 (9428)     8.700      0.179      6.75      23.74

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.69
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0939

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| ADD HYD   (9423) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9418):   174.09   0.966     7.50    12.57
       + ID2= 2 (9428):     8.70   0.179     6.75    23.74
         ================================================
         ID = 3 (9423):   182.79   1.114     7.00    13.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8250):   865.95   6.117     7.75    17.98
       + ID2= 2 (9423):   182.79   1.114     7.00    13.10
         ================================================
         ID = 3 (8248):  1048.74   7.172     7.50    17.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8246) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   0.822     7.00     8.76
       + ID2= 2 (8248):  1048.74   7.172     7.50    17.13
         ================================================
         ID = 3 (8246):  1224.56   7.973     7.50    15.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  19.905    11.75     9.99
       + ID2= 2 (8246):  1224.56   7.973     7.50    15.93
         ================================================
         ID = 3 (8244):  8743.98  24.107    11.00    10.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (4227) |   Area    (ha)=  66.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  15.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.37         47.43
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     667.33         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         11.70
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.21 (ii)    36.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.63          0.87          1.974 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.00
     RUNOFF VOLUME    (mm)=      52.40         10.92          17.14
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.20           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9426) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3400      1.2303
                         0.2300     0.6171   |   4.4700      1.5350
                         1.3000     0.6860   |   5.6100      1.8228
                         2.4100     0.9909   |   6.5300      2.1041

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4227)     66.800      1.974      6.00      17.14
     OUTFLOW: ID= 1 (9426)     66.800      0.512      7.50      17.13

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.93
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6373

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-------------------
| RESERVOIR (5422) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.3110      2.6782
                         0.2180     1.7874   |   5.4130      2.9186
                         1.2490     1.9110   |   6.3010      3.1540
                         2.3250     2.1760   |   6.7010      3.1640
                         3.2250     2.4038   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9426)     66.800      0.512      7.50      17.13
     OUTFLOW: ID= 1 (5422)     66.800      0.080     19.00      17.10

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.70
                  TIME SHIFT OF PEAK FLOW         (min)=690.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6589

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-------------------
| CALIB            |
| NASHYD    (4222) |   Area    (ha)= 713.41   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.252

     PEAK FLOW       (cms)=   1.787 (i)
     TIME TO PEAK    (hrs)=   9.250
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     RUNOFF VOLUME    (mm)=   9.147
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.168

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9422) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4222):   713.41   1.787     9.25     9.15
       + ID2= 2 (5422):    66.80   0.080    19.00    17.10
         ================================================
         ID = 3 (9422):   780.21   1.829     9.25     9.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8244):  8743.98  24.107    11.00    10.82
       + ID2= 2 (9422):   780.21   1.829     9.25     9.83
         ================================================
         ID = 3 (8242):  9524.19  25.855    10.75    10.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.190     25.855     10.75      10.74
     OUTFLOW: ID= 1 (5508)   9524.190     25.053     12.00      10.74

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.90
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 10.1112

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   1.997 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  16.446
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    168.98       264.31
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1699.59        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     48.96        19.96
               over (min)       30.00        45.00

     Storage Coeff.  (min)=     22.90 (ii)   43.28 (ii)
     Unit Hyd. Tpeak (min)=     30.00        45.00
     Unit Hyd. peak  (cms)=      0.04         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      8.72         7.47        14.179 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.50         6.25
     RUNOFF VOLUME    (mm)=     52.40        16.47        23.66
     TOTAL RAINFALL   (mm)=     54.40        54.40        54.40
     RUNOFF COEFFICIENT   =      0.96         0.30         0.43

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     87.78        77.84
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1050.78        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     71.81        44.37
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.73 (ii)   29.53 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      6.55         3.98         9.015 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     52.40        18.76        27.84
     TOTAL RAINFALL   (mm)=     54.40        54.40        54.40
     RUNOFF COEFFICIENT   =      0.96         0.34         0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   9.5300      3.8529
                        0.6370     1.6350   |  12.1350      4.2725
                        2.7300     2.1009   |  14.3850      4.6808
                        5.1010     2.7445   |  14.7850      4.6908
                        7.0460     3.2936   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620      9.015      6.00      27.84
     OUTFLOW: ID= 1 (5338)    165.620      3.192      6.75      27.84

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.41
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.2355

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| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   433.29  14.179     6.25    23.66
       + ID2= 2 (5338):   165.62   3.192     6.75    27.84
         ================================================
         ID = 3 (8310):   598.91  15.937     6.50    24.82
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (3342) | ID= 1 DT=15.0 min	Area (ha)= 586.87	Ia (mm)= 5.00	U.H. Tp(hrs)= 8.20	Curve Number (CN)= 56.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.221

PEAK FLOW (cms)= 0.466 (i)
TIME TO PEAK (hrs)= 15.500
RUNOFF VOLUME (mm)= 9.797
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (3341) | ID= 1 DT=15.0 min	Area (ha)= 33.23	Total Imp(%)= 51.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.95	16.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	470.67	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		71.81	19.53
over (min)		15.00	30.00
Storage Coeff. (min)=		9.10 (ii)	29.66 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.09	0.04

		TOTALS
PEAK FLOW	(cms)=	1.21	0.60	1.573 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	52.40	13.34	21.54
TOTAL RAINFALL	(mm)=	54.40	54.40	54.40
RUNOFF COEFFICIENT	=	0.96	0.25	0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 51.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5334) | IN= 2---> OUT= 1 | DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6690	0.4664
	0.0400	0.1927	0.8520	0.5318
	0.1900	0.2643	1.0360	0.5973
	0.3830	0.3576	1.4360	0.6073
	0.4460	0.3863	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3341)		33.230	1.573	6.00	21.54
OUTFLOW: ID= 1 (5334)		33.230	0.398	7.00	21.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.31
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.3664

ADD HYD (8314) | 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (3342):	586.87	0.466	15.50	9.80
	+ ID2= 2 (5334):	33.23	0.398	7.00	21.50
	ID = 3 (8314):	620.10	0.587	7.25	10.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0306) | ID= 1 DT=15.0 min	Area (ha)= 283.97	Ia (mm)= 5.00	U.H. Tp(hrs)= 6.44	Curve Number (CN)= 52.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.753

PEAK FLOW (cms)= 0.250 (i)
TIME TO PEAK (hrs)= 13.750
RUNOFF VOLUME (mm)= 8.592
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.158

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0282) | ID= 1 DT=15.0 min	Area (ha)= 449.38	Ia (mm)= 5.00	U.H. Tp(hrs)= 1.47	Curve Number (CN)= 77.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 5.226

PEAK FLOW (cms)= 3.035 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 19.368
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.356

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0284) | ID= 1 DT=15.0 min	Area (ha)= 78.93	Ia (mm)= 5.00	U.H. Tp(hrs)= 0.57	Curve Number (CN)= 84.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 2.344

PEAK FLOW (cms)= 1.445 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.380
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.448

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8388) | 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0282):	449.38	3.035	8.00	19.37
	+ ID2= 2 (0284):	78.93	1.445	6.50	24.38
	ID = 3 (8388):	528.31	4.143	7.25	20.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6286) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2861.0) ------>

Distance	Elevation	Manning	
0.00	233.00	0.0450	
20.58	228.51	0.0450	
41.17	227.74	0.0450	
51.46	227.41	0.0450	
97.77	225.96	0.0450	
149.23	223.94	0.0450	
200.69	220.84	0.0450	
226.42	220.66	0.0450	
238.85	220.22	0.0450	
241.35	220.01	0.0450 /0.0350	Main Channel
241.85	219.70	0.0350	Main Channel

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              245.85        219.72        0.0350      Main Channel
              246.35        220.06        0.0350      Main Channel
              248.85        220.23        0.0350      Main Channel
              303.60        221.64        0.0350      Main Channel
              380.79        224.98        0.0450
              432.25        229.54        0.0450
              457.98        233.33        0.0450
              483.71        234.27        0.0450
              509.44        233.81        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.31   220.01    .382E+04       0.8        0.57      82.89
        1.06   220.76    .525E+05      12.1        0.66      72.51
        1.81   221.51    .240E+06      88.6        1.05      45.21
        2.56   222.26    .510E+06     261.7        1.46      32.47
        3.31   223.01    .843E+06     533.8        1.81      26.34
        4.06   223.76    .124E+07     913.6        2.10      22.64
        4.81   224.51    .171E+07    1399.0        2.34      20.33
        5.56   225.26    .225E+07    2051.0        2.60      18.27
        6.31   226.01    .285E+07    2907.0        2.91      16.35
        7.06   226.76    .352E+07    3902.5        3.16      15.04
        7.82   227.52    .426E+07    5069.9        3.39      14.01
        8.57   228.27    .507E+07    6433.0        3.62      13.13
        9.32   229.02    .593E+07    8069.2        3.89      12.24
       10.07   229.77    .681E+07    9926.7        4.16      11.44
       10.82   230.52    .772E+07   11962.8        4.42      10.75
       11.57   231.27    .864E+07   14167.1        4.68      10.17
       12.32   232.02    .959E+07   16537.1        4.92       9.66
       13.07   232.77    .105E+08   19070.7        5.16       9.22
       13.82   233.52    .115E+08   21790.4        5.39       8.82

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     4.14    7.25  20.12      0.53      0.60
     OUTFLOW: ID= 1 (6286)  528.31     3.51    9.25  20.12      0.49      0.59


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| CALIB            |
| STANDHYD  (2861) |   Area    (ha)=  54.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.69         30.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     604.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         61.65
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.57 (ii)    23.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.73          2.43          3.288 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         26.86          31.71
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.49           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6700      1.4285
                          0.1860     0.6703   |   4.6080      1.6332
                          1.0630     0.7754   |   5.3640      1.8336
                          1.9790     1.0010   |   5.7640      1.8436
                          2.7460     1.1950   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2861)     54.860      3.288      6.00       31.71
     OUTFLOW: ID= 1 (5286)     54.860      1.389      6.75       31.70

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.23
                TIME SHIFT OF PEAK FLOW       (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8558

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| CALIB            |
| STANDHYD  (2862) |   Area    (ha)= 205.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.24        160.41
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1170.90         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         25.56
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      15.71 (ii)    34.18 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.93          6.55          7.457 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50           6.50
     RUNOFF VOLUME    (mm)=      52.40         23.09          26.02
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.42           0.48

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9286) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2862):   205.65   7.457     6.50    26.02
        + ID2= 2 (5286):    54.86   1.389     6.75    31.70
          ================================================
          ID = 3 (9286):   260.51   8.699     6.50    27.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6286):   528.31   3.506     9.25    20.12
        + ID2= 2 (9286):   260.51   8.699     6.50    27.21
          ================================================
          ID = 3 (8386):   788.82   9.969     6.50    22.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   1.530 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  10.409
```

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     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   0.846 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.733
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3001) |   Area    (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.04         0.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      24.49        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       1.54 (ii)   24.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.004 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        11.03         17.08
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.20          0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0060     0.0023
                          0.0020     0.0012   |   0.0070     0.0026
                          0.0030     0.0016   |   0.0090     0.0029
                          0.0040     0.0019   |   0.4090     0.0129

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)     0.090     0.004      6.00       17.08
     OUTFLOW: ID= 1 (5300)     0.090     0.001      6.75       15.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.91
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0006

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3002) |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   0.970 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.457
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3002):   258.84   0.970     7.50     8.46
        + ID2= 2 (5300):     0.09   0.001     6.75    15.86
          ================================================
          ID = 3 (9300):   258.93   0.971     7.50     8.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0298):   330.51   0.846     8.00     6.73
        + ID2= 2 (9300):   258.93   0.971     7.50     8.46
          ================================================
          ID = 3 (8395):   589.44   1.807     7.75     7.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   1.727 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  20.098
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   2.388 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.976
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0288):   340.83   1.727     9.50    20.10
        + ID2= 2 (0290):   269.18   2.388     7.50    19.98
          ================================================
          ID = 3 (8397):   610.01   3.977     8.00    20.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   2.330 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.668
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.343

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   3.557 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  14.367
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.264

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   1.387 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.999
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   3.557     8.25    14.37
       + ID2= 2 (0294):   274.15   1.387     7.25    10.00
         ================================================
         ID = 3 (8398):  1012.64   4.858     8.00    13.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2961.0) ------>
              Distance      Elevation       Manning
                  0.00         243.98        0.0400
                 42.59         243.18        0.0400
                 85.17         241.81        0.0400
                120.66         240.50        0.0400
                156.15         239.56        0.0400
                198.74         236.15        0.0400
                237.78         234.01        0.0400
                241.33         233.82        0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32        0.0400      Main Channel
                250.37         231.80        0.0400      Main Channel
                250.87         232.23        0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22        0.0400
                259.07         233.87        0.0400
                262.62         234.12        0.0400
                266.17         234.23        0.0400
                283.91         234.73        0.0400
                337.15         241.75        0.0400
                351.34         244.00        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.43    232.23    .510E+03       0.1         0.53       81.07
       0.87    232.67    .213E+04       0.7         0.83       51.49
       1.30    233.10    .501E+04       2.2         1.10       38.75
       1.98    233.78    .242E+05      12.6         1.34       31.93
       2.66    234.46    .738E+05      42.1         1.46       29.21
       3.34    235.14    .177E+06     127.9         1.84       23.13
       4.02    235.82    .314E+06     281.4         2.29       18.61
       4.70    236.50    .481E+06     509.4         2.71       15.73
       5.38    237.18    .672E+06     815.6         3.11       13.73
       6.06    237.86    .886E+06    1200.7         3.46       12.30
       6.74    238.54    .112E+07    1669.4         3.80       11.23
       7.42    239.22    .139E+07    2226.9         4.11       10.38
       8.10    239.90    .168E+07    2808.4         4.28        9.95
       8.78    240.58    .202E+07    3470.4         4.40        9.68
       9.46    241.26    .240E+07    4331.7         4.61        9.24
      10.14    241.94    .283E+07    5335.2         4.83        8.84
      10.82    242.62    .330E+07    6482.6         5.03        8.48
      11.50    243.30    .381E+07    7764.1         5.21        8.18
      12.18    243.98    .439E+07    9101.2         5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     4.86    8.00  13.18      1.48      1.15
     OUTFLOW: ID= 1 (6296) 1012.64     4.69    8.75  13.18      1.46      1.15

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--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   2.330     7.50    18.67
       + ID2= 2 (6296):  1012.64   4.688     8.75    13.18
         ================================================
         ID = 3 (8396):  1306.29   6.905     8.25    14.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29   6.905     8.25    14.42
       + ID2= 2 (8397):   610.01   3.977     8.00    20.04
         ================================================
         ID = 3 (8394):  1916.30  10.857     8.25    16.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  10.857     8.25    16.21
       + ID2= 2 (8395):   589.44   1.807     7.75     7.49
         ================================================
         ID = 3 (8392):  2505.74  12.633     8.25    14.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3021.0) ------>
              Distance      Elevation       Manning
                  0.00         228.10        0.0400
```

```
                18.47        227.12        0.0400
                36.95        226.12        0.0400
                46.18        225.84        0.0400
                55.42        225.58        0.0400
               272.47        222.88        0.0400
               277.09        222.76        0.0400
               281.71        222.58        0.0400
               288.54        222.18    0.0400 /0.0300  Main Channel
               288.64        221.00        0.0300      Main Channel
               290.94        221.00        0.0300      Main Channel
               291.04        221.00        0.0300      Main Channel
               291.54        222.75    0.0300 /0.0400  Main Channel
               300.18        222.83        0.0400
               304.80        223.04        0.0400
               309.42        223.25        0.0400
               318.65        223.69        0.0400
               360.22        225.57        0.0400
               397.16        227.60        0.0400
               457.20        228.35        0.0400

     <-------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   221.29    .228E+04        0.2          0.32     165.63
      0.59   221.59    .465E+04        0.7          0.45     116.15
      0.88   221.88    .713E+04        1.2          0.54      96.87
      1.18   222.18    .971E+04        1.9          0.61      86.20
      1.57   222.57    .175E+05        3.3          0.59      88.86
      1.97   222.97    .427E+05        6.4          0.47     111.39
      2.36   223.36    .115E+06       16.1          0.44     119.14
      2.76   223.76    .237E+06       37.1          0.49     106.49
      3.15   224.15    .409E+06       72.9          0.56      93.40
      3.55   224.55    .631E+06      127.0          0.63      82.76
      3.94   224.94    .903E+06      202.4          0.70      74.37
      4.34   225.34    .123E+07      301.8          0.77      67.68
      4.73   225.73    .160E+07      433.5          0.85      61.37
      5.13   226.13    .200E+07      602.2          0.95      55.29
      5.52   226.52    .242E+07      804.7          1.05      50.13
      5.92   226.92    .286E+07     1034.2          1.14      46.11
      6.31   227.31    .332E+07     1290.5          1.22      42.88
      6.71   227.71    .380E+07     1560.9          1.29      40.55
      7.10   228.10    .432E+07     1835.6          1.34      39.19

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    12.63    8.25  14.16      2.22      0.45
    OUTFLOW: ID= 1 (6302) 2505.74    10.17   10.50  14.16      2.12      0.46


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--------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   1.530     8.50    10.41
       + ID2= 2 (6302):  2505.74  10.168    10.50    14.16
         ================================================
         ID = 3 (8390):  2979.64  11.571    10.25    13.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82   9.969     6.50    22.46
       + ID2= 2 (8390):  2979.64  11.571    10.25    13.56
         ================================================
         ID = 3 (8348):  3768.46  16.007    10.00    15.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   0.753 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  12.262
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   3.720 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.907
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.421

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   3.831 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.080
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.207 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.490
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.377

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   3.104 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.038
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   3.104     7.50    18.04
```

```
        + ID2= 2 (0276):    90.89   1.207     6.75    20.49
          ================================================
          ID = 3 (8360):   483.38   4.235     7.25    18.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0278):   485.49   3.831     8.00    23.08
        + ID2= 2 (8360):   483.38   4.235     7.25    18.50
          ================================================
          ID = 3 (8358):   968.87   7.908     7.75    20.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2801.0) ------>
               Distance      Elevation       Manning
                   0.00         241.14        0.0500
                  13.32         240.80        0.0500
                  39.95         240.07        0.0500
                  96.54         236.21        0.0500
                 113.19         234.15        0.0500
                 123.18         232.35        0.0500
                 143.15         225.80        0.0500
                 149.81         225.62        0.0500
                 153.14         225.40        0.0500
                 157.30         224.76    0.0500 /0.0300  Main Channel
                 159.80         224.26        0.0300      Main Channel
                 162.30         224.85        0.0300      Main Channel
                 162.55         224.97    0.0300 /0.0500  Main Channel
                 167.80         225.05        0.0500
                 186.43         229.14        0.0500
                 213.06         234.75        0.0500
                 236.37         237.09        0.0500
                 266.33         237.31        0.0500
                 292.96         237.83        0.0500
                 329.58         241.50        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)      (cms)       (m/s)      (min)
        0.50   224.76    .263E+04        0.8         0.65      58.31
        1.36   225.62    .278E+05       13.4         1.10      34.54
        2.22   226.48    .855E+05       52.6         1.40      27.09
        3.09   227.35    .157E+06      120.4         1.74      21.78
        3.95   228.21    .242E+06      216.3         2.04      18.64
        4.81   229.07    .340E+06      341.8         2.29      16.56
        5.67   229.93    .450E+06      498.3         2.52      15.06
        6.53   230.79    .574E+06      688.3         2.73      13.90
        7.40   231.66    .711E+06      913.8         2.93      12.97
        8.26   232.52    .861E+06     1173.4         3.11      12.23
        9.12   233.38    .103E+07     1461.3         3.24      11.72
        9.98   234.24    .121E+07     1793.3         3.37      11.26
       10.85   235.11    .142E+07     2141.0         3.45      11.02
       11.71   235.97    .165E+07     2530.4         3.50      10.86
       12.57   236.83    .192E+07     2954.0         3.51      10.81
       13.43   237.69    .226E+07     3160.3         3.18      11.93
       14.29   238.55    .271E+07     3869.4         3.26      11.67
       15.16   239.42    .320E+07     4740.3         3.38      11.24
       16.02   240.28    .373E+07     5688.4         3.48      10.92

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87     7.91    7.75  20.79      0.99      0.85
     OUTFLOW: ID= 1 (6280)  968.87     7.48    8.50  20.79      0.95      0.83


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| ADD HYD   (8354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0280):   299.86   3.720     7.00    22.91

        + ID2= 2 (6280):   968.87   7.477     8.50    20.79
          ================================================
          ID = 3 (8354):  1268.73  10.681     8.00    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   2.117 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.091
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.406

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   1.800 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.875
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   1.507 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  12.617
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2641) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.18          4.39
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     342.34         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         18.04
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.51 (ii)    28.74 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.23          0.15          2.323 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40         16.28          41.56
     TOTAL RAINFALL   (mm)=      54.40         54.40          54.40
     RUNOFF COEFFICIENT   =       0.96          0.30           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5264)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	1.1760	0.5589
			0.0600	0.3133	1.4770	0.6054
			0.3410	0.3763	1.7190	0.6511
			0.6340	0.4336	2.1190	0.6611
			0.8800	0.4941	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2641)	17.580	2.323	6.00	41.56
OUTFLOW: ID= 1 (5264)	17.580	0.563	6.50	41.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.26
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4233

CALIB	NASHYD (2642)	ID= 1 DT=15.0 min	Area (ha)= 336.37	Curve Number (CN)= 69.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	U.H. Tp(hrs)= 1.28

Unit Hyd Qpeak (cms)= 3.192

PEAK FLOW (cms)= 1.419 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 14.803
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.272

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9264)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2642):	336.37	1.419	8.25	14.80
		+ ID2= 2 (5264):	17.58	0.563	6.50	41.49
		ID = 3 (9264):	353.95	1.707	6.75	16.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8380)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0266):	508.09	1.507	9.50	12.62
		+ ID2= 2 (9264):	353.95	1.707	6.75	16.13
		ID = 3 (8380):	862.04	3.076	8.00	14.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6268) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2681.0) ------>

Distance	Elevation	Manning	
0.00	274.03	0.0500	
10.55	272.73	0.0500	
21.10	271.28	0.0500	
50.12	266.83	0.0500	
87.04	260.36	0.0500	
92.32	260.06	0.0500	
94.95	259.93	0.0500	
101.00	256.87	0.0500	
103.00	256.58	0.0500 /0.0350	Main Channel
104.00	256.32	0.0350	Main Channel
106.00	256.05	0.0350	Main Channel
108.00	256.25	0.0350	Main Channel
110.78	256.65	0.0350 /0.0500	Main Channel
113.42	256.81	0.0500	
116.06	257.00	0.0500	
155.62	260.24	0.0500	
187.27	263.35	0.0500	
211.01	267.22	0.0500	
224.20	269.60	0.0500	
261.13	272.68	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	256.58	.697E+04	2.1	0.97	55.64
1.38	257.43	.477E+05	25.9	1.76	30.66
2.22	258.27	.123E+06	84.3	2.22	24.26
3.07	259.12	.231E+06	185.4	2.60	20.72
3.92	259.97	.371E+06	335.8	2.92	18.42
4.77	260.82	.560E+06	547.6	3.15	17.06
5.61	261.66	.790E+06	845.6	3.46	15.57
6.46	262.51	.106E+07	1225.0	3.75	14.37
7.31	263.36	.136E+07	1693.3	4.02	13.37
8.16	264.21	.169E+07	2283.2	4.35	12.36
9.00	265.05	.206E+07	2969.1	4.66	11.54
9.85	265.90	.245E+07	3754.4	4.96	10.86
10.70	266.75	.286E+07	4643.0	5.24	10.28
11.55	267.60	.331E+07	5636.1	5.50	9.78
12.39	268.44	.378E+07	6746.2	5.76	9.34
13.24	269.29	.428E+07	7972.2	6.01	8.96
14.09	270.14	.482E+07	9218.9	6.18	8.71
14.94	270.99	.539E+07	10550.5	6.32	8.52
15.78	271.83	.601E+07	12024.7	6.46	8.33

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (8380)	862.04	3.08	8.00	14.06	0.57	0.99
OUTFLOW: ID= 1 (6268)	862.04	2.95	9.75	14.06	0.56	0.98

ADD HYD (8382)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0268):	215.76	1.800	7.00	17.88
		+ ID2= 2 (6268):	862.04	2.953	9.75	14.06
		ID = 3 (8382):	1077.80	4.392	8.50	14.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel
69.68	233.95	0.0300	Main Channel
71.21	234.48	0.0300 /0.0500	Main Channel
81.38	236.44	0.0500	
95.63	236.66	0.0500	
120.04	237.00	0.0500	
148.53	241.77	0.0500	
158.70	242.34	0.0500	
187.18	244.03	0.0500	
201.42	244.36	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (8382)	1077.80	4.39	8.50	14.82	0.95	1.46
OUTFLOW:	ID= 1 (6270)	1077.80	4.35	9.00	14.82	0.94	1.45

ADD HYD (8384)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0270):	243.61	2.117	7.50	22.09
	+ ID2= 2 (6270):	1077.80	4.348	9.00	14.82
	ID = 3 (8384):	1321.41	6.275	8.50	16.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0262)	Area (ha)= 341.31	Curve Number (CN)= 82.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.01				

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 2.732 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 22.953
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0258)	Area (ha)= 181.99	Curve Number (CN)= 79.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.18				

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 1.165 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 20.683
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0256)	Area (ha)= 145.79	Curve Number (CN)= 67.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.04				

Unit Hyd Qpeak (cms)= 1.707

PEAK FLOW (cms)= 0.678 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 13.836
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0254)	Area (ha)= 403.00	Curve Number (CN)= 55.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30			
	U.H. Tp(hrs)= 1.22				

Unit Hyd Qpeak (cms)= 4.028

PEAK FLOW (cms)= 1.113 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 9.405
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.173

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6256)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2561.0) ------>

Distance	Elevation	Manning	
0.00	276.07	0.0400	
11.68	273.71	0.0400	
23.36	271.35	0.0400	
29.19	270.30	0.0400	
35.03	269.44	0.0400	
55.47	267.90	0.0400	
78.82	266.24	0.0400	
90.50	265.63	0.0400	
102.18	265.40	0.0400	
105.10	264.95	0.0400 /0.0350	Main Channel
108.02	264.39	0.0350	Main Channel
110.94	264.72	0.0350	Main Channel
113.86	265.19	0.0350 /0.0400	Main Channel
116.78	265.49	0.0400	
143.05	268.24	0.0400	
172.25	270.53	0.0400	
207.28	271.95	0.0400	
233.55	273.72	0.0400	
256.91	274.98	0.0400	
289.02	275.97	0.0400	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	264.95	.723E+04	1.9	0.90	62.51
1.14	265.53	.307E+05	13.5	1.49	37.92
1.72	266.11	.951E+05	48.6	1.73	32.62
2.30	266.69	.191E+06	117.8	2.09	27.03
2.88	267.27	.314E+06	225.2	2.43	23.24
3.46	267.85	.464E+06	375.5	2.74	20.59
4.04	268.43	.641E+06	573.2	3.03	18.62
4.62	269.01	.846E+06	821.9	3.29	17.15
5.20	269.59	.108E+07	1135.0	3.56	15.87
5.78	270.17	.134E+07	1525.1	3.86	14.64
6.36	270.75	.162E+07	1971.1	4.12	13.71
6.94	271.33	.194E+07	2474.0	4.33	13.04
7.52	271.91	.228E+07	3065.0	4.55	12.42
8.10	272.49	.266E+07	3773.4	4.80	11.75
8.68	273.07	.306E+07	4566.3	5.05	11.17
9.26	273.65	.348E+07	5443.7	5.30	10.66
9.84	274.23	.393E+07	6389.6	5.51	10.25
10.42	274.81	.440E+07	7426.2	5.72	9.88
11.00	275.39	.490E+07	8490.1	5.86	9.63

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (0254)	403.00	1.11	8.25	9.41	0.32	0.90
OUTFLOW:	ID= 1 (6256)	403.00	1.05	10.00	9.41	0.31	0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   0.678     8.00    13.84
       + ID2= 2 (6256):   403.00   1.052    10.00     9.41
         ================================================
         ID = 3 (8370):   548.79   1.667     9.25    10.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   0.878 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.287
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   1.566 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=   9.438
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.173

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   0.754 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.498
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.230

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   1.566    10.00     9.44
       + ID2= 2 (0248):   146.04   0.754     7.25    12.50
         ================================================
         ID = 3 (8364):   905.65   2.217     8.25     9.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```
            <------ DATA FOR SECTION (2501.0) ------>
            Distance      Elevation       Manning
                0.00         269.96        0.0500
                8.56         268.55        0.0500
               17.13         266.91        0.0500
               21.41         266.13        0.0500
               40.68         263.15        0.0500
               62.09         260.75        0.0500
               85.64         258.02        0.0500
               88.20         257.69        0.0500
               93.20         257.05    0.0500 /0.0350  Main Channel
               93.45         256.88        0.0350      Main Channel
               94.20         256.56        0.0350      Main Channel
               94.95         256.83        0.0350      Main Channel
               95.20         257.08    0.0350 /0.0500  Main Channel
              100.62         257.45        0.0500
              115.61         258.57        0.0500
              139.16         260.43        0.0500
              152.01         261.95        0.0500
              171.27         264.63        0.0500
              188.40         267.90        0.0500
              211.95         274.18        0.0500

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
     0.49    257.05    .205E+04       0.4         0.68       89.65
     1.17    257.73    .248E+05       5.7         0.85       72.16
     1.85    258.41    .841E+05      25.2         1.10       55.60
     2.53    259.09    .180E+06      66.5         1.36       45.14
     3.21    259.77    .312E+06     135.7         1.60       38.36
     3.89    260.45    .481E+06     238.3         1.82       33.61
     4.57    261.13    .681E+06     383.5         2.07       29.60
     5.25    261.81    .911E+06     568.9         2.29       26.70
     5.93    262.49    .117E+07     800.5         2.51       24.36
     6.61    263.17    .146E+07    1079.0         2.72       22.49
     7.28    263.84    .177E+07    1413.4         2.94       20.85
     7.96    264.52    .210E+07    1797.0         3.14       19.50
     8.64    265.20    .246E+07    2241.6         3.35       18.28
     9.32    265.88    .283E+07    2739.9         3.55       17.25
    10.00    266.56    .323E+07    3295.7         3.75       16.34
    10.68    267.24    .364E+07    3908.9         3.94       15.54
    11.36    267.92    .408E+07    4578.5         4.12       14.84
    12.04    268.60    .453E+07    5320.1         4.32       14.18
    12.72    269.28    .499E+07    6109.1         4.50       13.61

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8364)  905.65     2.22    8.25   9.93      0.72      0.73
    OUTFLOW: ID= 1 (6250)  905.65     2.06   10.50   9.93      0.70      0.73

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   0.878     8.00    15.29
       + ID2= 2 (6250):   905.65   2.056    10.50     9.93
         ================================================
         ID = 3 (8366):  1098.53   2.855    10.00    10.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   2.855    10.00    10.87
       + ID2= 2 (8370):   548.79   1.667     9.25    10.58
         ================================================
         ID = 3 (8368):  1647.32   4.503    10.00    10.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2521) |   Area    (ha)=  32.51
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
```

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--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.38         8.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     465.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        20.43
              over (min)         15.00        30.00
     Storage Coeff.  (min)=       9.04 (ii)   29.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.95         0.31          4.138 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        18.24         42.15
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.34          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5252) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.1750      1.0334
                          0.1100     0.5793   |   2.7310      1.1195
                          0.6300     0.6958   |   3.1790      1.2039
                          1.1730     0.8017   |   3.5790      1.2139
                          1.6270     0.9137   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2521)     32.510     4.138      6.00      42.15
     OUTFLOW: ID= 1 (5252)     32.510     1.061      6.50      42.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.64
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7835

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2522) |   Area    (ha)= 287.47   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.448

     PEAK FLOW       (cms)=   1.583 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.022
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2522):   287.47   1.583     8.00    16.02
       + ID2= 2 (5252):    32.51   1.061     6.50    42.11
         ================================================
         ID = 3 (9252):   319.98   2.417     6.50    18.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8368):  1647.32   4.503    10.00    10.78
       + ID2= 2 (9252):   319.98   2.417     6.50    18.67
         ================================================
         ID = 3 (8372):  1967.30   6.123     9.00    12.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2581.0) ------>
               Distance      Elevation       Manning
                   0.00         252.88        0.0500
                  15.47         251.89        0.0500
                  46.41         248.45        0.0500
                  73.48         245.81        0.0500
                  88.95         243.75        0.0500
                 112.15         242.00        0.0500
                 135.35         240.23        0.0500
                 162.42         239.76        0.0500
                 170.97         239.52    0.0500 /0.0350  Main Channel
                 171.58         239.03        0.0350      Main Channel
                 174.02         239.03        0.0350      Main Channel
                 176.46         239.03        0.0350      Main Channel
                 177.07         239.52    0.0350 /0.0500  Main Channel
                 185.63         239.67        0.0500
                 208.83         239.87        0.0500
                 239.77         240.14        0.0500
                 274.57         244.93        0.0500
                 336.45         249.51        0.0500
                 363.52         249.77        0.0500
                 382.85         251.78        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.49   239.52    .135E+05       2.5          0.92      91.32
       1.14   240.17    .175E+06      25.6          0.73     114.22
       1.78   240.81    .532E+06     123.5          1.17      71.85
       2.43   241.46    .932E+06     285.3          1.54      54.48
       3.07   242.10    .138E+07     506.5          1.85      45.25
       3.72   242.75    .186E+07     786.8          2.12      39.42
       4.36   243.39    .239E+07    1127.3          2.37      35.33
       5.01   244.04    .296E+07    1535.8          2.61      32.12
       5.65   244.68    .356E+07    2014.3          2.84      29.48
       6.30   245.33    .420E+07    2535.9          3.03      27.60
       6.94   245.97    .488E+07    3108.4          3.20      26.16
       7.59   246.62    .561E+07    3740.6          3.35      24.98
       8.23   247.26    .638E+07    4446.7          3.50      23.93
       8.88   247.91    .721E+07    5229.7          3.64      22.98
       9.52   248.55    .809E+07    6094.3          3.78      22.12
      10.17   249.20    .901E+07    7050.4          3.93      21.31
      10.81   249.84    .100E+08    7773.0          3.90      21.46
      11.46   250.49    .111E+08    8998.8          4.07      20.56
      12.10   251.13    .122E+08   10318.2          4.24      19.75

                                  <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8372) 1967.30     6.12    9.00  12.06      0.59      0.88
     OUTFLOW: ID= 1 (6258) 1967.30     5.63   11.00  12.06      0.58      0.89

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--------------------
| ADD HYD   (8374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0258):   181.99   1.165     8.00    20.68
       + ID2= 2 (6258):  1967.30   5.632    11.00    12.06
         ================================================
         ID = 3 (8374):  2149.29   6.595    10.75    12.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2601) |   Area    (ha)=  56.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  48.00
```

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--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.54        19.68
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     612.21        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        67.36
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.65 (ii)   23.18 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.46         1.75          5.594 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      52.40        28.99         40.23
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.53          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5260) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7610      1.6799
                          0.1900     0.8974   |   4.7220      1.8499
                          1.0890     1.0678   |   5.4970      2.0146
                          2.0290     1.2667   |   5.8970      2.0246
                          2.8140     1.4621   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2601)     56.220      5.594      6.00      40.23
     OUTFLOW: ID= 1 (5260)     56.220      1.696      6.75      40.21

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.32
                TIME SHIFT OF PEAK FLOW          (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2129

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2602) |   Area    (ha)= 420.02   Curve Number   (CN)= 83.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.946

     PEAK FLOW       (cms)=   2.923 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.131
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2602):   420.02   2.923     8.00    24.13
       + ID2= 2 (5260):    56.22   1.696     6.75    40.21
         ================================================
         ID = 3 (9260):   476.24   4.252     6.75    26.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8374):  2149.29   6.595    10.75    12.79
       + ID2= 2 (9260):   476.24   4.252     6.75    26.03
         ================================================
         ID = 3 (8376):  2625.53   9.506    10.00    15.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0262):   341.31   2.732     8.00    22.95
       + ID2= 2 (8376):  2625.53   9.506    10.00    15.19
         ================================================
         ID = 3 (8378):  2966.84  11.844     9.50    16.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8378):  2966.84  11.844     9.50    16.08
       + ID2= 2 (8384):  1321.41   6.275     8.50    16.16
         ================================================
         ID = 3 (8362):  4288.25  18.011     9.00    16.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2721.0) ------>
              Distance      Elevation       Manning
                 0.00         231.01        0.0450
                23.01         223.65        0.0450
                34.51         222.46        0.0450
                51.77         222.11        0.0450
                69.02         221.87        0.0450
               161.06         221.92        0.0450
               166.81         221.91        0.0450
               172.56         221.89        0.0450
               180.57         221.40    0.0450 /0.0300  Main Channel
               181.57         220.60        0.0300      Main Channel
               184.07         220.16        0.0300      Main Channel
               195.57         221.85    0.0300 /0.0450  Main Channel
               201.32         221.82        0.0450
               207.07         221.77        0.0450
               212.83         221.72        0.0450
               253.09         222.52        0.0450
               408.40         222.65        0.0450
               460.17         223.20        0.0450
               517.69         224.84        0.0450
               569.46         232.57        0.0450

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)         (m/s)      (min)
      0.41   220.57    .189E+04         0.5          0.49       60.18
      0.83   220.99    .697E+04         3.2          0.82       35.79
      1.24   221.40    .145E+05         8.8          1.07       27.45
      1.84   222.00    .643E+05        29.3          0.81       36.61
      2.44   222.60    .282E+06       132.9          0.83       35.41
      3.04   223.20    .707E+06       413.7          1.04       28.50
      3.64   223.80    .118E+07       876.8          1.31       22.46
      4.24   224.40    .168E+07      1494.8          1.57       18.75
      4.84   225.00    .221E+07      2264.1          1.82       16.23
      5.44   225.60    .274E+07      3196.3          2.06       14.29
      6.04   226.20    .328E+07      4258.6          2.30       12.84
      6.65   226.81    .383E+07      5444.7          2.52       11.72
      7.25   227.41    .438E+07      6749.7          2.73       10.82
      7.85   228.01    .494E+07      8169.4          2.93       10.08
      8.45   228.61    .551E+07      9700.7          3.12        9.46
      9.05   229.21    .608E+07     11340.8          3.30        8.94
      9.65   229.81    .666E+07     13087.4          3.48        8.48
     10.25   230.41    .724E+07     14938.5          3.65        8.08
     10.85   231.01    .783E+07     16892.4          3.82        7.73
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.25    18.01    9.00  16.11      1.51      0.93
     OUTFLOW: ID= 1 (6272) 4288.25    17.76   10.00  16.11      1.50      0.94


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (2721) |   Area    (ha)=   2.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  19.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08         1.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     121.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        58.51
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       4.03 (ii)   17.29 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.10          0.146 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      52.40        23.86          29.27
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.44           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1480      0.0589
                         0.0070     0.0284   |   0.1850      0.0669
                         0.0430     0.0331   |   0.2160      0.0746
                         0.0800     0.0419   |   0.6160      0.0846
                         0.1100     0.0497   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2721)    2.210     0.146      6.00      29.27
     OUTFLOW: ID= 1 (5272)    2.210     0.048      6.75      28.82

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.22
                 TIME SHIFT OF PEAK FLOW         (min)= 45.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0346

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (2722) |   Area    (ha)= 155.17   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   1.236 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.222
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.335

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2722):   155.17   1.236     7.50    18.22
       + ID2= 2 (5272):     2.21   0.048     6.75    28.82
         ================================================
         ID = 3 (9272):   157.38   1.265     7.25    18.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6272):  4288.25  17.765    10.00    16.11
       + ID2= 2 (9272):   157.38   1.265     7.25    18.37
         ================================================
         ID = 3 (8356):  4445.63  18.744     9.50    16.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8354):  1268.73  10.681     8.00    21.29
       + ID2= 2 (8356):  4445.63  18.744     9.50    16.19
         ================================================
         ID = 3 (8352):  5714.36  28.625     8.75    17.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```

<------ DATA FOR SECTION (3041.0) ------>			
Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.90	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	220.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43
2.56	220.93	.708E+06	109.5	0.58	107.67
3.25	221.62	.118E+07	224.3	0.71	87.36
3.94	222.31	.168E+07	376.5	0.84	74.48
4.63	223.00	.222E+07	567.9	0.96	65.26
5.32	223.69	.279E+07	794.7	1.07	58.58
6.02	224.39	.339E+07	1056.2	1.17	53.52
6.71	225.08	.402E+07	1352.4	1.26	49.52
7.40	225.77	.468E+07	1677.3	1.34	46.46
8.09	226.46	.536E+07	2050.0	1.43	43.58
8.79	227.16	.607E+07	2457.9	1.52	41.14
9.48	227.85	.680E+07	2901.0	1.60	39.05
10.17	228.54	.755E+07	3352.7	1.66	37.53
10.86	229.23	.834E+07	3812.5	1.71	36.48
11.55	229.92	.919E+07	4241.8	1.73	36.13

```
 12.25   230.62    .101E+08    4697.0          1.74      35.93
 12.94   231.31    .111E+08    5186.3          1.74      35.83

                            <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8352) 5714.36    28.63    8.75  17.32      1.59      0.46
OUTFLOW: ID= 1 (6304) 5714.36    23.30   11.50  17.32      1.47      0.45


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-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   292.37   0.753    10.50    12.26
       + ID2= 2 (6304):  5714.36  23.300    11.50    17.32
         ================================================
         ID = 3 (8350):  6006.73  24.043    11.50    17.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46  16.007    10.00    15.42
       + ID2= 2 (8350):  6006.73  24.043    11.50    17.08
         ================================================
         ID = 3 (8346):  9775.19  39.262    10.75    16.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   0.250    13.75     8.59
       + ID2= 2 (8346):  9775.19  39.262    10.75    16.44
         ================================================
         ID = 3 (8344): 10059.16  39.486    10.75    16.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    370.0451
                        41.0590    56.7403   |  *******    863.4386
                        48.1390    86.3439   |  *******    ********
                        56.6340    *******   |  *******    ********
                        67.9600    *******   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8344)   ********     39.486     10.75      16.22
    OUTFLOW: ID= 1 (5509)   ********     30.704     14.50      16.22

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.76
                TIME SHIFT OF PEAK FLOW         (min)=225.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 42.4484

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   1.734 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  18.150
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.334

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   4.424 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.421
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.394

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3321.0) ------>
               Distance      Elevation       Manning
                   0.00         234.00        0.0380
                  25.85         227.20        0.0380
                  96.94         226.44        0.0380
                 168.03         227.38        0.0380
                 219.73         225.62        0.0380
                 342.52         221.57        0.0380
                 368.37         221.42        0.0380
                 374.83         221.23        0.0380
                 379.79         220.98    0.0380 /0.0300  Main Channel
                 380.29         220.47        0.0300      Main Channel
                 381.29         220.47        0.0300      Main Channel
                 382.79         220.47        0.0300      Main Channel
                 383.29         220.98    0.0300 /0.0380  Main Channel
                 394.22         221.22        0.0380
                 400.68         221.33        0.0380
                 407.14         221.44        0.0380
                 491.16         225.70        0.0380
                 568.71         227.55        0.0380
                 607.49         230.14        0.0380
                 639.80         234.08        0.0380

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)       (min)
        0.51   220.98    .554E+04        0.9          0.56      107.27
        1.20   221.67    .885E+05       12.1          0.49      122.32
        1.88   222.35    .309E+06       64.7          0.76       79.70
        2.57   223.04    .615E+06      165.4          0.97       61.99
        3.25   223.72    .101E+07      322.1          1.16       52.06
        3.94   224.41    .148E+07      542.9          1.33       45.51
        4.62   225.09    .204E+07      835.4          1.48       40.77
        5.31   225.78    .269E+07     1202.8          1.62       37.27
        5.99   226.46    .344E+07     1618.0          1.70       35.46
        6.68   227.15    .447E+07     1932.0          1.56       38.56
        7.36   227.83    .580E+07     2763.9          1.72       34.96
        8.05   228.52    .718E+07     3861.9          1.95       30.97
        8.73   229.20    .859E+07     5115.4          2.16       27.98
        9.42   229.89    .100E+08     6519.2          2.35       25.64
       10.10   230.57    .115E+08     8092.3          2.55       23.69
       10.79   231.26    .130E+08     9821.5          2.73       22.05
       11.47   231.94    .145E+08    11690.0          2.92       20.68
       12.16   232.63    .160E+08    13694.9          3.09       19.52
       12.84   233.31    .176E+08    15833.9          3.26       18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0330)  468.30     4.42    7.50  21.42      0.73      0.54
    OUTFLOW: ID= 1 (6332)  468.30     3.43    9.75  21.42      0.67      0.54


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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0332):   393.44   1.734    10.00    18.15
        + ID2= 2 (6332):   468.30   3.427     9.75    21.42
          ================================================
          ID = 3 (8322):   861.74   5.160     9.75    19.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   2.703 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  19.405
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.357

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   4.073 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  21.534
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.396

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3181) |   Area    (ha)= 357.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  32.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     200.09       157.21
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1543.37        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        55.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.55 (ii)   32.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      15.08         8.92        18.910 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      52.40        23.32        32.62
     TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
     RUNOFF COEFFICIENT   =       0.96         0.43         0.60


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  22.8580     8.7280
                         0.8190     2.5190    |  27.5380     9.6853
                         4.2860     5.8947    |  32.5800    10.8345
                        11.0600     6.7336    |  32.9800    10.8445
                        16.3830     7.4416    |   0.0000     0.0000
```

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                                 AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    357.300     18.910      6.00      32.62
     OUTFLOW: ID= 1 (5318)    357.300      6.323      7.25      32.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.44
                  TIME SHIFT OF PEAK FLOW        (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  6.1801

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--------------------
| CALIB            |
| STANDHYD  (3182) |   Area    (ha)= 126.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  12.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.49        99.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     916.99        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        19.27
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.57 (ii)   34.24 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.29         3.08         3.702 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.50
     RUNOFF VOLUME    (mm)=      52.40        18.50        22.57
     TOTAL RAINFALL   (mm)=      54.40        54.40        54.40
     RUNOFF COEFFICIENT   =       0.96         0.34         0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3182):   126.13   3.702     6.50    22.57
        + ID2= 2 (5318):   357.30   6.323     7.25    32.62
          ================================================
          ID = 3 (8334):   483.43   8.226     7.00    30.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation       Manning
                   0.00         249.00        0.0380
                  22.92         245.86        0.0380
                  45.83         244.87        0.0380
                  91.66         243.11        0.0380
                 126.03         239.53        0.0380
                 160.41         237.17        0.0380
                 166.14         237.06        0.0380
                 177.59         237.13        0.0380
                 183.32         237.20        0.0380
                 189.05         236.70    0.0380 /0.0350  Main Channel
                 193.05         235.89        0.0350      Main Channel
                 197.05         236.64    0.0350 /0.0380  Main Channel
                 200.51         236.74        0.0380
                 206.24         237.03        0.0380
                 246.34         238.82        0.0380
                 263.53         243.87        0.0380
                 389.56         247.64        0.0380
                 452.58         247.74        0.0380
                 498.41         248.60        0.0380
```

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            567.16        249.84        0.0380

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.37   236.26    .270E+04        0.4        0.58     107.96
       0.75   236.64    .108E+05        2.6        0.92      68.01
       1.48   237.37    .877E+05       27.4        1.17      53.35
       2.20   238.09    .277E+06      122.1        1.65      37.83
       2.93   238.82    .540E+06      299.7        2.08      30.01
       3.66   239.55    .857E+06      587.8        2.57      24.29
       4.39   240.28    .120E+07      977.8        3.04      20.52
       5.11   241.00    .158E+07     1458.1        3.46      18.02
       5.84   241.73    .198E+07     2028.6        3.84      16.23
       6.57   242.46    .240E+07     2690.5        4.19      14.86
       7.29   243.18    .285E+07     3431.8        4.50      13.84
       8.02   243.91    .335E+07     4149.1        4.64      13.44
       8.75   244.64    .393E+07     4746.6        4.51      13.80
       9.47   245.36    .463E+07     5618.6        4.53      13.75
      10.20   246.09    .545E+07     6781.8        4.66      13.39
      10.93   246.82    .635E+07     8274.5        4.87      12.79
      11.66   247.55    .733E+07     9988.0        5.10      12.23
      12.38   248.27    .853E+07    11422.0        5.01      12.45
      13.11   249.00    .989E+07    13749.7        5.20      11.98

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.43     8.23    7.00  30.00      0.91      0.96
     OUTFLOW: ID= 1 (6320)  483.43     5.89    7.75  30.00      0.85      0.94


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   1.167 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  21.930
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.403

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.38       106.80
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1137.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        63.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.45 (ii)   28.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.46         8.12        10.338 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      52.40        26.81         30.91
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.49          0.57

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.4940      4.4477
                          0.2490     1.8139   |   9.8910      4.7762
                          1.2830     3.1517   |  12.4550      5.0763
                          3.7490     3.7610   |  12.8550      5.0863
                          5.0040     4.0198   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180     10.338      6.25      30.91
     OUTFLOW: ID= 1 (5320)    194.180      2.752      7.25      30.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.63
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.5174

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56   1.167     6.75    21.93
       + ID2= 2 (5320):   194.18   2.752     7.25    30.90
         ================================================
         ID = 3 (9320):   278.74   3.873     7.25    28.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43   5.886     7.75    30.00
       + ID2= 2 (9320):   278.74   3.873     7.25    28.18
         ================================================
         ID = 3 (8332):   762.17   9.528     7.50    29.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   1.888 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  19.642
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.361

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.72        12.74
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.04        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        71.20
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.79 (ii)   22.04 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.31         1.22          4.098 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
```

```
     RUNOFF VOLUME    (mm)=      52.40        25.60          37.93
     TOTAL RAINFALL   (mm)=      54.40        54.40          54.40
     RUNOFF COEFFICIENT   =       0.96         0.47           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8400      1.3064
                          0.1440     0.7144   |   3.5660      1.4269
                          0.8230     0.8540   |   4.1520      1.5451
                          1.5320     0.9987   |   4.5520      1.5551
                          2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460     4.098      6.00      37.93
     OUTFLOW: ID= 1 (5314)     42.460     1.076      6.75      37.90

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.25
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9133

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--------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3142):   122.75   1.888     6.50    19.64
        + ID2= 2 (5314):    42.46   1.076     6.75    37.90
          ================================================
          ID = 3 (9314):   165.21   2.926     6.75    24.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3161.0) ------>
               Distance      Elevation       Manning
                   0.00         248.54        0.0350
                  27.93         248.34        0.0350
                  41.89         246.61        0.0350
                  62.83         243.09        0.0350
                 132.65         239.00        0.0350
                 188.50         236.74        0.0350
                 195.48         236.54        0.0350
                 202.46         236.32        0.0350
                 205.48         236.14    0.0350 /0.0310  Main Channel
                 205.98         235.61        0.0310      Main Channel
                 207.98         235.25        0.0310      Main Channel
                 209.98         235.53        0.0310      Main Channel
                 210.48         236.00    0.0310 /0.0350  Main Channel
                 216.42         236.73        0.0350
                 258.31         239.09        0.0350
                 328.12         239.84        0.0350
                 439.83         241.47        0.0350
                 530.58         242.08        0.0350
                 586.43         242.93        0.0350
                 691.16         248.00        0.0350

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.37   235.62    .215E+04       0.7         0.77       53.88
       0.75   236.00    .634E+04       3.5         1.36       30.45
       1.46   236.71    .297E+05      19.3         1.62       25.66
       2.16   237.41    .103E+06      75.8         1.84       22.60
       2.87   238.12    .229E+06     202.8         2.21       18.79
       3.57   238.82    .407E+06     423.3         2.59       16.03
       4.28   239.53    .654E+06     727.7         2.77       14.97
       4.99   240.24    .103E+07    1242.0         3.01       13.76
       5.69   240.94    .151E+07    2002.3         3.31       12.54
       6.40   241.65    .210E+07    2987.9         3.55       11.70
       7.10   242.35    .286E+07    4302.8         3.75       11.07
       7.81   243.06    .374E+07    6165.3         4.10       10.11
       8.51   243.76    .468E+07    8642.4         4.60        9.03
       9.22   244.47    .565E+07   11496.3         5.06        8.20
       9.93   245.18    .666E+07   14714.1         5.50        7.54
      10.63   245.88    .770E+07   18290.3         5.91        7.02
      11.34   246.59    .877E+07   22221.9         6.30        6.58
      12.04   247.29    .988E+07   26464.4         6.67        6.22
      12.75   248.00    .110E+08   31061.3         7.01        5.91

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     2.93    6.75  24.33      0.68      1.18
     OUTFLOW: ID= 1 (6316)  165.21     2.39    7.25  24.33      0.60      1.05


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   2.484 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.762
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.437

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.44         13.18
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     487.31         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      71.81         69.27
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.29 (ii)    21.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.70          1.25        3.509 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25         6.00
     RUNOFF VOLUME    (mm)=      52.40         29.27        39.45
     TOTAL RAINFALL   (mm)=      54.40         54.40        54.40
     RUNOFF COEFFICIENT   =       0.96          0.54         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3160      0.9307
                          0.0930     0.5020   |   2.9060      1.0021
                          0.5400     0.6637   |   3.5360      1.0731
                          1.1940     0.7495   |   3.9360      1.0831
                          1.6920     0.8359   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
```

```
     INFLOW : ID= 2 (3161)     35.620      3.509      6.00      39.45
     OUTFLOW: ID= 1 (5316)     35.620      1.165      6.50      39.41

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.21
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7536
```

```
-------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   2.484     7.00    23.76
       + ID2= 2 (5316):    35.62   1.165     6.50    39.41
         ================================================
         ID = 3 (9316):   232.34   3.560     6.75    26.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   2.393     7.25    24.33
       + ID2= 2 (9316):   232.34   3.560     6.75    26.16
         ================================================
         ID = 3 (8338):   397.55   5.707     7.00    25.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   2.884 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  21.475
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   1.987 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  11.840
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   1.019 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.908
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.237

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0308):   529.30   1.987     8.50    11.84
       + ID2= 2 (0310):   138.28   1.019     7.00    12.91
         ================================================
         ID = 3 (8342):   667.58   2.871     8.00    12.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation       Manning
                  0.00         265.94        0.0360
                 38.07         265.43        0.0360
                 59.82         263.98        0.0360
                103.32         254.59        0.0360
                157.70         252.16        0.0360
                217.52         250.45        0.0360
                233.84         247.69        0.0360
                234.71         247.27        0.0360
                239.71         246.38        0.0360
                244.71         246.12    0.0360 /0.0330  Main Channel
                247.71         245.17        0.0330      Main Channel
                249.71         245.19        0.0330      Main Channel
                251.71         245.64    0.0330 /0.0360  Main Channel
                259.71         246.67        0.0360
                282.78         247.12        0.0360
                315.41         251.60        0.0360
                424.17         256.13        0.0360
                478.55         257.04        0.0360
                516.62         259.37        0.0360
                538.37         266.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.47   245.64    .111E+04       3.1         1.78       6.07
      1.54   246.71    .103E+05      53.9         3.39       3.19
      2.61   247.78    .414E+05     281.3         4.40       2.45
      3.68   248.85    .839E+05     749.1         5.79       1.87
      4.74   249.91    .136E+06    1463.2         6.97       1.55
      5.81   250.98    .201E+06    2354.8         7.61       1.42
      6.88   252.05    .295E+06    3533.0         7.76       1.39
      7.95   253.12    .427E+06    5303.9         8.05       1.34
      9.02   254.19    .594E+06    7856.5         8.58       1.26
     10.09   255.26    .792E+06   11449.2         9.37       1.15
     11.15   256.32    .101E+07   15862.4        10.15       1.06
     12.22   257.39    .127E+07   21074.5        10.75       1.01
     13.29   258.46    .155E+07   28184.1        11.78       0.92
     14.36   259.53    .185E+07   36386.2        12.77       0.85
     15.43   260.60    .215E+07   46110.6        13.89       0.78
     16.50   261.67    .246E+07   56822.5        14.95       0.72
     17.56   262.73    .278E+07   68498.1        15.97       0.68
     18.63   263.80    .310E+07   81118.8        16.94       0.64
     19.70   264.87    .344E+07   93603.2        17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     2.87    8.00  12.06      0.44      1.78
     OUTFLOW: ID= 1 (6312)  667.58     2.87    8.00  12.06      0.44      1.78
```

```
-------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   2.884     8.00    21.47
       + ID2= 2 (6312):   667.58   2.869     8.00    12.06
         ================================================
         ID = 3 (8340):  1027.02   5.753     8.00    15.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.55   5.707     7.00    25.40
       + ID2= 2 (8340):  1027.02   5.753     8.00    15.36
         ================================================
         ID = 3 (8336):  1424.57  11.106     7.25    18.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.17   9.528     7.50    29.33
       + ID2= 2 (8336):  1424.57  11.106     7.25    18.16
         ================================================
         ID = 3 (8330):  2186.74  20.460     7.50    22.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation       Manning
                 0.00         234.38        0.0360
                33.57         232.48        0.0360
                67.14         230.14        0.0360
                83.93         228.80        0.0360
               134.29         227.62        0.0360
               209.82         225.10        0.0360
               218.21         224.86        0.0360
               226.61         224.47        0.0360
               234.00         223.86    0.0360 /0.0300  Main Channel
               234.10         223.66        0.0300      Main Channel
               235.00         223.66        0.0300      Main Channel
               235.90         223.66        0.0300      Main Channel
               236.00         223.86    0.0300 /0.0360  Main Channel
               243.39         224.92        0.0360
               251.78         224.89        0.0360
               335.71         225.64        0.0360
               562.32         226.53        0.0360
               637.85         228.36        0.0360
               705.00         229.80        0.0360
               830.89         234.00        0.0360

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.20   223.86    .145E+04       0.2         0.43     147.27
      0.73   224.39    .159E+05       2.8         0.68      93.11
      1.27   224.93    .561E+05      11.0         0.75      85.19
      1.80   225.46    .217E+06      45.6         0.80      79.20
      2.33   225.99    .566E+06     134.4         0.91      70.20
      2.87   226.53    .122E+07     338.1         1.06      59.97
      3.40   227.06    .206E+07     744.3         1.38      46.16
      3.94   227.60    .298E+07    1295.9         1.66      38.38
      4.47   228.13    .399E+07    1979.9         1.90      33.59
      5.00   228.66    .509E+07    2807.5         2.11      30.21
      5.54   229.20    .627E+07    3815.1         2.32      27.41
      6.07   229.73    .753E+07    4984.1         2.53      25.17
      6.60   230.26    .884E+07    6346.3         2.74      23.20
      7.14   230.80    .102E+08    7861.2         2.95      21.61
      7.67   231.33    .116E+08    9526.4         3.14      20.29
      8.21   231.87    .131E+08   11342.2         3.32      19.18
      8.74   232.40    .146E+08   13309.6         3.49      18.22
      9.27   232.93    .161E+08   15414.0         3.66      17.41
      9.81   233.47    .177E+08   17671.0         3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.74    20.46    7.50  22.05      1.41      0.76
     OUTFLOW: ID= 1 (6324) 2186.74    15.90    9.00  22.05      1.34      0.76
```

```
--------------------
| CALIB            |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   3.685 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  20.639
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.379

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.06          7.40
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      299.56         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       71.81         64.92
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.94 (ii)    19.65 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.37          0.68          0.815 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       52.40         26.99         30.80
     TOTAL RAINFALL   (mm)=       54.40         54.40         54.40
     RUNOFF COEFFICIENT   =        0.96          0.50          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5324) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9000      0.3505
                          0.0460     0.1645   |   1.1310      0.4008
                          0.2610     0.1903   |   1.3160      0.4499
                          0.4860     0.2456   |   1.7160      0.4599
                          0.6740     0.2932   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3241)     13.460      0.815      6.00      30.80
     OUTFLOW: ID= 1 (5324)     13.460      0.334      6.75      30.74

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.03
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2088

--------------------
| ADD HYD   (9324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3242):   602.18   3.685     8.50    20.64
       + ID2= 2 (5324):    13.46   0.334     6.75    30.74
         ================================================
         ID = 3 (9324):   615.64   3.778     8.25    20.86
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8328)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6324):	2186.74	15.897	9.00	22.05
	+ ID2= 2 (9324):	615.64	3.778	8.25	20.86
	ID = 3 (8328):	2802.38	19.637	9.00	21.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0322) ID= 1 DT=15.0 min			
Area (ha)= 513.13	Curve Number (CN)= 80.0		
Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
U.H. Tp(hrs)= 1.75			

Unit Hyd Qpeak (cms)= 5.020

PEAK FLOW (cms)= 3.366 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 21.519
TOTAL RAINFALL (mm)= 54.400
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8326)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0322):	513.13	3.366	8.50	21.52
	+ ID2= 2 (8328):	2802.38	19.637	9.00	21.79
	ID = 3 (8326):	3315.51	22.976	9.00	21.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8324)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0326):	678.91	4.073	9.00	21.53
	+ ID2= 2 (8326):	3315.51	22.976	9.00	21.75
	ID = 3 (8324):	3994.42	27.049	9.00	21.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6328) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3281.0) ------>

Distance	Elevation	Manning	
0.00	228.00	0.0380	
18.58	224.97	0.0380	
78.98	223.52	0.0380	
125.44	223.28	0.0380	
171.90	221.71	0.0380	
213.72	219.65	0.0380	
218.36	219.40	0.0380	
223.01	219.19	0.0380	
225.95	219.14	0.0380 /0.0320	Main Channel
226.45	218.14	0.0320	Main Channel
236.95	218.14	0.0320	Main Channel
245.85	218.14	0.0320	Main Channel
245.95	219.14	0.0320 /0.0380	Main Channel
246.24	219.16	0.0380	
250.88	219.24	0.0380	
255.53	219.39	0.0380	
325.22	221.47	0.0380	
367.03	223.14	0.0380	
404.20	225.17	0.0380	
459.95	228.04	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	218.64	.373E+05	3.2	0.33	192.37
1.00	219.14	.752E+05	10.1	0.51	124.71
1.52	219.66	.149E+06	22.2	0.57	112.06
2.04	220.18	.279E+06	43.4	0.59	107.06
2.56	220.70	.464E+06	77.0	0.63	100.52
3.08	221.22	.705E+06	125.7	0.68	93.56
3.61	221.75	.100E+07	192.7	0.73	86.62
4.13	222.27	.135E+07	278.1	0.79	80.92
4.65	222.79	.176E+07	385.9	0.84	75.86
5.17	223.31	.222E+07	514.9	0.89	71.82
5.69	223.83	.280E+07	662.7	0.90	70.40
6.21	224.35	.345E+07	867.7	0.96	66.35
6.73	224.87	.417E+07	1107.0	1.01	62.81
7.25	225.39	.494E+07	1400.0	1.08	58.80
7.78	225.92	.573E+07	1732.2	1.15	55.17
8.30	226.44	.655E+07	2099.9	1.22	52.02
8.82	226.96	.740E+07	2502.8	1.29	49.29
9.34	227.48	.828E+07	2940.9	1.36	46.90
9.86	228.00	.918E+07	3414.3	1.42	44.79

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8324)	3994.42	27.05	9.00	21.71	1.64	0.57
OUTFLOW:	ID= 1 (6328)	3994.42	22.44	11.00	21.71	1.53	0.57

ADD HYD (8320)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0328):	492.92	2.703	8.75	19.40
	+ ID2= 2 (6328):	3994.42	22.441	11.00	21.71
	ID = 3 (8320):	4487.34	24.947	10.75	21.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8318)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8320):	4487.34	24.947	10.75	21.46
	+ ID2= 2 (8322):	861.74	5.160	9.75	19.93
	ID = 3 (8318):	5349.08	29.930	10.50	21.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8316)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (5509):	10059.16	30.704	14.50	16.22
	+ ID2= 2 (8318):	5349.08	29.930	10.50	21.21
	ID = 3 (8316):	15408.24	55.846	12.25	17.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8312)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8314):	620.10	0.587	7.25	10.42
	+ ID2= 2 (8316):	15408.24	55.846	12.25	17.95
	ID = 3 (8312):	16028.34	56.363	12.25	17.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
---------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.91  15.937     6.50    24.82
       + ID2= 2 (8312): 16028.34  56.363    12.25    17.66
         ================================================
         ID = 3 (8308): 16627.25  57.753    12.00    17.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
---------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     74.0090
                         66.5450    18.5023   |  *******     ********
                         98.5430    37.0045   |  *******     ********

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8308)   *******     57.753     12.00      17.92
     OUTFLOW: ID= 1 (5510)   ********    56.851     12.75      17.92

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.44
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 15.8138

---------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   1.997    22.25    16.45
       + ID2= 2 (5510): 16627.25  56.851    12.75    17.92
         ================================================
         ID = 3 (8240): 19412.25  58.518    13.00    17.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.19  25.053    12.00    10.74
       + ID2= 2 (8240): 19412.25  58.518    13.00    17.71
         ================================================
         ID = 3 (8238): 28936.44  83.335    12.75    15.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| CALIB             |
| STANDHYD  (3427)  |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
---------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     112.23       137.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1289.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        18.62
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      16.65 (ii)   37.61 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.42         3.91        13.018 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        16.53         28.37
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.30          0.52
```

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
---------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4700      5.4211
                          0.8500     3.0375   |  16.6800      6.4838
                          4.8400     3.5126   |  20.9500      7.4161
                          9.0000     4.5390   |  24.3900      8.3284

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3427)    249.400     13.018      6.00      28.37
     OUTFLOW: ID= 1 (9425)    249.400      4.823      6.75      28.37

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.05
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.5334

---------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
---------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6600     12.0067
                          1.2080    11.1244   |   4.4200     12.4001
                          2.0570    11.3002   |   5.2300     12.7452
                          2.7240    11.3602   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9425)    249.400      4.823      6.75      28.37
     OUTFLOW: ID= 1 (5342)    249.400      0.430     18.75      28.36

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.92
                   TIME SHIFT OF PEAK FLOW         (min)=720.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.9605

---------------------
| CALIB             |
| NASHYD    (3422)  |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
---------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   1.572 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=   9.310
     TOTAL RAINFALL   (mm)=  54.400
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3422):   755.17   1.572    10.25     9.31
       + ID2= 2 (5342):   249.40   0.430    18.75    28.36
         ================================================
         ID = 3 (9342):  1004.57   1.919    10.50    14.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8238): 28936.44  83.335    12.75    15.41
       + ID2= 2 (9342):  1004.57   1.919    10.50    14.04
```

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          ================================================
          ID = 3 (8236): 29941.01  85.162    12.50    15.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8232):   285.79   6.561    6.00    23.75
        + ID2= 2 (8236): 29941.01  85.162    12.50    15.37
          ================================================
          ID = 3 (8234): 30226.80  85.629    12.50    15.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.43       128.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1122.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81         9.85
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.32 (ii)   42.35 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.53         1.83         7.246 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40         9.91         20.11
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.18          0.37


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.51        94.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1017.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      71.81        10.70
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      14.44 (ii)   40.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.64         1.50         7.236 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      52.40        10.30         22.51
     TOTAL RAINFALL   (mm)=      54.40        54.40         54.40
     RUNOFF COEFFICIENT   =       0.96         0.19          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6700      6.1252
                          0.3000     1.6125   |   3.3150      7.0314
                          0.8100     3.0036   |   3.8990      7.9700
                          1.4170     4.2559   |   4.2990      7.9800
                          1.8540     5.0526   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150      7.236      6.00      22.51
     OUTFLOW: ID= 1 (5344)    155.150      0.601      8.75      22.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.30
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.4341

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| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3442):   188.84   7.246    6.00    20.11
        + ID2= 2 (5344):   155.15   0.601    8.75    22.50
          ================================================
          ID = 3 (9344):   343.99   7.431    6.00    21.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8234): 30226.80  85.629    12.50    15.45
        + ID2= 2 (9344):   343.99   7.431    6.00    21.19
          ================================================
          ID = 3 (8230): 30570.79  86.272    12.50    15.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8226):  1952.06   6.641    8.50     9.38
        + ID2= 2 (8230): 30570.79  86.272    12.50    15.51
          ================================================
          ID = 3 (8228): 32522.85  90.545    12.25    15.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0356):  1015.22   2.534    8.00     6.98
        + ID2= 2 (8228): 32522.85  90.545    12.25    15.14
          ================================================
          ID = 3 (8190): 33538.07  92.185    12.25    14.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   3 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ab70bd54-a452-450c-b03c-83cdc4826a98\dae664a4
| Ptotal= 62.70 mm |    Comments: 10-Year 12-Hour SCS II Design Storm
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	1.57	3.25	2.51	6.25	11.29	9.25	2.19
0.50	1.57	3.50	2.51	6.50	11.29	9.50	2.19
0.75	1.57	3.75	2.51	6.75	5.02	9.75	2.19
1.00	1.57	4.00	2.51	7.00	5.02	10.00	2.19
1.25	1.57	4.25	3.76	7.25	3.76	10.25	1.25
1.50	1.57	4.50	3.76	7.50	3.76	10.50	1.25
1.75	1.57	4.75	5.02	7.75	3.76	10.75	1.25
2.00	1.57	5.00	5.02	8.00	3.76	11.00	1.25
2.25	1.88	5.25	7.52	8.25	2.19	11.25	1.25
2.50	1.88	5.50	7.52	8.50	2.19	11.50	1.25
2.75	1.88	5.75	30.10	8.75	2.19	11.75	1.25
3.00	1.88	6.00	82.76	9.00	2.19	12.00	1.25

CALIB	NASHYD (0356)	ID= 1 DT=15.0 min	Area (ha)=1015.22	Ia (mm)= 5.00	U.H. Tp(hrs)= 1.37	Curve Number (CN)= 46.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 12.651

PEAK FLOW (cms)= 3.392 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 9.295
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.148

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0352)	ID= 1 DT=15.0 min	Area (ha)= 381.43	Ia (mm)= 5.00	U.H. Tp(hrs)= 0.82	Curve Number (CN)= 54.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 7.980

PEAK FLOW (cms)= 2.453 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 11.980
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.191

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0350)	ID= 1 DT=15.0 min	Area (ha)= 366.84	Ia (mm)= 5.00	U.H. Tp(hrs)= 1.07	Curve Number (CN)= 48.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 5.831

PEAK FLOW (cms)= 1.564 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 9.910
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.158

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0348)	ID= 1 DT=15.0 min	Area (ha)= 590.18	Ia (mm)= 5.00	U.H. Tp(hrs)= 1.91	Curve Number (CN)= 48.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 5.267

PEAK FLOW (cms)= 1.632 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 9.963
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.159

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6350)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3501.0) ------>

Distance	Elevation	Manning	
0.00	287.00	0.0500	
23.66	283.72	0.0500	
70.98	280.94	0.0500	
112.38	280.23	0.0500	
171.52	276.80	0.0500	
260.24	274.46	0.0500	
266.16	274.26	0.0500	
272.07	274.12	0.0500	
276.49	274.12	0.0500 /0.0300	Main Channel
276.99	273.82	0.0300	Main Channel
277.99	273.82	0.0300	Main Channel
279.49	273.82	0.0300	Main Channel
280.49	274.27	0.0300 /0.0500	Main Channel
283.90	274.27	0.0500	
289.81	274.57	0.0500	
325.30	275.75	0.0500	
396.28	278.98	0.0500	
449.51	280.97	0.0500	
496.83	283.90	0.0500	
585.54	287.92	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	274.12	.273E+04	0.9	0.99	49.81
0.98	274.80	.583E+05	20.8	1.05	46.71
1.66	275.48	.203E+06	95.2	1.38	35.53
2.33	276.15	.438E+06	256.0	1.73	28.50
3.01	276.83	.755E+06	524.8	2.05	23.97
3.69	277.51	.114E+07	935.8	2.43	20.26
4.37	278.19	.157E+07	1472.0	2.76	17.82
5.05	278.87	.206E+07	2140.7	3.06	16.06
5.72	279.54	.261E+07	2938.6	3.33	14.79
6.40	280.22	.321E+07	3887.6	3.57	13.77
7.08	280.90	.390E+07	4795.4	3.63	13.56
7.76	281.58	.468E+07	6196.2	3.91	12.58
8.43	282.25	.550E+07	7803.9	4.19	11.74
9.11	282.93	.637E+07	9601.9	4.45	11.05
9.79	283.61	.728E+07	11594.8	4.70	10.46
10.47	284.29	.823E+07	13845.3	4.96	9.91
11.15	284.97	.922E+07	16293.4	5.21	9.43
11.82	285.64	.103E+08	18952.0	5.45	9.02
12.50	286.32	.113E+08	21824.3	5.69	8.65

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0348)	590.18	1.63	9.00	9.96	0.32	0.99
OUTFLOW:	ID= 1 (6350)	590.18	1.59	10.25	9.96	0.32	0.99

ADD HYD (8220)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0350):	366.84	1.564	7.50	9.91
		+ ID2= 2 (6350):	590.18	1.595	10.25	9.96
		ID = 3 (8220):	957.02	2.909	8.75	9.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (3461)	ID= 1 DT=15.0 min	Area (ha)= 33.62	Total Imp(%)= 61.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.51	13.11
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	473.43	40.00
Mannings n	=	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      82.76        67.41
              over (min)         15.00        30.00
     Storage Coeff.  (min)=       8.62 (ii)   21.15 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.58         1.21         3.362 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        27.56         40.15
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.44          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0090      0.6158
                          0.2450     0.2524   |   2.6260      0.6610
                          0.6230     0.3644   |   3.2370      0.7019
                          0.9920     0.4690   |   3.6370      0.7119
                          1.2510     0.5428   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3461)     33.620      3.362      6.00      40.15
     OUTFLOW: ID= 1 (5346)     33.620      1.291      6.50      40.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.41
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5476

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   3.117 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  20.399
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3462):   317.31   3.117     7.25    20.40
       + ID2= 2 (5346):    33.62   1.291     6.50    40.15
         ================================================
         ID = 3 (9346):   350.93   4.193     6.75    22.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8220):   957.02   2.909     8.75     9.94
       + ID2= 2 (9346):   350.93   4.193     6.75    22.29
         ================================================
         ID = 3 (8222):  1307.95   6.510     7.25    13.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3521.0) ------>
              Distance      Elevation       Manning
                  0.00         257.95        0.0500
                  7.83         257.34        0.0500
                 15.66         256.19        0.0500
                 21.53         254.01        0.0500
                 41.11         244.06        0.0500
                 76.35         241.38        0.0500
                111.58         239.74        0.0500
                113.54         239.61        0.0500
                113.75         239.41    0.0500 /0.0300  Main Channel
                113.85         238.81        0.0300      Main Channel
                115.50         238.81        0.0300      Main Channel
                116.15         238.81        0.0300      Main Channel
                116.25         239.41        0.0300      Main Channel
                117.46         239.52        0.0500
                119.41         239.72        0.0500
                121.37         240.04        0.0500
                131.16         241.84        0.0500
                156.61         247.03        0.0500
                176.19         251.46        0.0500
                193.80         258.79        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.60   239.41    .224E+04       2.2         1.52       17.12
      1.58   240.39    .216E+05      22.3         1.61       16.16
      2.55   241.36    .804E+05     101.0         1.96       13.27
      3.53   242.34    .173E+06     275.6         2.48       10.46
      4.50   243.31    .293E+06     553.9         2.95        8.80
      5.48   244.29    .438E+06     961.8         3.42        7.60
      6.45   245.26    .599E+06    1534.4         3.99        6.51
      7.43   246.24    .770E+06    2228.4         4.51        5.76
      8.41   247.22    .951E+06    3043.6         4.98        5.21
      9.38   248.19    .114E+07    3982.1         5.43        4.78
     10.36   249.17    .134E+07    5040.1         5.85        4.44
     11.33   250.14    .155E+07    6218.5         6.24        4.16
     12.31   251.12    .177E+07    7518.6         6.61        3.93
     13.29   252.10    .200E+07    8969.0         6.98        3.72
     14.26   253.07    .224E+07   10554.1         7.35        3.53
     15.24   254.05    .248E+07   12257.1         7.71        3.37
     16.21   255.02    .272E+07   14045.1         8.03        3.23
     17.19   256.00    .298E+07   15954.8         8.34        3.11
     18.16   256.97    .325E+07   17780.4         8.53        3.04

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95     6.51    7.25  13.26      0.81      1.53
     OUTFLOW: ID= 1 (6352) 1307.95     6.45    7.75  13.26      0.81      1.53

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| ADD HYD   (8224) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):   381.43   2.453     7.00    11.98
       + ID2= 2 (6352):  1307.95   6.446     7.75    13.26
         ================================================
         ID = 3 (8224):  1689.38   8.810     7.50    12.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3541.0) ------>
              Distance      Elevation       Manning
                  0.00         253.92        0.0500
                  7.95         251.83        0.0500
                 15.89         249.97        0.0500
                 19.87         249.05        0.0500
                 47.68         242.00        0.0500
                 67.55         237.10        0.0500
```

```
  83.44        231.11        0.0500
  85.43        230.75        0.0500
  85.66        230.61    0.0500 /0.0300  Main Channel
  85.76        230.01        0.0300      Main Channel
  87.41        230.01        0.0300      Main Channel
  88.06        230.01        0.0300      Main Channel
  88.16        230.61    0.0300 /0.0500  Main Channel
  89.40        230.72        0.0500
  91.39        230.88        0.0500
  93.37        231.03        0.0500
 133.11        233.96        0.0500
 150.99        235.39        0.0500
 172.84        239.03        0.0500
 196.68        250.00        0.0500

<---------- TRAVEL TIME TABLE ---------->
 DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
 0.60   230.61    .451E+04       1.5         1.06       49.40
 1.62   231.63    .394E+05      14.6         1.16       45.13
 2.64   232.65    .128E+06      58.8         1.44       36.30
 3.66   233.67    .269E+06     149.7         1.74       30.00
 4.68   234.69    .463E+06     301.5         2.04       25.58
 5.70   235.71    .705E+06     530.5         2.36       22.14
 6.72   236.73    .980E+06     848.4         2.71       19.25
 7.74   237.75    .128E+07    1237.9         3.02       17.29
 8.76   238.77    .162E+07    1706.7         3.30       15.83
 9.78   239.79    .199E+07    2291.9         3.61       14.45
10.81   240.82    .237E+07    2973.7         3.92       13.30
11.83   241.84    .278E+07    3742.2         4.21       12.38
12.85   242.86    .321E+07    4599.1         4.49       11.62
13.87   243.88    .365E+07    5544.6         4.75       10.98
14.89   244.90    .412E+07    6579.7         5.00       10.44
15.91   245.92    .461E+07    7705.9         5.23        9.97
16.93   246.94    .512E+07    8924.6         5.46        9.55
17.95   247.96    .564E+07   10237.5         5.68        9.19
18.97   248.98    .619E+07   11646.2         5.89        8.86

                          <---- hydrograph ---->   <-pipe / channel->
                      AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                      (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8224) 1689.38     8.81    7.50  12.97      1.17      1.11
OUTFLOW: ID= 1 (6354) 1689.38     8.08    8.50  12.97      1.11      1.10


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3541) |   Area    (ha)=   8.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.01         2.00
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    231.08        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76         8.09
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      5.61 (ii)   34.85 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.11         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.23         0.03          1.241 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     60.70         7.70          44.80
     TOTAL RAINFALL   (mm)=     62.70         0.12          62.70
     RUNOFF COEFFICIENT   =      0.97         0.12           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  35.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5354) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5360      0.2546
                         0.0270     0.1427   |   0.6730      0.2758
                         0.1550     0.1714   |   0.7830      0.2966
                         0.2890     0.1975   |   1.1830      0.3066
                         0.4010     0.2251   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3541)     8.010     1.241      6.00      44.80
     OUTFLOW: ID= 1 (5354)     8.010     0.330      6.25      44.63

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.63
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2106

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3542) |   Area    (ha)= 254.67   Curve Number   (CN)= 36.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.174

     PEAK FLOW       (cms)=   0.608 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   6.672
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9354) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3542):   254.67   0.608     8.00     6.67
       + ID2= 2 (5354):     8.01   0.330     6.25    44.63
         ================================================
         ID = 3 (9354):   262.68   0.760     6.50     7.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6354):  1689.38   8.081     8.50    12.97
       + ID2= 2 (9354):   262.68   0.760     6.50     7.83
         ================================================
         ID = 3 (8226):  1952.06   8.750     8.50    12.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     63.86        74.97
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    962.05        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     82.76        15.43
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     13.20 (ii)   35.78 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      6.86         1.83          7.600 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=     60.70        12.89          26.28
     TOTAL RAINFALL   (mm)=     62.70        62.70          62.70
     RUNOFF COEFFICIENT   =      0.97         0.21           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.24        61.72
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     989.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        20.57
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.42 (ii)   33.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.01         2.07          9.866 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70        14.68          30.79
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.23           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  11.4780      4.3560
                          0.3860     2.0347   |  14.9940      4.9991
                          3.2310     2.5818   |  18.1680      5.6243
                          5.1770     3.1417   |  18.5680      5.6343
                          7.7590     3.6318   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)    146.960     9.866      6.00      30.79
     OUTFLOW: ID= 1 (5340)    146.960     2.714      6.75      30.78

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 27.51
                   TIME SHIFT OF PEAK FLOW          (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.4917

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3402):   138.83   7.600     6.00    26.28
        + ID2= 2 (5340):   146.96   2.714     6.75    30.78
          ================================================
          ID = 3 (8232):   285.79   7.859     6.00    28.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   1.949 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=   9.944
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.159

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   2.048 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  13.505
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.215

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   4.625 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  22.449
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.358

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   2.759 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  15.043
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.343 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   6.719
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860
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     PEAK FLOW       (cms)=   1.913 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.799
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0366) |   Area     (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   3.151 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.457
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3641) |   Area    (ha)=   7.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.53         4.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     228.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        17.23
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.57 (ii)   27.19 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.15          0.366 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        12.58          20.27
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.20           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5250      0.2044
                          0.0270     0.0959   |   0.6590      0.2337
                          0.1520     0.1110   |   0.7670      0.2624
                          0.2830     0.1432   |   1.1670      0.2724
                          0.3930     0.1710   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850     0.366      6.00      20.27
     OUTFLOW: ID= 1 (5364)     7.850     0.054      7.50      20.16

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.74
                 TIME SHIFT OF PEAK FLOW         (min)= 90.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0993

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| CALIB            |
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| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96        116.46
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     991.36         40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        10.29
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      13.44 (ii)   40.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.81         1.79          2.520 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      60.70         9.89          13.44
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.16           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3642):   147.42   2.520     6.00    13.44
        + ID2= 2 (5364):     7.85   0.054     7.50    20.16
          ================================================
          ID = 3 (9364):   155.27   2.533     6.00    13.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0366):   462.62   3.151     7.50    15.46
        + ID2= 2 (9364):   155.27   2.533     6.00    13.78
          ================================================
          ID = 3 (8302):   617.89   5.018     6.50    15.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0358) |   Area     (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   6.228
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0360) |   Area     (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957
```

```
     PEAK FLOW       (cms)=   0.860 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   9.151
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.146

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   1.174     7.50     6.23
       + ID2= 2 (0360):   138.37   0.860     6.75     9.15
         ================================================
         ID = 3 (8306):   568.24   1.984     7.00     6.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                   0.00         261.46        0.0550
                  27.86         254.23        0.0550
                  51.07         251.96        0.0550
                  74.29         250.77        0.0550
                  97.50         249.91        0.0550
                 125.36         249.40        0.0550
                 150.93         247.40        0.0550
                 155.93         247.33    0.0550 /0.0350  Main Channel
                 157.93         246.85        0.0350      Main Channel
                 159.18         246.65        0.0350      Main Channel
                 160.18         246.63        0.0350      Main Channel
                 160.93         246.85        0.0350      Main Channel
                 161.93         247.18    0.0350 /0.0550  Main Channel
                 163.18         248.03        0.0550
                 168.18         248.58        0.0550
                 183.18         250.18        0.0550
                 201.97         252.59        0.0550
                 213.57         256.02        0.0550
                 225.18         260.31        0.0550
                 229.82         261.00        0.0550

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.55    247.18    .556E+04       1.9          1.03      49.95
       1.28    247.91    .336E+05      16.7          1.53      33.61
       2.00    248.63    .913E+05      53.6          1.81      28.40
       2.73    249.36    .185E+06     122.3          2.05      25.18
       3.46    250.09    .344E+06     224.6          2.02      25.52
       4.19    250.82    .574E+06     417.9          2.25      22.91
       4.91    251.54    .855E+06     699.1          2.53      20.38
       5.64    252.27    .118E+07    1075.3          2.82      18.26
       6.37    253.00    .153E+07    1559.9          3.15      16.38
       7.10    253.73    .191E+07    2137.6          3.46      14.89
       7.82    254.45    .231E+07    2815.2          3.77      13.67
       8.55    255.18    .272E+07    3608.5          4.10      12.58
       9.28    255.91    .315E+07    4488.2          4.41      11.69
      10.01    256.64    .358E+07    5458.0          4.71      10.95
      10.73    257.36    .403E+07    6512.4          4.99      10.32
      11.46    258.09    .449E+07    7649.8          5.27       9.78
      12.19    258.82    .496E+07    8869.5          5.53       9.32
      12.92    259.55    .544E+07   10171.2          5.78       8.91
      13.64    260.27    .593E+07   11554.8          6.02       8.55

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     1.98    7.00   6.94      0.56      1.03
     OUTFLOW: ID= 1 (6362)  568.24     1.75    8.25   6.94      0.52      1.03


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-------------------
| CALIB             |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.34          6.53
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     281.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         18.49
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.31 (ii)    27.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.44          0.24          0.581 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         13.60         21.60
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.22          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7940      0.3091
                         0.0400     0.1451   |   0.9970      0.3534
                         0.2300     0.1678   |   1.1610      0.3968
                         0.4280     0.2166   |   1.5610      0.4068
                         0.5940     0.2586   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3621)     11.870      0.581      6.00      21.60
     OUTFLOW: ID= 1 (5362)     11.870      0.109      7.25      21.53

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.72
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1538

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-------------------
| CALIB             |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.66         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     844.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         11.74
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.20 (ii)    37.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.75          1.48          2.340 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         11.03         15.50
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.18          0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9362)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3622):		106.91	2.340	6.00	15.50
+ ID2= 2 (5362):		11.87	0.109	7.25	21.53
ID = 3 (9362):		118.78	2.359	6.00	16.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8304)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6362):		568.24	1.750	8.25	6.94
+ ID2= 2 (9362):		118.78	2.359	6.00	16.10
ID = 3 (8304):		687.02	2.818	6.50	8.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8300)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8302):		617.89	5.018	6.50	15.04
+ ID2= 2 (8304):		687.02	2.818	6.50	8.52
ID = 3 (8300):		1304.91	7.836	6.50	11.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6368)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3681.0) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0370	
18.48	223.26	0.0370	
36.96	223.05	0.0370	
64.67	222.94	0.0370	
110.87	222.86	0.0370	
133.96	222.74	0.0370	
147.82	222.65	0.0370	
170.92	222.31	0.0370	
174.79	222.26	0.0370 /0.0300	Main Channel
174.89	221.86	0.0300	Main Channel
175.54	221.86	0.0300	Main Channel
176.19	221.86	0.0300	Main Channel
176.29	222.26	0.0300 /0.0370	Main Channel
180.16	222.25	0.0370	
184.78	222.28	0.0370	
189.40	222.31	0.0370	
332.60	222.37	0.0370	
450.00	230.00	0.0370	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	222.26	.771E+03	0.3	0.52	41.74
0.81	222.67	.784E+05	30.3	0.51	43.17
1.21	223.07	.210E+06	123.2	0.77	28.42
1.62	223.48	.384E+06	301.0	1.03	21.25
2.03	223.89	.563E+06	550.2	1.28	17.06
2.44	224.30	.747E+06	860.7	1.51	14.46
2.84	224.70	.934E+06	1228.1	1.73	12.68
3.25	225.11	.113E+07	1649.3	1.92	11.37
3.66	225.52	.132E+07	2122.3	2.11	10.37
4.07	225.93	.152E+07	2645.5	2.29	9.58
4.47	226.33	.172E+07	3217.8	2.45	8.92
4.88	226.74	.193E+07	3838.3	2.61	8.38
5.29	227.15	.214E+07	4506.3	2.76	7.92
5.70	227.56	.236E+07	5221.3	2.91	7.52
6.10	227.96	.258E+07	5983.0	3.05	7.17
6.51	228.37	.280E+07	6790.9	3.19	6.87
6.92	228.78	.303E+07	7645.0	3.32	6.60
7.33	229.19	.326E+07	8545.1	3.45	6.35
7.73	229.59	.349E+07	9491.0	3.57	6.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8300)	1304.91	7.84	6.50	11.61	0.50	0.52
OUTFLOW: ID= 1 (6368)	1304.91	6.47	7.75	11.61	0.48	0.52

CALIB
STANDHYD (3681) | Area (ha)= 2.95
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 15.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	1.62
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	140.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	82.76	16.28
over	(min)	15.00	30.00
Storage Coeff.	(min)=	4.16 (ii)	26.27 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.11	0.04

				TOTALS
PEAK FLOW	(cms)=	0.10	0.05	0.132 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	11.79	19.12
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.19	0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 40.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5368)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1970	0.0767
0.0100	0.0360	0.2470	0.0877
0.0570	0.0416	0.2880	0.0984
0.1060	0.0537	0.6880	0.1084
0.1470	0.0642	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3681)		2.950	0.132	6.00	19.12
OUTFLOW: ID= 1 (5368)		2.950	0.015	7.75	18.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.44
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.0366

CALIB
NASHYD (3682) | Area (ha)= 156.53 Curve Number (CN)= 45.9
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.96

Unit Hyd Qpeak (cms)= 2.778

PEAK FLOW	(cms)=	0.674 (i)	
TIME TO PEAK	(hrs)=	7.250	
RUNOFF VOLUME	(mm)=	9.223	
TOTAL RAINFALL	(mm)=	62.700	
RUNOFF COEFFICIENT	=	0.147	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9368)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (3682):	156.53	0.674	7.25	9.22
	+ ID2= 2 (5368):	2.95	0.015	7.75	18.82
	ID = 3 (9368):	159.48	0.687	7.50	9.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8298)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6368):	1304.91	6.469	7.75	11.61
	+ ID2= 2 (9368):	159.48	0.687	7.50	9.40
	ID = 3 (8298):	1464.39	7.150	7.75	11.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8296)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0370):	191.85	1.913	6.75	15.80
	+ ID2= 2 (8298):	1464.39	7.150	7.75	11.37
	ID = 3 (8296):	1656.24	8.888	7.50	11.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84
1.97	220.48	.131E+07	1090.4	1.25	20.05
2.32	220.83	.169E+07	1647.7	1.47	17.06
2.67	221.18	.206E+07	2294.6	1.68	14.99
3.01	221.52	.244E+07	3025.6	1.87	13.46
3.36	221.87	.282E+07	3836.5	2.05	12.27
3.71	222.22	.321E+07	4723.7	2.22	11.31
4.06	222.57	.359E+07	5684.6	2.39	10.53
4.40	222.91	.398E+07	6716.6	2.55	9.87
4.75	223.26	.437E+07	7817.7	2.70	9.31
5.10	223.61	.476E+07	8986.2	2.85	8.83
5.45	223.96	.515E+07	10220.4	2.99	8.40
5.79	224.30	.555E+07	11519.1	3.13	8.03
6.14	224.65	.594E+07	12880.8	3.27	7.69
6.49	225.00	.634E+07	14304.5	3.40	7.39

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (8296)	1656.24	8.89	7.50	11.88	0.60	0.83
OUTFLOW:	ID= 1 (6372)	1656.24	8.52	8.25	11.88	0.60	0.83

ADD HYD (8294)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0372):	110.42	0.343	7.25	6.72
	+ ID2= 2 (6372):	1656.24	8.519	8.25	11.88
	ID = 3 (8294):	1766.66	8.844	8.25	11.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8292)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0374):	545.70	2.759	8.25	15.04
	+ ID2= 2 (8294):	1766.66	8.844	8.25	11.56
	ID = 3 (8292):	2312.36	11.603	8.25	12.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5505)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	65.1290	345.3754
		25.4850	24.6697	84.9510	456.3890
		31.1490	98.6787	*******	838.7689
		39.6440	*******	*******	838.7789
		48.1390	*******	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (8292)	2312.360	11.603	8.25	12.38
OUTFLOW:	ID= 1 (5505)	2312.360	8.313	11.00	12.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 71.65
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 8.0502

ADD HYD (8272)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0376):	463.85	4.625	7.50	22.45
	+ ID2= 2 (5505):	2312.36	8.313	11.00	12.38
	ID = 3 (8272):	2776.21	11.409	10.00	14.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0396)	Area (ha)=	305.21	Curve Number (CN)=	69.0	
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.08			

Unit Hyd Qpeak (cms)= 4.811

```
     PEAK FLOW       (cms)=   2.564 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.201
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   1.838 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  11.632
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   2.260 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.424
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   1.394 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.635
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   1.798 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.947
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.238

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   1.798     7.25    14.95
       + ID2= 2 (0388):   220.77   1.394     7.25    13.64
         ================================================
         ID = 3 (8286):   462.04   3.192     7.25    14.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   0.803 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   8.644
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   0.964 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   7.404
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.118

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   1.611 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  11.537
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   0.964     6.50     7.40
       + ID2= 2 (0382):   216.59   1.611     6.75    11.54
         ================================================
         ID = 3 (8290):   398.60   2.571     6.75     9.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3841.0) ------>
               Distance      Elevation       Manning
                   0.00         294.40        0.0380
                  10.59         291.93        0.0380
                  21.17         289.19        0.0380
                  26.46         287.99        0.0380
                  31.76         286.79        0.0380
                  71.45         279.97        0.0380
                  74.10         279.79        0.0380
                  76.74         279.71        0.0380
```

```
                78.99        279.64    0.0380 /0.0300  Main Channel
                79.14        279.30        0.0300      Main Channel
                79.39        279.30        0.0300      Main Channel
                79.64        279.30        0.0300      Main Channel
                79.79        279.64    0.0300 /0.0380  Main Channel
                89.98        279.78        0.0380
               119.09        281.86        0.0380
               145.55        282.87        0.0380
               198.48        284.85        0.0380
               211.71        286.31        0.0380
               230.23        287.59        0.0380
               261.99        294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.34   279.64    .715E+03       0.2         0.85       63.42
       1.10   280.40    .507E+05      21.9         1.40       38.54
       1.85   281.15    .141E+06      91.8         2.10       25.69
       2.61   281.91    .269E+06     218.9         2.63       20.46
       3.36   282.66    .445E+06     407.1         2.96       18.23
       4.12   283.42    .681E+06     698.3         3.31       16.26
       4.87   284.17    .977E+06    1111.8         3.68       14.65
       5.63   284.93    .133E+07    1674.3         4.06       13.27
       6.39   285.69    .173E+07    2457.8         4.59       11.73
       7.14   286.44    .215E+07    3378.8         5.07       10.63
       7.90   287.20    .261E+07    4418.4         5.47        9.85
       8.65   287.95    .310E+07    5676.3         5.92        9.11
       9.41   288.71    .361E+07    7150.5         6.40        8.42
      10.17   289.47    .414E+07    8783.1         6.86        7.86
      10.92   290.22    .469E+07   10575.1         7.30        7.38
      11.68   290.98    .525E+07   12520.4         7.72        6.98
      12.43   291.73    .582E+07   14619.0         8.12        6.64
      13.19   292.49    .642E+07   16863.2         8.50        6.34
      13.94   293.24    .703E+07   19259.8         8.86        6.08

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     2.57    6.75   9.65      0.42      0.89
     OUTFLOW: ID= 1 (6384)  398.60     2.01    8.00   9.65      0.40      0.88


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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8384):   199.07   0.803     7.25     8.64
       + ID2= 2 (6384):   398.60   2.015     8.00     9.65
         ================================================
         ID = 3 (8288):   597.67   2.797     8.00     9.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   3.192     7.25    14.32
       + ID2= 2 (8288):   597.67   2.797     8.00     9.31
         ================================================
         ID = 3 (8284):  1059.71   5.920     7.75    11.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   2.260     7.50    12.42
       + ID2= 2 (8284):  1059.71   5.920     7.75    11.50
         ================================================
         ID = 3 (8280):  1479.71   8.177     7.50    11.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   1.497 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  15.356
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.245

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   3.046 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.439
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   3.046     8.00    12.44
       + ID2= 2 (0392):   167.22   1.497     7.00    15.36
         ================================================
         ID = 3 (8282):   773.94   4.443     7.25    13.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71   8.177     7.50    11.76
       + ID2= 2 (8282):   773.94   4.443     7.25    13.07
         ================================================
         ID = 3 (8278):  2253.65  12.619     7.50    12.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3941.0) ------>
               Distance      Elevation       Manning
                   0.00         283.00        0.0380
                  13.48         282.87        0.0380
                  53.92         280.08        0.0380
                  74.13         276.62        0.0380
                  97.72         265.45        0.0380
                 114.57         256.93        0.0380
                 131.42         253.04        0.0380
                 134.79         252.58        0.0380
                 138.53         251.74    0.0380 /0.0300  Main Channel
                 139.03         251.20        0.0300      Main Channel
                 141.53         251.20        0.0300      Main Channel
                 144.03         251.20        0.0300      Main Channel
                 144.53         251.74    0.0300 /0.0380  Main Channel
                 148.27         252.69        0.0380
                 151.64         252.97        0.0380
                 185.34         255.08        0.0380
                 219.03         257.54        0.0380
                 262.84         259.43        0.0380
                 310.02         262.80        0.0380
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            333.60        283.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54   251.74    .827E+04       4.5          1.51       30.71
       2.19   253.39    .758E+05      73.2          2.69       17.27
       3.83   255.03    .282E+06     331.8          3.27       14.17
       5.48   256.68    .633E+06     917.3          4.03       11.51
       7.12   258.32    .112E+07    1889.5          4.69        9.90
       8.77   259.97    .179E+07    3410.2          5.31        8.73
      10.41   261.61    .259E+07    5627.6          6.05        7.66
      12.06   263.26    .351E+07    8605.1          6.83        6.79
      13.70   264.90    .447E+07   12544.9          7.81        5.94
      15.35   266.55    .546E+07   17101.4          8.71        5.32
      16.99   268.19    .648E+07   22251.7          9.56        4.85
      18.64   269.84    .752E+07   27979.0         10.36        4.48
      20.28   271.48    .858E+07   34269.0         11.11        4.17
      21.93   273.13    .967E+07   41110.8         11.83        3.92
      23.57   274.77    .108E+08   48495.9         12.51        3.71
      25.22   276.42    .119E+08   56418.1         13.17        3.52
      26.86   278.06    .131E+08   64410.6         13.69        3.39
      28.51   279.71    .143E+08   73002.1         14.18        3.27
      30.15   281.35    .156E+08   81379.3         14.50        3.20

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65    12.62    7.50  12.21      0.73      1.59
     OUTFLOW: ID= 1 (6394) 2253.65    12.25    8.25  12.21      0.73      1.59


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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   1.838     7.25     11.63
       + ID2= 2 (6394):  2253.65  12.251     8.25     12.21
         ================================================
         ID = 3 (8276):  2579.10  13.996     8.00     12.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3961.0) ------>
               Distance      Elevation       Manning
                   0.00         263.00        0.0410
                  11.75         257.14        0.0410
                  23.50         253.97        0.0410
                  41.13         247.83        0.0410
                  76.38         232.09        0.0410
                 135.13         229.07        0.0410
                 149.82         228.97        0.0410
                 152.75         228.96    0.0410 /0.0300  Main Channel
                 154.19         228.73        0.0300      Main Channel
                 154.69         228.20        0.0300      Main Channel
                 155.69         228.20        0.0300      Main Channel
                 156.69         228.20        0.0300      Main Channel
                 157.19         228.73        0.0300      Main Channel
                 158.63         228.95    0.0300 /0.0410  Main Channel
                 161.57         228.96        0.0410
                 164.51         229.71        0.0410
                 196.82         241.70        0.0410
                 223.26         249.21        0.0410
                 246.76         255.13        0.0410
                 290.82         263.51        0.0410

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   228.95    .780E+04       2.2          0.98       58.06
       2.54   230.74    .277E+06     145.1          1.78       31.76
       4.33   232.53    .786E+06     609.1          2.63       21.50
       6.13   234.33    .140E+07    1481.5          3.59       15.77
       7.92   236.12    .207E+07    2677.3          4.39       12.90
       9.71   237.91    .280E+07    4184.8          5.09       11.14
      11.50   239.70    .357E+07    6001.4          5.71        9.93
      13.29   241.49    .441E+07    8129.1          6.27        9.03
      15.09   243.29    .530E+07   10549.4          6.77        8.37
      16.88   245.08    .625E+07   13300.6          7.24        7.83
      18.67   246.87    .726E+07   16396.2          7.68        7.38
      20.46   248.66    .834E+07   19809.8          8.07        7.02
      22.26   250.46    .949E+07   23532.5          8.43        6.72
      24.05   252.25    .107E+08   27641.2          8.77        6.46
      25.84   254.04    .120E+08   32155.2          9.10        6.22
      27.63   255.83    .134E+08   36901.0          9.37        6.05
      29.42   257.62    .149E+08   42147.7          9.64        5.88
      31.22   259.42    .164E+08   48149.1          9.97        5.68
      33.01   261.21    .181E+08   54644.8         10.29        5.51

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10    14.00    8.00  12.14      0.90      1.01
     OUTFLOW: ID= 1 (6396) 2579.10    12.65    9.25  12.14      0.88      1.01


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--------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   2.564     7.50     19.20
       + ID2= 2 (6396):  2579.10  12.651     9.25     12.14
         ================================================
         ID = 3 (8274):  2884.31  14.864     9.00     12.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  11.409    10.00     14.06
       + ID2= 2 (8274):  2884.31  14.864     9.00     12.88
         ================================================
         ID = 3 (8270):  5660.52  25.939     9.25     13.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     25.939      9.25      13.46
     OUTFLOW: ID= 1 (5506)   5660.520     21.378     11.75      13.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.42
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 16.9394

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--------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   1.735 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.263
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.084 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   9.573
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   1.593 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  14.988
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   0.902 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  11.008
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.154 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  12.370
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   2.154     7.00    12.37
       + ID2= 2 (0400):    93.97   0.902     6.50    11.01
         ================================================
         ID = 3 (8268):   422.16   2.966     6.75    12.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                  0.00         238.50        0.0360
                 11.50         238.00        0.0360
                 23.00         237.93        0.0360
                 34.49         236.39        0.0360
                 63.24         233.98        0.0360
                 97.73         228.15        0.0360
                123.60         227.08        0.0360
                126.48         226.61        0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25        0.0330      Main Channel
                129.35         225.25        0.0330      Main Channel
                130.85         225.25        0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59        0.0360
                143.72         227.42        0.0360
                169.59         227.88        0.0360
                192.59         231.19        0.0360
                218.46         233.02        0.0360
                241.45         235.50        0.0360
                284.57         236.43        0.0360

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.41   225.66    .391E+04        1.7          1.36      38.31
        0.81   226.06    .804E+04        5.0          1.93      27.02
        1.22   226.47    .124E+05        9.1          2.30      22.61
        1.84   227.09    .308E+05       23.3          2.36      22.03
        2.46   227.71    .904E+05       62.0          2.14      24.31
        3.09   228.34    .223E+06      188.3          2.63      19.75
        3.71   228.96    .379E+06      410.2          3.38      15.39
        4.33   229.58    .550E+06      711.5          4.04      12.89
        4.95   230.20    .737E+06     1091.3          4.62      11.25
        5.58   230.83    .939E+06     1550.6          5.15      10.10
        6.20   231.45    .116E+07     2072.4          5.59       9.31
        6.82   232.07    .140E+07     2659.2          5.93       8.77
        7.44   232.69    .167E+07     3345.8          6.27       8.30
        8.07   233.32    .195E+07     4159.0          6.64       7.83
        8.69   233.94    .226E+07     5100.8          7.03       7.39
        9.31   234.56    .259E+07     6081.3          7.32       7.11
        9.93   235.18    .295E+07     7183.1          7.60       6.84
       10.56   235.81    .334E+07     8145.2          7.62       6.83
       11.18   236.43    .379E+07     9116.0          7.51       6.92

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     2.97    6.75  12.07      0.56      1.53
     OUTFLOW: ID= 1 (6402)  422.16     2.70    7.50  12.07      0.53      1.49

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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   1.593     7.50    14.99
       + ID2= 2 (6402):   422.16   2.701     7.50    12.07
         ================================================
         ID = 3 (8266):   666.16   4.294     7.50    13.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.084     7.50     9.57
       + ID2= 2 (8266):   666.16   4.294     7.50    13.14
         ================================================
         ID = 3 (8264):   912.62   5.378     7.50    12.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   1.735     6.75    17.26
       + ID2= 2 (8264):   912.62   5.378     7.50    12.17
         ================================================
         ID = 3 (8262):  1055.27   6.905     7.25    12.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52  21.378    11.75    13.46
       + ID2= 2 (8262):  1055.27   6.905     7.25    12.86
         ================================================
         ID = 3 (8260):  6715.79  24.511    11.25    13.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   2.048     6.75    13.51
       + ID2= 2 (8260):  6715.79  24.511    11.25    13.37
         ================================================
         ID = 3 (8258):  6947.41  25.154    11.00    13.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   1.949     8.25     9.94
       + ID2= 2 (8258):  6947.41  25.154    11.00    13.37
         ================================================
         ID = 3 (8256):  7519.42  26.740    10.75    13.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  90.6140     67.8416
                        39.6440    12.3348   |  *******    160.3529
                        48.1390    18.5023   |  *******    160.3629
                        67.9600    37.0045   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8256)   7519.421     26.740     10.75      13.11
     OUTFLOW: ID= 1 (5507)   7519.421     26.163     11.75      13.11

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.84
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  8.1438

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   1.097 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  11.603
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)= 156.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------

                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       81.49         75.23
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=     1022.15         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76         65.84
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       13.68 (ii)    26.33 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        5.72          6.11       9.590 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=       60.70         26.10       33.37
     TOTAL RAINFALL   (mm)=       62.70         62.70       62.70
     RUNOFF COEFFICIENT   =        0.97          0.42        0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.8    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4144) |   Area    (ha)=   2.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------

                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.63          1.47
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      118.32         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=       82.76         62.25
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        3.75 (ii)    16.68 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.05          0.14        0.146 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25         6.25
     RUNOFF VOLUME    (mm)=       60.70         31.07       34.03
     TOTAL RAINFALL   (mm)=       62.70         62.70       62.70
     RUNOFF COEFFICIENT   =        0.97          0.50        0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (9429) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1000      0.0386
                         0.0100     0.0195   |   0.1400      0.0480
                         0.0400     0.0218   |   0.1700      0.0569
                         0.0700     0.0312   |   0.2000      0.0655

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4144)    2.100      0.146      6.25      34.03
     OUTFLOW: ID= 1 (9429)    2.100      0.067      6.75      33.81
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.71
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0307
```

```
| ADD HYD   (9424) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4141):   156.72   9.590     6.00    33.37
       + ID2= 2 (9429):    2.10   0.067     6.75    33.81
         ================================================
         ID = 3 (9424):   158.82   9.598     6.00    33.37
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.4896
                         0.1870     1.6651   |   5.4940      5.4773
                         2.0210     2.0447   |   6.0800      6.4738
                         2.9590     2.4658   |   6.4800      6.4838
                         3.7490     3.5575   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9424)    158.820      9.598      6.00      33.37
     OUTFLOW: ID= 1 (5414)    158.820      3.108      7.00      33.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.38
                TIME SHIFT OF PEAK FLOW          (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.6777
```

```
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15         13.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     440.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         65.84
                over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.26 (ii)   20.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.25          1.27          2.062 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         26.10         33.37
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.42          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   2.062     6.00    33.37
       + ID2= 2 (5414):   158.82   3.108     7.00    33.36
         ================================================
         ID = 3 (8254):   187.96   3.944     6.50    33.36
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB            |
| STANDHYD  (4121) |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90        111.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1160.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         22.77
                over (min)       15.00         45.00
     Storage Coeff.  (min)=      14.77 (ii)   34.10 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.45          4.09          7.137 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         16.35         23.44
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.26          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.5000      1.0500
                         0.3860     0.5085   |   7.9000      1.1500
                         1.8460     0.6103   |   9.3000      1.2500
                         3.5050     0.7566   |   9.7000      1.2600
                         4.7890     0.8929   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4121)    202.000      7.137      6.00      23.44
     OUTFLOW: ID= 1 (5412)    202.000      5.475      6.50      23.44

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 76.71
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9652
```

```
| CALIB            |
| STANDHYD  (4122) |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.12         13.58
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     494.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         66.55
                over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.85 (ii)   21.44 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.62          1.23          2.398 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         20.94         29.69
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.33          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
        CN*  =  51.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   2.398     6.00     29.69
       + ID2= 2 (5412):   202.00   5.475     6.50     23.44
         ================================================
         ID = 3 (9412):   238.70   6.862     6.25     24.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   3.944     6.50     33.36
       + ID2= 2 (9412):   238.70   6.862     6.25     24.40
         ================================================
         ID = 3 (8252):   426.66  10.546     6.50     28.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (4161.0) ------>
             Distance      Elevation       Manning
                0.00         270.07        0.0340
               20.67         267.91        0.0340
               62.01         264.33        0.0340
              113.69         259.75        0.0340
              165.37         253.30        0.0340
              227.38         246.29        0.0340
              232.55         246.03        0.0340
              237.72         246.16        0.0340
              241.39         246.02    0.0340 /0.0300  Main Channel
              241.64         245.75        0.0300      Main Channel
              242.89         245.75        0.0300      Main Channel
              244.14         245.75        0.0300      Main Channel
              244.39         246.02    0.0300 /0.0340  Main Channel
              248.06         246.20        0.0340
              253.22         246.28        0.0340
              258.39         246.63        0.0340
              346.25         252.57        0.0340
              413.43         257.77        0.0340
              465.11         261.78        0.0340
              511.62         270.00        0.0340

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   246.02    .295E+04       0.6         0.75      88.26
       1.53   247.28    .168E+06      69.7         1.65      40.13
       2.79   248.54    .490E+06     299.5         2.42      27.28
       4.06   249.81    .962E+06     740.1         3.05      21.67
       5.32   251.07    .158E+07    1440.0         3.61      18.33
       6.58   252.33    .235E+07    2443.8         4.12      16.06
       7.84   253.59    .327E+07    3811.2         4.63      14.30
       9.10   254.85    .432E+07    5565.1         5.11      12.94
      10.37   256.12    .550E+07    7721.3         5.57      11.88
      11.63   257.38    .682E+07   10309.9         6.00      11.02
      12.89   258.64    .827E+07   13360.6         6.42      10.31
      14.15   259.90    .985E+07   16884.5         6.81       9.72
      15.42   261.17    .116E+08   20818.4         7.14       9.26
      16.68   262.43    .134E+08   25510.4         7.53       8.78
      17.94   263.69    .154E+08   30958.0         7.97       8.30
      19.20   264.95    .175E+08   36988.3         8.38       7.89
      20.46   266.21    .197E+08   43617.1         8.78       7.53
      21.73   267.48    .220E+08   50868.1         9.17       7.22
      22.99   268.74    .244E+08   58854.0         9.56       6.92

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.66   10.55    6.50  28.35      0.45      0.81
     OUTFLOW: ID= 1 (6416)  426.66    5.97    7.50  28.35      0.37      0.78

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (4164) |   Area    (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.510 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  24.139
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.385

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.4700      2.5000
                         0.9000     1.0000   |   5.9800      3.0000
                         1.7300     1.5000   |   7.5000      3.5000
                         3.2200     2.0000   |   8.7400      4.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4164)     89.300      1.510      7.50      24.14
     OUTFLOW: ID= 1 (9427)     89.300      0.794      9.50      24.14

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.60
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8830

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-------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.5980      0.7565
                         0.0330     0.3532   |   1.8570      0.8137
                         0.7450     0.4481   |   2.0990      0.8707
                         1.0270     0.5154   |   2.4990      0.8807
                         1.3050     0.6350   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      0.794      9.50      24.14
     OUTFLOW: ID= 1 (5416)     89.300      0.769     10.25      24.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.77
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4539

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (4162) |   Area    (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   2.025 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.161
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.242

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9416) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4162):   349.99   2.025     8.00    15.16
       + ID2= 2 (5416):    89.30   0.769    10.25    24.11
         ================================================
         ID = 3 (9416):   439.29   2.523     9.50    16.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6416):   426.66   5.973     7.50    28.35
       + ID2= 2 (9416):   439.29   2.523     9.50    16.98
         ================================================
         ID = 3 (8250):   865.95   7.974     7.50    22.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

    Unit Hyd Qpeak  (cms)=   2.825

    PEAK FLOW       (cms)=   1.272 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  16.442
    TOTAL RAINFALL   (mm)=  62.700
    RUNOFF COEFFICIENT   =   0.262

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       2.61         6.09
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     240.83        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      82.76        52.02
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       5.75 (ii)   19.64 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.19         0.45       0.488 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25        6.25
    RUNOFF VOLUME    (mm)=      60.70        26.23       29.67
    TOTAL RAINFALL   (mm)=      62.70        62.70       62.70
    RUNOFF COEFFICIENT   =       0.97         0.42        0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  73.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4300     0.1618
                         0.0300     0.0818   |   0.5800     0.2012
                         0.1700     0.0912   |   0.7300     0.2384
                         0.3100     0.1306   |   0.8500     0.2747
```

```
                           AREA     QPEAK     TPEAK       R.V.
                           (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (4184)     8.700     0.488      6.25      29.67
    OUTFLOW: ID= 1 (9428)     8.700     0.239      6.75      29.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.04
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1119
```

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--------------------
| ADD HYD   (9423) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   174.09   1.272     7.50    16.44
       + ID2= 2 (9428):     8.70   0.239     6.75    29.60
         ================================================
         ID = 3 (9423):   182.79   1.467     7.00    17.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8250):   865.95   7.974     7.50    22.58
       + ID2= 2 (9423):   182.79   1.467     7.00    17.07
         ================================================
         ID = 3 (8248):  1048.74   9.403     7.50    21.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.097     7.00    11.60
       + ID2= 2 (8248):  1048.74   9.403     7.50    21.62
         ================================================
         ID = 3 (8246):  1224.56  10.469     7.50    20.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  26.163    11.75    13.11
       + ID2= 2 (8246):  1224.56  10.469     7.50    20.18
         ================================================
         ID = 3 (8244):  8743.98  31.588    10.75    14.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (4227) |   Area    (ha)=  66.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  15.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      19.37        47.43
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     667.33        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      82.76        15.48
              over (min)        15.00        45.00
    Storage Coeff.  (min)=      10.60 (ii)   33.16 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.09         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       1.91         1.21        2.401 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50        6.00
    RUNOFF VOLUME    (mm)=      60.70        14.32       21.27
```

```
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.23           0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9426) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3400      1.2303
                         0.2300     0.6171   |   4.4700      1.5350
                         1.3000     0.6860   |   5.6100      1.8228
                         2.4100     0.9909   |   6.5300      2.1041

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4227)     66.800      2.401      6.00      21.27
     OUTFLOW: ID= 1 (9426)     66.800      1.026      7.00      21.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.73
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6729

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-------------------
| RESERVOIR (5422) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.3110      2.6782
                         0.2180     1.7874   |   5.4130      2.9186
                         1.2490     1.9110   |   6.3010      3.1540
                         2.3250     2.1760   |   6.7010      3.1640
                         3.2250     2.4038   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9426)     66.800      1.026      7.00      21.26
     OUTFLOW: ID= 1 (5422)     66.800      0.100     18.00      21.23

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.79
                TIME SHIFT OF PEAK FLOW         (min)=660.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8236

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-------------------
| CALIB            |
| NASHYD    (4222) |   Area    (ha)= 713.41   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.252

     PEAK FLOW       (cms)=   2.370 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  12.102
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9422) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4222):   713.41   2.370     9.25    12.10
       + ID2= 2 (5422):    66.80   0.100    18.00    21.23
         ================================================
         ID = 3 (9422):   780.21   2.438     9.25    12.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8244):  8743.98  31.588    10.75    14.10
       + ID2= 2 (9422):   780.21   2.438     9.25    12.88
         ================================================
         ID = 3 (8242):  9524.19  33.916    10.75    14.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******    197.3574
                        76.4550    30.8371   |  *******    394.7148
                        *******    61.6742   |  *******    394.7248
                        *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.190     33.916     10.75      14.00
     OUTFLOW: ID= 1 (5508)   9524.190     32.883     12.00      14.00

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.96
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 13.2662

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-------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   2.580 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  21.246
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.339

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     168.98       264.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1699.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        25.93
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.57 (ii)   36.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.06         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=      13.16        10.57        17.576 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=      60.70        21.19        29.09
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.97         0.34         0.46

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.78         77.84
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1050.78         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         56.72
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.91 (ii)    27.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.73          5.33        11.067 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         23.92         33.85
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.38          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   9.5300      3.8529
                         0.6370     1.6350    |  12.1350      4.2725
                         2.7300     2.1009    |  14.3850      4.6808
                         5.1010     2.7445    |  14.7850      4.6908
                         7.0460     3.2936    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620     11.067      6.00      33.85
     OUTFLOW: ID= 1 (5338)    165.620      4.369      6.75      33.84

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.48
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.5572

--------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   433.29  17.576     6.00    29.09
       + ID2= 2 (5338):   165.62   4.369     6.75    33.84
         ==========================================
         ID = 3 (8310):   598.91  19.443     6.50    30.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 586.87   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   8.20

     Unit Hyd Qpeak  (cms)=   1.221

     PEAK FLOW       (cms)=   0.615 (i)
     TIME TO PEAK    (hrs)=  15.500
     RUNOFF VOLUME    (mm)=  12.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.95         16.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     470.67         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         25.50
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.59 (ii)    27.07 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.41          0.82          1.919 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70         17.28         26.39
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.28          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.6690      0.4664
                         0.0400     0.1927    |   0.8520      0.5318
                         0.1900     0.2643    |   1.0360      0.5973
                         0.3830     0.3576    |   1.4360      0.6073
                         0.4460     0.3863    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.230      1.919      6.00      26.39
     OUTFLOW: ID= 1 (5334)     33.230      0.558      6.75      26.36

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.08
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4280

--------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   586.87   0.615    15.50    12.94
       + ID2= 2 (5334):    33.23   0.558     6.75    26.36
         ==========================================
         ID = 3 (8314):   620.10   0.793     7.00    13.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.331 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  11.388
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.182

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   3.907 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.782
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.836 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  30.659
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.489

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8388) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   3.907     8.00    24.78
       + ID2= 2 (0284):    78.93   1.836     6.50    30.66
         ================================================
         ID = 3 (8388):   528.31   5.316     7.25    25.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation       Manning
                   0.00         233.00        0.0450
                  20.58         228.51        0.0450
                  41.17         227.74        0.0450
                  51.46         227.41        0.0450
                  97.77         225.96        0.0450
                 149.23         223.94        0.0450
                 200.69         220.84        0.0450
                 226.42         220.66        0.0450
                 238.85         220.22        0.0450
                 241.35         220.01    0.0450 /0.0350  Main Channel
                 241.85         219.70        0.0350      Main Channel
                 245.85         219.72        0.0350      Main Channel
                 246.35         220.06        0.0350      Main Channel
                 248.85         220.23        0.0350      Main Channel
                 303.60         221.64        0.0350      Main Channel
                 380.79         224.98        0.0450
                 432.25         229.54        0.0450
                 457.98         233.33        0.0450
                 483.71         234.27        0.0450
                 509.44         233.81        0.0450

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.31   220.01    .382E+04       0.8         0.57      82.89
        1.06   220.76    .525E+05      12.1         0.66      72.51
        1.81   221.51    .240E+06      88.6         1.05      45.21
        2.56   222.26    .510E+06     261.7         1.46      32.47
        3.31   223.01    .843E+06     533.8         1.81      26.34
        4.06   223.76    .124E+07     913.6         2.10      22.64
        4.81   224.51    .171E+07    1399.0         2.34      20.33
        5.56   225.26    .225E+07    2051.0         2.60      18.27
        6.31   226.01    .285E+07    2907.0         2.91      16.35
        7.06   226.76    .352E+07    3902.5         3.16      15.04
        7.82   227.52    .426E+07    5069.9         3.39      14.01
        8.57   228.27    .507E+07    6433.0         3.62      13.13
        9.32   229.02    .593E+07    8069.2         3.89      12.24
       10.07   229.77    .681E+07    9926.7         4.16      11.44
       10.82   230.52    .772E+07   11962.8         4.42      10.75
       11.57   231.27    .864E+07   14167.1         4.68      10.17
       12.32   232.02    .959E+07   16537.1         4.92       9.66
       13.07   232.77    .105E+08   19070.7         5.16       9.22
       13.82   233.52    .115E+08   21790.4         5.39       8.82

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     5.32    7.25  25.66      0.61      0.60
     OUTFLOW: ID= 1 (6286)  528.31     4.49    9.00  25.66      0.56      0.60

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2861) |   Area    (ha)=  54.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  19.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.69        30.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     604.76        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        76.69
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.99 (ii)   21.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.02         3.15          4.075 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        33.45          38.63
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.53           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   3.6700      1.4285
                          0.1860     0.6703   |   4.6080      1.6332
                          1.0630     0.7754   |   5.3640      1.8336
                          1.9790     1.0010   |   5.7640      1.8436
                          2.7460     1.1950   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2861)     54.860      4.075      6.00      38.63
     OUTFLOW: ID= 1 (5286)     54.860      1.834      6.75      38.61

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.02
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9733

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2862) |   Area    (ha)= 205.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=      45.24       160.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1170.90        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        52.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.85 (ii)   28.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.46         9.91        11.580 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      60.70        29.15         32.30
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.46          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2862):   205.65  11.580     6.25    32.30
        + ID2= 2 (5286):    54.86   1.834     6.75    38.61
          ==========================================
          ID = 3 (9286):   260.51  12.654     6.25    33.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6286):   528.31   4.493     9.00    25.66
        + ID2= 2 (9286):   260.51  12.654     6.25    33.63
          ==========================================
          ID = 3 (8386):   788.82  13.743     6.25    28.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   2.024 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  13.712
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.133 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   8.978
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.143

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (3001) |   Area    (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.04         0.05
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        0.50         0.50
     Length            (m)=       24.49        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       82.76        20.12
               over (min)         15.00        30.00
     Storage Coeff.  (min)=        1.46 (ii)   21.77 (ii)
     Unit Hyd. Tpeak (min)=       15.00        30.00
     Unit Hyd. peak  (cms)=        0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        0.00         0.00          0.004 (iii)
     TIME TO PEAK    (hrs)=        6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=       60.70        14.40         21.16
     TOTAL RAINFALL   (mm)=       62.70        62.70         62.70
     RUNOFF COEFFICIENT   =        0.97         0.23          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0060      0.0023
                         0.0020     0.0012   |   0.0070      0.0026
                         0.0030     0.0016   |   0.0090      0.0029
                         0.0040     0.0019   |   0.4090      0.0129

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)    0.090      0.004     6.00      21.16
     OUTFLOW: ID= 1 (5300)    0.090      0.001     6.75      19.66

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.78
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0008

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (3002) |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   1.293 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  11.212
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3002):   258.84   1.293     7.50    11.21
        + ID2= 2 (5300):     0.09   0.001     6.75    19.66
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          ================================================
          ID = 3 (9300):   258.93   1.294     7.50    11.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (9298):   330.51   1.133     8.00     8.98
        + ID2= 2 (9300):   258.93   1.294     7.50    11.21
          ================================================
          ID = 3 (8395):   589.44   2.414     7.75     9.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   2.210 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  25.660
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.409

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   3.070 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  25.504
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8288):   340.83   2.210     9.50    25.66
        + ID2= 2 (0290):   269.18   3.070     7.50    25.50
          ================================================
          ID = 3 (8397):   610.01   5.105     8.00    25.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.009 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.935
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   4.648 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  18.682
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   1.843 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  13.187
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0292):   738.49   4.648     8.25    18.68
        + ID2= 2 (0294):   274.15   1.843     7.00    13.19
          ================================================
          ID = 3 (8398):  1012.64   6.373     8.00    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation       Manning
                   0.00         243.98        0.0400
                  42.59         243.18        0.0400
                  85.17         241.81        0.0400
                 120.66         240.50        0.0400
                 156.15         239.56        0.0400
                 198.74         236.15        0.0400
                 237.78         234.01        0.0400
                 241.33         233.82        0.0400
                 248.77         233.12    0.0400 /0.0400  Main Channel
                 249.87         232.32        0.0400      Main Channel
                 250.37         231.80        0.0400      Main Channel
                 250.87         232.23        0.0400      Main Channel
                 251.97         233.10    0.0400 /0.0400  Main Channel
                 255.37         233.22        0.0400
                 259.07         233.87        0.0400
                 262.62         234.12        0.0400
                 266.17         234.23        0.0400
                 283.91         234.73        0.0400
                 337.15         241.75        0.0400
                 351.34         244.00        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.43    232.23    .510E+03       0.1          0.53      81.07
       0.87    232.67    .213E+04       0.7          0.83      51.49
       1.30    233.10    .501E+04       2.2          1.10      38.75
       1.98    233.78    .242E+05      12.6          1.34      31.93
       2.66    234.46    .738E+05      42.1          1.46      29.21
       3.34    235.14    .177E+06     127.9          1.84      23.13
       4.02    235.82    .314E+06     281.4          2.29      18.61
       4.70    236.50    .481E+06     509.4          2.71      15.73
```

5.38	237.18	.672E+06	815.6	3.11	13.73
6.06	237.86	.886E+06	1200.7	3.46	12.30
6.74	238.54	.112E+07	1669.4	3.80	11.23
7.42	239.22	.139E+07	2226.9	4.11	10.38
8.10	239.90	.168E+07	2808.4	4.28	9.95
8.78	240.58	.202E+07	3470.4	4.40	9.68
9.46	241.26	.240E+07	4331.7	4.61	9.24
10.14	241.94	.283E+07	5335.2	4.83	8.84
10.82	242.62	.330E+07	6482.6	5.03	8.48
11.50	243.30	.381E+07	7764.1	5.21	8.18
12.18	243.98	.439E+07	9101.2	5.31	8.04

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8398)	1012.64	6.37	8.00	17.19	1.57	1.18
OUTFLOW: ID= 1 (6296)	1012.64	6.16	8.50	17.19	1.56	1.18

ADD HYD (8396)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0296):	293.65	3.009	7.50	23.94
+ ID2= 2 (6296):	1012.64	6.164	8.50	17.19
ID = 3 (8396):	1306.29	9.032	8.25	18.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8394)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8396):	1306.29	9.032	8.25	18.71
+ ID2= 2 (8397):	610.01	5.105	8.00	25.59
ID = 3 (8394):	1916.30	14.100	8.25	20.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8392)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8394):	1916.30	14.100	8.25	20.90
+ ID2= 2 (8395):	589.44	2.414	7.75	9.96
ID = 3 (8392):	2505.74	16.488	8.00	18.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6302)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3021.0) ------>

Distance	Elevation	Manning	
0.00	228.10	0.0400	
18.47	227.12	0.0400	
36.95	226.12	0.0400	
46.18	225.84	0.0400	
55.42	225.58	0.0400	
272.47	222.88	0.0400	
277.09	222.76	0.0400	
281.71	222.58	0.0400	
288.54	222.18	0.0400 /0.0300	Main Channel
288.64	221.00	0.0300	Main Channel
290.94	221.00	0.0300	Main Channel
291.04	221.00	0.0300	Main Channel
291.54	222.75	0.0300 /0.0400	Main Channel
300.18	222.83	0.0400	
304.80	223.04	0.0400	
309.42	223.25	0.0400	
318.65	223.69	0.0400	
360.22	225.57	0.0400	
397.16	227.60	0.0400	
457.20	228.35	0.0400	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	221.29	.228E+04	0.2	0.32	165.63
0.59	221.59	.465E+04	0.7	0.45	116.15
0.88	221.88	.713E+04	1.2	0.54	96.87
1.18	222.18	.971E+04	1.9	0.61	86.20
1.57	222.57	.175E+05	3.3	0.59	88.86
1.97	222.97	.427E+05	6.4	0.47	111.39
2.36	223.36	.115E+06	16.1	0.44	119.14
2.76	223.76	.237E+06	37.1	0.49	106.49
3.15	224.15	.409E+06	72.9	0.56	93.40
3.55	224.55	.631E+06	127.0	0.63	82.76
3.94	224.94	.903E+06	202.4	0.70	74.37
4.34	225.34	.123E+07	301.8	0.77	67.68
4.73	225.73	.160E+07	433.5	0.85	61.37
5.13	226.13	.200E+07	602.2	0.95	55.29
5.52	226.52	.242E+07	804.7	1.05	50.13
5.92	226.92	.286E+07	1034.2	1.14	46.11
6.31	227.31	.332E+07	1290.5	1.22	42.88
6.71	227.71	.380E+07	1560.9	1.29	40.55
7.10	228.10	.432E+07	1835.6	1.34	39.19

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8392)	2505.74	16.49	8.00	18.33	2.37	0.44
OUTFLOW: ID= 1 (6302)	2505.74	13.11	10.50	18.33	2.24	0.45

ADD HYD (8390)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0302):	473.90	2.024	8.50	13.71
+ ID2= 2 (6302):	2505.74	13.114	10.50	18.33
ID = 3 (8390):	2979.64	14.975	10.25	17.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8348)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8386):	788.82	13.743	6.25	28.29
+ ID2= 2 (8390):	2979.64	14.975	10.25	17.59
ID = 3 (8348):	3768.46	20.547	10.00	19.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0304) | Area (ha)= 292.37 Curve Number (CN)= 63.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.78

Unit Hyd Qpeak (cms)= 1.793

PEAK FLOW (cms)= 0.987 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 16.057
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0280) | Area (ha)= 299.86 Curve Number (CN)= 82.0
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 6.009

```
     PEAK FLOW       (cms)=   4.745 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.462

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   4.873 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.184
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.465

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   1.552 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  26.101
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.416

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   4.016 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.174
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.370

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   4.016     7.50    23.17
       + ID2= 2 (0276):    90.89   1.552     6.75    26.10
         ================================================
         ID = 3 (8360):   483.38   5.470     7.25    23.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   4.873     8.00    29.18
       + ID2= 2 (8360):   483.38   5.470     7.25    23.72
         ================================================
         ID = 3 (8358):   968.87  10.143     7.50    26.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (2801.0) ------>
              Distance      Elevation       Manning
                 0.00         241.14        0.0500
                13.32         240.80        0.0500
                39.95         240.07        0.0500
                96.54         236.21        0.0500
               113.19         234.15        0.0500
               123.18         232.35        0.0500
               143.15         225.80        0.0500
               149.81         225.62        0.0500
               153.14         225.40        0.0500
               157.30         224.76    0.0500 /0.0300  Main Channel
               159.80         224.26        0.0300      Main Channel
               162.30         224.85        0.0300      Main Channel
               162.55         224.97    0.0300 /0.0500  Main Channel
               167.80         225.05        0.0500
               186.43         229.14        0.0500
               213.06         234.75        0.0500
               236.37         237.09        0.0500
               266.33         237.31        0.0500
               292.96         237.83        0.0500
               329.58         241.50        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   224.76    .263E+04        0.8         0.65       58.31
      1.36   225.62    .278E+05       13.4         1.10       34.54
      2.22   226.48    .855E+05       52.6         1.40       27.09
      3.09   227.35    .157E+06      120.4         1.74       21.78
      3.95   228.21    .242E+06      216.3         2.04       18.64
      4.81   229.07    .340E+06      341.8         2.29       16.56
      5.67   229.93    .450E+06      498.3         2.52       15.06
      6.53   230.79    .574E+06      688.3         2.73       13.90
      7.40   231.66    .711E+06      913.8         2.93       12.97
      8.26   232.52    .861E+06     1173.4         3.11       12.23
      9.12   233.38    .103E+07     1461.3         3.24       11.72
      9.98   234.24    .121E+07     1793.3         3.37       11.26
     10.85   235.11    .142E+07     2141.0         3.45       11.02
     11.71   235.97    .165E+07     2530.4         3.50       10.86
     12.57   236.83    .192E+07     2954.0         3.51       10.81
     13.43   237.69    .226E+07     3160.3         3.18       11.93
     14.29   238.55    .271E+07     3869.4         3.26       11.67
     15.16   239.42    .320E+07     4740.3         3.38       11.24
     16.02   240.28    .373E+07     5688.4         3.48       10.92

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    10.14    7.50  26.46      1.14      0.93
     OUTFLOW: ID= 1 (6280)  968.87     9.72    8.25  26.46      1.11      0.92


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--------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   4.745     7.00    28.96
       + ID2= 2 (6280):   968.87   9.721     8.25    26.46
         ================================================
         ID = 3 (8354):  1268.73  13.898     8.00    27.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   2.706 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  28.005
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     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.447

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   2.333 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.366

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   1.975 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  16.500
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2641) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.18         4.39
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     342.34        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        23.48
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.10 (ii)   26.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.60         0.21        2.728 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      60.70        20.99        48.78
     TOTAL RAINFALL   (mm)=      62.70        62.70        62.70
     RUNOFF COEFFICIENT   =       0.97         0.33         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5264) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   1.1760      0.5589
                         0.0600     0.3133    |   1.4770      0.6054
                         0.3410     0.3763    |   1.7190      0.6511
                         0.6340     0.4336    |   2.1190      0.6611
                         0.8800     0.4941    |   0.0000      0.0000
```

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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2641)     17.580      2.728      6.00      48.78
     OUTFLOW: ID= 1 (5264)     17.580      0.768      6.25      48.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.13
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4706

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2642) |   Area    (ha)= 336.37   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.28

     Unit Hyd Qpeak  (cms)=   3.192

     PEAK FLOW       (cms)=   1.852 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  19.220
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2642):   336.37   1.852     8.25    19.22
       + ID2= 2 (5264):    17.58   0.768     6.25    48.71
         ================================================
         ID = 3 (9264):   353.95   2.253     6.75    20.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0266):   508.09   1.975     9.25    16.50
       + ID2= 2 (9264):   353.95   2.253     6.75    20.68
         ================================================
         ID = 3 (8380):   862.04   4.011     8.00    18.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (2681.0) ------>
               Distance      Elevation       Manning
                  0.00         274.03        0.0500
                 10.55         272.73        0.0500
                 21.10         271.28        0.0500
                 50.12         266.83        0.0500
                 87.04         260.36        0.0500
                 92.32         260.06        0.0500
                 94.95         259.93        0.0500
                101.00         256.87        0.0500
                103.00         256.58    0.0500 /0.0350  Main Channel
                104.00         256.32        0.0350      Main Channel
                106.00         256.05        0.0350      Main Channel
                108.00         256.25        0.0350      Main Channel
                110.78         256.65    0.0350 /0.0500  Main Channel
                113.42         256.81        0.0500
                116.06         257.00        0.0500
                155.62         260.24        0.0500
                187.27         263.35        0.0500
                211.01         267.22        0.0500
                224.20         269.60        0.0500
                261.13         272.68        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.53   256.58    .697E+04       2.1         0.97      55.64
```

1.38	257.43	.477E+05	25.9	1.76	30.66	
2.22	258.27	.123E+06	84.3	2.22	24.26	
3.07	259.12	.231E+06	185.4	2.60	20.72	
3.92	259.97	.371E+06	335.8	2.92	18.42	
4.77	260.82	.560E+06	547.6	3.15	17.06	
5.61	261.66	.790E+06	845.6	3.46	15.57	
6.46	262.51	.106E+07	1225.0	3.75	14.37	
7.31	263.36	.136E+07	1693.3	4.02	13.37	
8.16	264.21	.169E+07	2283.2	4.35	12.36	
9.00	265.05	.206E+07	2969.1	4.66	11.54	
9.85	265.90	.245E+07	3754.4	4.96	10.86	
10.70	266.75	.286E+07	4643.0	5.24	10.28	
11.55	267.60	.331E+07	5636.1	5.50	9.78	
12.39	268.44	.378E+07	6746.2	5.76	9.34	
13.24	269.29	.428E+07	7972.2	6.01	8.96	
14.09	270.14	.482E+07	9218.9	6.18	8.71	
14.94	270.99	.539E+07	10550.5	6.32	8.52	
15.78	271.83	.601E+07	12024.7	6.46	8.33	

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8380)	862.04	4.01	8.00	18.22	0.60	1.00
OUTFLOW: ID= 1 (6268)	862.04	3.85	9.50	18.22	0.59	1.00

ADD HYD (8382)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6268):	215.76	2.333	7.00	22.96
+ ID2= 2 (6268):	862.04	3.853	9.50	18.22
ID = 3 (8382):	1077.80	5.729	8.50	19.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6270)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2701.0) ------>

Distance	Elevation	Manning	
0.00	245.98	0.0500	
8.14	245.66	0.0500	
16.28	245.16	0.0500	
20.35	244.84	0.0500	
38.66	242.98	0.0500	
48.83	240.65	0.0500	
63.07	235.91	0.0500	
65.11	235.18	0.0500	
68.43	234.34	0.0500 /0.0300	Main Channel
68.68	233.95	0.0300	Main Channel
69.18	233.89	0.0300	Main Channel
69.68	233.95	0.0300	Main Channel
71.21	234.48	0.0300 /0.0500	Main Channel
81.38	236.44	0.0500	
95.63	236.66	0.0500	
120.04	237.00	0.0500	
148.53	241.77	0.0500	
158.70	242.34	0.0500	
187.18	244.03	0.0500	
201.42	244.36	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	234.34	.217E+04	0.7	0.99	52.83
0.98	234.87	.966E+04	4.6	1.49	35.20
1.50	235.39	.250E+05	13.7	1.73	30.41
2.03	235.92	.475E+05	29.5	1.95	26.87
2.56	236.45	.772E+05	52.5	2.14	24.50
3.09	236.98	.142E+06	82.4	1.83	28.73
3.61	237.50	.246E+06	158.1	2.03	25.91
4.14	238.03	.357E+06	262.0	2.31	22.73
4.67	238.56	.477E+06	392.1	2.59	20.27
5.20	239.09	.604E+06	547.8	2.86	18.38
5.72	239.61	.739E+06	729.2	3.11	16.90
6.25	240.14	.882E+06	936.5	3.34	15.70
6.78	240.67	.103E+07	1169.7	3.57	14.72
7.31	241.20	.119E+07	1425.9	3.77	13.94
7.83	241.72	.136E+07	1710.4	3.96	13.26
8.36	242.25	.154E+07	1967.9	4.02	13.07
8.89	242.78	.174E+07	2264.9	4.09	12.83
9.42	243.31	.196E+07	2589.3	4.15	12.65
9.94	243.83	.221E+07	2953.5	4.22	12.46

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8382)	1077.80	5.73	8.50	19.17	1.04	1.52
OUTFLOW: ID= 1 (6270)	1077.80	5.63	9.00	19.17	1.04	1.52

ADD HYD (8384)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6270):	243.61	2.706	7.25	28.01
+ ID2= 2 (6270):	1077.80	5.629	9.00	19.17
ID = 3 (8384):	1321.41	8.059	8.50	20.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0262)	Area (ha)= 341.31	Curve Number (CN)= 82.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.01		

Unit Hyd Qpeak (cms)= 4.094

PEAK FLOW (cms)= 3.472 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 29.023
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.463

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0258)	Area (ha)= 181.99	Curve Number (CN)= 79.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.18		

Unit Hyd Qpeak (cms)= 1.881

PEAK FLOW (cms)= 1.492 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 26.347
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.420

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0256)	Area (ha)= 145.79	Curve Number (CN)= 67.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.04		

Unit Hyd Qpeak (cms)= 1.707

PEAK FLOW (cms)= 0.887 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 18.019
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.287

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0254)	Area (ha)= 403.00	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30	
	U.H. Tp(hrs)= 1.22		

```
     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.477 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  12.430
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2561.0) ------>
               Distance      Elevation       Manning
                   0.00         276.07        0.0400
                  11.68         273.71        0.0400
                  23.36         271.35        0.0400
                  29.19         270.30        0.0400
                  35.03         269.44        0.0400
                  55.47         267.90        0.0400
                  78.82         266.24        0.0400
                  90.50         265.63        0.0400
                 102.18         265.40        0.0400
                 105.10         264.95    0.0400 /0.0350  Main Channel
                 108.02         264.39        0.0350      Main Channel
                 110.94         264.72        0.0350      Main Channel
                 113.86         265.19    0.0350 /0.0400  Main Channel
                 116.78         265.49        0.0400
                 143.05         268.24        0.0400
                 172.25         270.53        0.0400
                 207.28         271.95        0.0400
                 233.55         273.72        0.0400
                 256.91         274.98        0.0400
                 289.02         275.97        0.0400

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.56   264.95    .723E+04       1.9         0.90      62.51
        1.14   265.53    .307E+05      13.5         1.49      37.92
        1.72   266.11    .951E+05      48.6         1.73      32.62
        2.30   266.69    .191E+06     117.8         2.09      27.03
        2.88   267.27    .314E+06     225.2         2.43      23.24
        3.46   267.85    .464E+06     375.5         2.74      20.59
        4.04   268.43    .641E+06     573.2         3.03      18.62
        4.62   269.01    .846E+06     821.9         3.29      17.15
        5.20   269.59    .108E+07    1135.0         3.56      15.87
        5.78   270.17    .134E+07    1525.1         3.86      14.64
        6.36   270.75    .162E+07    1971.1         4.12      13.71
        6.94   271.33    .194E+07    2474.0         4.33      13.04
        7.52   271.91    .228E+07    3065.0         4.55      12.42
        8.10   272.49    .266E+07    3773.4         4.80      11.75
        8.68   273.07    .306E+07    4566.3         5.05      11.17
        9.26   273.65    .348E+07    5443.7         5.30      10.66
        9.84   274.23    .393E+07    6389.6         5.51      10.25
       10.42   274.81    .440E+07    7426.2         5.72       9.88
       11.00   275.39    .490E+07    8490.1         5.86       9.63

                                 <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     1.48    8.25  12.43      0.43      0.90
     OUTFLOW: ID= 1 (6256)  403.00     1.39   10.00  12.43      0.40      0.90


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| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   0.887     8.00    18.02
       + ID2= 2 (6256):   403.00   1.392    10.00    12.43
         ================================================
         ID = 3 (8370):   548.79   2.197     9.25    13.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   1.144 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.816
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.316

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   2.071 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  12.474
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   0.994 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  16.345
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.261

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   2.071    10.00    12.47
       + ID2= 2 (0248):   146.04   0.994     7.25    16.34
         ================================================
         ID = 3 (8364):   905.65   2.933     8.25    13.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2501.0) ------>
               Distance      Elevation       Manning
                   0.00         269.96        0.0500
                   8.56         268.55        0.0500
                  17.13         266.91        0.0500
                  21.41         266.13        0.0500
                  40.68         263.15        0.0500
                  62.09         260.75        0.0500
                  85.64         258.02        0.0500
                  88.20         257.69        0.0500
                  93.20         257.05    0.0500 /0.0350  Main Channel
                  93.45         256.88        0.0350      Main Channel
                  94.20         256.56        0.0350      Main Channel
                  94.95         256.83        0.0350      Main Channel
                  95.20         257.08    0.0350 /0.0500  Main Channel
                 100.62         257.45        0.0500
                 115.61         258.57        0.0500
                 139.16         260.43        0.0500
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            152.01        261.95        0.0500
            171.27        264.63        0.0500
            188.40        267.90        0.0500
            211.95        274.18        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.49   257.05    .205E+04       0.4         0.68       89.65
      1.17   257.73    .248E+05       5.7         0.85       72.16
      1.85   258.41    .841E+05      25.2         1.10       55.60
      2.53   259.09    .180E+06      66.5         1.36       45.14
      3.21   259.77    .312E+06     135.7         1.60       38.36
      3.89   260.45    .481E+06     238.3         1.82       33.61
      4.57   261.13    .681E+06     383.5         2.07       29.60
      5.25   261.81    .911E+06     568.9         2.29       26.70
      5.93   262.49    .117E+07     800.5         2.51       24.36
      6.61   263.17    .146E+07    1079.0         2.72       22.49
      7.28   263.84    .177E+07    1413.4         2.94       20.85
      7.96   264.52    .210E+07    1797.0         3.14       19.50
      8.64   265.20    .246E+07    2241.6         3.35       18.28
      9.32   265.88    .283E+07    2739.9         3.55       17.25
     10.00   266.56    .323E+07    3295.7         3.75       16.34
     10.68   267.24    .364E+07    3908.9         3.94       15.54
     11.36   267.92    .408E+07    4578.5         4.12       14.84
     12.04   268.60    .453E+07    5320.1         4.32       14.18
     12.72   269.28    .499E+07    6109.1         4.50       13.61

                               <---- hydrograph ---->   <-pipe / channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8364)  905.65     2.93    8.25  13.10      0.81      0.75
     OUTFLOW: ID= 1 (6250)  905.65     2.72   10.50  13.10      0.79      0.75


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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   1.144     8.00    19.82
       + ID2= 2 (6250):   905.65   2.724    10.50    13.10
         ================================================
         ID = 3 (8366):  1098.53   3.765    10.00    14.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   3.765    10.00    14.28
       + ID2= 2 (8370):   548.79   2.197     9.25    13.91
         ================================================
         ID = 3 (8368):  1647.32   5.937     9.75    14.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (2521) |   Area    (ha)=  32.51
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.38         8.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     465.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        43.01
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.54 (ii)   23.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.61         0.45         4.899 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        23.36         49.50
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.37          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5252) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1750      1.0334
                         0.1100     0.5793   |   2.7310      1.1195
                         0.6300     0.6958   |   3.1790      1.2039
                         1.1730     0.8017   |   3.5790      1.2139
                         1.6270     0.9137   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2521)     32.510     4.899      6.00      49.50
     OUTFLOW: ID= 1 (5252)     32.510     1.433      6.50      49.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.25
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8786

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-------------------
| CALIB            |
| NASHYD    (2522) |   Area    (ha)= 287.47   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.448

     PEAK FLOW       (cms)=   2.056 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.717
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.330

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2522):   287.47   2.056     8.00    20.72
       + ID2= 2 (5252):    32.51   1.433     6.50    49.46
         ================================================
         ID = 3 (9252):   319.98   3.213     6.50    23.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8368):  1647.32   5.937     9.75    14.16
       + ID2= 2 (9252):   319.98   3.213     6.50    23.64
         ================================================
         ID = 3 (8372):  1967.30   8.024     9.00    15.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2581.0) ------>
               Distance      Elevation       Manning
                   0.00         252.88        0.0500
                  15.47         251.89        0.0500
                  46.41         248.45        0.0500
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              73.48        245.81        0.0500
              88.95        243.75        0.0500
             112.15        242.00        0.0500
             135.35        240.23        0.0500
             162.42        239.76        0.0500
             170.97        239.52    0.0500 /0.0350  Main Channel
             171.58        239.03        0.0350      Main Channel
             174.02        239.03        0.0350      Main Channel
             176.46        239.03        0.0350      Main Channel
             177.07        239.52    0.0350 /0.0500  Main Channel
             185.63        239.67        0.0500
             208.83        239.87        0.0500
             239.77        240.14        0.0500
             274.57        244.93        0.0500
             336.45        249.51        0.0500
             363.52        249.77        0.0500
             382.85        251.78        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.49   239.52    .135E+05       2.5          0.92      91.32
      1.14   240.17    .175E+06      25.6          0.73     114.22
      1.78   240.81    .532E+06     123.5          1.17      71.85
      2.43   241.46    .932E+06     285.3          1.54      54.48
      3.07   242.10    .138E+07     506.5          1.85      45.25
      3.72   242.75    .186E+07     786.8          2.12      39.42
      4.36   243.39    .239E+07    1127.3          2.37      35.33
      5.01   244.04    .296E+07    1535.8          2.61      32.12
      5.65   244.68    .356E+07    2014.3          2.84      29.48
      6.30   245.33    .420E+07    2535.9          3.03      27.60
      6.94   245.97    .488E+07    3108.4          3.20      26.16
      7.59   246.62    .561E+07    3740.6          3.35      24.98
      8.23   247.26    .638E+07    4446.7          3.50      23.93
      8.88   247.91    .721E+07    5229.7          3.64      22.98
      9.52   248.55    .809E+07    6094.3          3.78      22.12
     10.17   249.20    .901E+07    7050.4          3.93      21.31
     10.81   249.84    .100E+08    7773.0          3.90      21.46
     11.46   250.49    .111E+08    8998.8          4.07      20.56
     12.10   251.13    .122E+08   10318.2          4.24      19.75

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8372) 1967.30     8.02    9.00  15.70      0.65      0.86
     OUTFLOW: ID= 1 (6258) 1967.30     7.35   11.00  15.70      0.62      0.87


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (8374) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0258):   181.99   1.492     8.00     26.35
       + ID2= 2 (6258):  1967.30   7.350    11.00     15.70
         ================================================
         ID = 3 (8374):  2149.29   8.571    10.75     16.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2601) |   Area    (ha)=  56.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  48.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.54         19.68
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.21         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         83.16
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.06 (ii)    21.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.23          2.25      6.708 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      60.70         35.87      47.79
     TOTAL RAINFALL   (mm)=      62.70         62.70      62.70

     RUNOFF COEFFICIENT   =       0.97          0.57       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5260) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.7610      1.6799
                          0.1900     0.8974   |   4.7220      1.8499
                          1.0890     1.0678   |   5.4970      2.0146
                          2.0290     1.2667   |   5.8970      2.0246
                          2.8140     1.4621   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2601)     56.220      6.708      6.00      47.79
     OUTFLOW: ID= 1 (5260)     56.220      2.381      6.50      47.77

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.50
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3617

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (2602) |   Area    (ha)= 420.02   Curve Number   (CN)= 83.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.946

     PEAK FLOW       (cms)=   3.705 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.405
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.485

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (2602):   420.02   3.705     8.00     30.41
       + ID2= 2 (5260):    56.22   2.381     6.50     47.77
         ================================================
         ID = 3 (9260):   476.24   5.546     6.75     32.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (8374):  2149.29   8.571    10.75     16.60
       + ID2= 2 (9260):   476.24   5.546     6.75     32.46
         ================================================
         ID = 3 (8376):  2625.53  12.206    10.00     19.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0262):   341.31   3.472     7.75     29.02
       + ID2= 2 (8376):  2625.53  12.206    10.00     19.48
         ================================================
         ID = 3 (8378):  2966.84  15.157     9.50     20.57
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8378):  2966.84  15.157     9.50    20.57
       + ID2= 2 (8384):  1321.41   8.059     8.50    20.80
         ================================================
         ID = 3 (8362):  4288.25  23.095     9.00    20.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2721.0) ------>
              Distance      Elevation       Manning
                 0.00         231.01        0.0450
                23.01         223.65        0.0450
                34.51         222.46        0.0450
                51.77         222.11        0.0450
                69.02         221.87        0.0450
               161.06         221.92        0.0450
               166.81         221.91        0.0450
               172.56         221.89        0.0450
               180.57         221.40    0.0450 /0.0300  Main Channel
               181.57         220.60        0.0300      Main Channel
               184.07         220.16        0.0300      Main Channel
               195.57         221.85    0.0300 /0.0450  Main Channel
               201.32         221.82        0.0450
               207.07         221.77        0.0450
               212.83         221.72        0.0450
               253.09         222.52        0.0450
               408.40         222.65        0.0450
               460.17         223.20        0.0450
               517.69         224.84        0.0450
               569.46         232.57        0.0450

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.41   220.57    .189E+04        0.5         0.49      60.18
      0.83   220.99    .697E+04        3.2         0.82      35.79
      1.24   221.40    .145E+05        8.8         1.07      27.45
      1.84   222.00    .643E+05       29.3         0.81      36.61
      2.44   222.60    .282E+06      132.9         0.83      35.41
      3.04   223.20    .707E+06      413.7         1.04      28.50
      3.64   223.80    .118E+07      876.8         1.31      22.46
      4.24   224.40    .168E+07     1494.8         1.57      18.75
      4.84   225.00    .221E+07     2264.1         1.82      16.23
      5.44   225.60    .274E+07     3196.3         2.06      14.29
      6.04   226.20    .328E+07     4258.6         2.30      12.84
      6.65   226.81    .383E+07     5444.7         2.52      11.72
      7.25   227.41    .438E+07     6749.7         2.73      10.82
      7.85   228.01    .494E+07     8169.4         2.93      10.08
      8.45   228.61    .551E+07     9700.7         3.12       9.46
      9.05   229.21    .608E+07    11340.8         3.30       8.94
      9.65   229.81    .666E+07    13087.4         3.48       8.48
     10.25   230.41    .724E+07    14938.5         3.65       8.08
     10.85   231.01    .783E+07    16892.4         3.82       7.73

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.25    23.10    9.00  20.64      1.66      0.87
     OUTFLOW: ID= 1 (6272) 4288.25    22.75    9.75  20.64      1.65      0.88


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--------------------
| CALIB            |
| STANDHYD  (2721) |   Area    (ha)=   2.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  19.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08         1.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50

     Length           (m)=     121.38        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        73.51
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       3.81 (ii)   15.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.13          0.179 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        29.95         35.79
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.48          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1480      0.0589
                          0.0070     0.0284   |   0.1850      0.0669
                          0.0430     0.0331   |   0.2160      0.0746
                          0.0800     0.0419   |   0.6160      0.0846
                          0.1100     0.0497   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2721)     2.210      0.179      6.00      35.79
     OUTFLOW: ID= 1 (5272)     2.210      0.066      6.75      35.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.02
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0393

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--------------------
| CALIB            |
| NASHYD    (2722) |   Area    (ha)= 155.17   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   1.598 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.397
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2722):   155.17   1.598     7.50    23.40
       + ID2= 2 (5272):     2.21   0.066     6.75    35.33
         ================================================
         ID = 3 (9272):   157.38   1.642     7.25    23.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6272):  4288.25  22.749     9.75    20.64
       + ID2= 2 (9272):   157.38   1.642     7.25    23.56
```

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          ================================================
          ID = 3 (8356):  4445.63  23.987     9.75    20.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8354):  1268.73  13.898     8.00    27.05
        + ID2= 2 (8356):  4445.63  23.987     9.75    20.75
          ================================================
          ID = 3 (8352):  5714.36  36.561     8.75    22.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3041.0) ------>
               Distance      Elevation       Manning
                   0.00         232.08        0.0500
                  19.00         231.87        0.0500
                  38.00         231.33        0.0500
                  66.51         230.44        0.0500
                 104.51         228.25        0.0500
                 118.76         225.17        0.0500
                 128.26         219.86        0.0500
                 175.77         219.17        0.0500
                 185.27         218.90    0.0500 /0.0300  Main Channel
                 185.52         218.65        0.0300      Main Channel
                 190.02         218.37        0.0300      Main Channel
                 194.52         218.60        0.0300      Main Channel
                 194.77         218.85    0.0300 /0.0500  Main Channel
                 204.27         219.60        0.0500
                 299.28         220.91        0.0500
                 327.78         222.36        0.0500
                 375.28         225.71        0.0500
                 403.79         229.37        0.0500
                 432.29         230.43        0.0500
                 470.29         232.00        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.48   218.85    .121E+05       1.2         0.36     173.94
       1.17   219.54    .839E+05       9.8         0.44     142.60
       1.86   220.23    .323E+06      41.0         0.47     131.43
       2.56   220.93    .708E+06     109.5         0.58     107.67
       3.25   221.62    .118E+07     224.3         0.71      87.36
       3.94   222.31    .168E+07     376.5         0.84      74.48
       4.63   223.00    .222E+07     567.9         0.96      65.26
       5.32   223.69    .279E+07     794.7         1.07      58.58
       6.02   224.39    .339E+07    1056.2         1.17      53.52
       6.71   225.08    .402E+07    1352.4         1.26      49.52
       7.40   225.77    .468E+07    1677.3         1.34      46.46
       8.09   226.46    .536E+07    2050.0         1.43      43.58
       8.79   227.16    .607E+07    2457.9         1.52      41.14
       9.48   227.85    .680E+07    2901.0         1.60      39.05
      10.17   228.54    .755E+07    3352.7         1.66      37.53
      10.86   229.23    .834E+07    3812.5         1.71      36.48
      11.55   229.92    .919E+07    4241.8         1.73      36.13
      12.25   230.62    .101E+08    4697.0         1.74      35.93
      12.94   231.31    .111E+08    5186.3         1.74      35.83

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.36    36.56    8.75  22.15      1.77      0.47
     OUTFLOW: ID= 1 (6304) 5714.36    29.80   11.50  22.15      1.62      0.46


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| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0304):   292.37   0.987    10.50    16.06
        + ID2= 2 (6304):  5714.36  29.801    11.50    22.15
          ================================================
          ID = 3 (8350):  6006.73  30.772    11.50    21.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8348):  3768.46  20.547    10.00    19.83
        + ID2= 2 (8350):  6006.73  30.772    11.50    21.85
          ================================================
          ID = 3 (8346):  9775.19  50.360    10.75    21.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0306):   283.97   0.331    13.75    11.39
        + ID2= 2 (8346):  9775.19  50.360    10.75    21.07
          ================================================
          ID = 3 (8344): 10059.16  50.658    10.75    20.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    370.0451
                         41.0590    56.7403   |  *******    863.4386
                         48.1390    86.3439   |  *******    ********
                         56.6340    *******   |  *******    ********
                         67.9600    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********     50.658     10.75      20.80
     OUTFLOW: ID= 1 (5509)   ********     39.339     14.25      20.80

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.66
                    TIME SHIFT OF PEAK FLOW         (min)=210.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 54.3802

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   2.232 (i)
     TIME TO PEAK    (hrs)=   9.750
     RUNOFF VOLUME    (mm)=  23.317
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.372

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   5.661 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  27.223
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.434
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(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6332)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<-- DATA FOR SECTION (3321.0) -->

Distance	Elevation	Manning	
0.00	234.00	0.0380	
25.85	227.20	0.0380	
96.94	226.44	0.0380	
168.03	227.38	0.0380	
219.73	225.62	0.0380	
342.52	221.57	0.0380	
368.37	221.42	0.0380	
374.83	221.23	0.0380	
379.79	220.98	0.0380 /0.0300	Main Channel
380.29	220.47	0.0300	Main Channel
381.29	220.47	0.0300	Main Channel
382.79	220.47	0.0300	Main Channel
383.29	220.98	0.0300 /0.0380	Main Channel
394.22	221.22	0.0380	
400.68	221.33	0.0380	
407.14	221.44	0.0380	
491.16	225.70	0.0380	
568.71	227.55	0.0380	
607.49	230.14	0.0380	
639.80	234.08	0.0380	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.51	220.98	.554E+04	0.9	0.56	107.27
1.20	221.67	.885E+05	12.1	0.49	122.32
1.88	222.35	.309E+06	64.7	0.76	79.70
2.57	223.04	.615E+06	165.4	0.97	61.99
3.25	223.72	.101E+07	322.1	1.16	52.06
3.94	224.41	.148E+07	542.9	1.33	45.51
4.62	225.09	.204E+07	835.4	1.48	40.77
5.31	225.78	.269E+07	1202.8	1.62	37.27
5.99	226.46	.344E+07	1618.0	1.70	35.46
6.68	227.15	.447E+07	1932.0	1.56	38.56
7.36	227.83	.580E+07	2763.9	1.72	34.96
8.05	228.52	.718E+07	3861.9	1.95	30.97
8.73	229.20	.859E+07	5115.4	2.16	27.98
9.42	229.89	.100E+08	6519.2	2.35	25.64
10.10	230.57	.115E+08	8092.3	2.55	23.69
10.79	231.26	.130E+08	9821.5	2.73	22.05
11.47	231.94	.145E+08	11690.0	2.92	20.68
12.16	232.63	.160E+08	13694.9	3.09	19.52
12.84	233.31	.176E+08	15833.9	3.26	18.52

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0330)	468.30	5.66	7.50	27.22	0.80	0.53
OUTFLOW: ID= 1 (6332)	468.30	4.35	9.75	27.22	0.72	0.54

ADD HYD (8322)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0332):	393.44	2.232	9.75	23.32
+ ID2= 2 (6332):	468.30	4.351	9.75	27.22
ID = 3 (8322):	861.74	6.582	9.75	25.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0328) | ID= 1 DT=15.0 min

Area (ha)= 492.92 Curve Number (CN)= 77.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 4.411

PEAK FLOW (cms)= 3.474 (i)
TIME TO PEAK (hrs)= 8.750

RUNOFF VOLUME (mm)= 24.828
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0326) | ID= 1 DT=15.0 min

Area (ha)= 678.91 Curve Number (CN)= 80.0
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.95

Unit Hyd Qpeak (cms)= 5.941

PEAK FLOW (cms)= 5.199 (i)
TIME TO PEAK (hrs)= 8.750
RUNOFF VOLUME (mm)= 27.366
TOTAL RAINFALL (mm)= 62.700
RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (3181) | ID= 1 DT=15.0 min

Area (ha)= 357.30
Total Imp(%)= 56.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	200.09	157.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1543.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		82.76	70.02
over (min)		15.00	30.00
Storage Coeff. (min)=		17.52 (ii)	29.86 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.07	0.04

				TOTALS
PEAK FLOW	(cms)=	17.86	12.75	25.957 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	60.70	29.33	39.37
TOTAL RAINFALL	(mm)=	62.70	62.70	62.70
RUNOFF COEFFICIENT	=	0.97	0.47	0.63

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5318)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	22.8580	8.7280
0.8190	2.5190	27.5380	9.6853
4.2860	5.8947	32.5800	10.8345
11.0600	6.7336	32.9800	10.8445
16.3830	7.4416	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3181)	357.300	25.957	6.00	39.37
OUTFLOW: ID= 1 (5318)	357.300	11.106	6.75	39.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.78
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 6.7468

CALIB
STANDHYD (3182) | ID= 1 DT=15.0 min

Area (ha)= 126.13
Total Imp(%)= 21.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.49	99.64

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     916.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        24.95
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.82 (ii)   31.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.70         4.15          4.839 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      60.70        23.70          28.14
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.38           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   126.13   4.839     6.50    28.14
       + ID2= 2 (5318):   357.30  11.106     6.75    39.37
         ================================================
         ID = 3 (8334):   483.43  14.677     6.75    36.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3201.0) ------>
              Distance      Elevation       Manning
                 0.00         249.00        0.0380
                22.92         245.86        0.0380
                45.83         244.87        0.0380
                91.66         243.11        0.0380
               126.03         239.53        0.0380
               160.41         237.17        0.0380
               166.14         237.06        0.0380
               177.59         237.13        0.0380
               183.32         237.20        0.0380
               189.05         236.70    0.0380 /0.0350  Main Channel
               193.05         235.89        0.0350      Main Channel
               197.05         236.64    0.0350 /0.0380  Main Channel
               200.51         236.74        0.0380
               206.24         237.03        0.0380
               246.34         238.82        0.0380
               263.53         243.87        0.0380
               389.56         247.64        0.0380
               452.58         247.74        0.0380
               498.41         248.60        0.0380
               567.16         249.84        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.37   236.26    .270E+04        0.4         0.58     107.96
      0.75   236.64    .108E+05        2.6         0.92      68.01
      1.48   237.37    .877E+05       27.4         1.17      53.35
      2.20   238.09    .277E+06      122.1         1.65      37.83
      2.93   238.82    .540E+06      299.7         2.08      30.01
      3.66   239.55    .857E+06      587.8         2.57      24.29
      4.39   240.28    .120E+07      977.8         3.04      20.52
      5.11   241.00    .158E+07     1458.1         3.46      18.02
      5.84   241.73    .198E+07     2028.6         3.84      16.23
      6.57   242.46    .240E+07     2690.5         4.19      14.86
      7.29   243.18    .285E+07     3431.8         4.50      13.84
      8.02   243.91    .335E+07     4149.1         4.64      13.44
      8.75   244.64    .393E+07     4746.6         4.51      13.80
      9.47   245.36    .463E+07     5618.6         4.53      13.75
     10.20   246.09    .545E+07     6781.8         4.66      13.39
     10.93   246.82    .635E+07     8274.5         4.87      12.79
     11.66   247.55    .733E+07     9988.0         5.10      12.23
     12.38   248.27    .853E+07    11422.0         5.01      12.45
     13.11   249.00    .989E+07    13749.7         5.20      11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.43    14.68    6.75  36.44      1.10      1.02
     OUTFLOW: ID= 1 (6320)  483.43     8.87    7.50  36.44      0.93      0.97


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-------------------
| CALIB             |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   1.495 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  27.807
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.444

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.38         106.80
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=    1137.78          40.00
     Mannings n           =      0.013          0.250

     Max.Eff.Inten.(mm/hr)=      82.76          79.28
               over (min)        15.00          30.00
     Storage Coeff.  (min)=      14.59 (ii)     26.33 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.07           0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.26          10.54          13.044 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25           6.25
     RUNOFF VOLUME    (mm)=      60.70          33.38          37.75
     TOTAL RAINFALL   (mm)=      62.70          62.70          62.70
     RUNOFF COEFFICIENT   =       0.97           0.53           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.4940     4.4477
                         0.2490     1.8139   |   9.8910     4.7762
                         1.2830     3.1517   |  12.4550     5.0763
                         3.7490     3.7610   |  12.8550     5.0863
                         5.0040     4.0198   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180     13.044      6.25      37.75
     OUTFLOW: ID= 1 (5320)    194.180      4.563      7.00      37.74

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.98
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                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.9331

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--------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56   1.495     6.75    27.81
       + ID2= 2 (5320):   194.18   4.563     7.00    37.74
         ================================================
         ID = 3 (9320):   278.74   6.043     7.00    34.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43   8.875     7.50    36.44
       + ID2= 2 (9320):   278.74   6.043     7.00    34.73
         ================================================
         ID = 3 (8332):   762.17  14.603     7.25    35.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   2.435 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  25.077
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.400

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.72        12.74
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     532.04        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        88.86
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.25 (ii)   20.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.88         1.58          4.912 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        31.95          45.18
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.51           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8400      1.3064
                          0.1440     0.7144   |   3.5660      1.4269
                          0.8230     0.8540   |   4.1520      1.5451
                          1.5320     0.9987   |   4.5520      1.5551
                          2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460     4.912      6.00      45.18
     OUTFLOW: ID= 1 (5314)     42.460     1.562      6.50      45.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.79
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0151

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--------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3142):   122.75   2.435     6.50    25.08
       + ID2= 2 (5314):    42.46   1.562     6.50    45.15
         ================================================
         ID = 3 (9314):   165.21   3.997     6.50    30.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3161.0) ------>
               Distance      Elevation       Manning
                  0.00         248.54        0.0350
                 27.93         248.34        0.0350
                 41.89         246.61        0.0350
                 62.83         243.09        0.0350
                132.65         239.00        0.0350
                188.50         236.74        0.0350
                195.48         236.54        0.0350
                202.46         236.32        0.0350
                205.48         236.14    0.0350 /0.0310  Main Channel
                205.98         235.61        0.0310      Main Channel
                207.98         235.25        0.0310      Main Channel
                209.98         235.53        0.0310      Main Channel
                210.48         236.00    0.0310 /0.0350  Main Channel
                216.42         236.73        0.0350
                258.31         239.09        0.0350
                328.12         239.84        0.0350
                439.83         241.47        0.0350
                530.58         242.08        0.0350
                586.43         242.93        0.0350
                691.16         248.00        0.0350

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.37   235.62    .215E+04        0.7        0.77      53.88
      0.75   236.00    .634E+04        3.5        1.36      30.45
      1.46   236.71    .297E+05       19.3        1.62      25.66
      2.16   237.41    .103E+06       75.8        1.84      22.60
      2.87   238.12    .229E+06      202.8        2.21      18.79
      3.57   238.82    .407E+06      423.3        2.59      16.03
      4.28   239.53    .654E+06      727.7        2.77      14.97
      4.99   240.24    .103E+07     1242.0        3.01      13.76
      5.69   240.94    .151E+07     2002.3        3.31      12.54
      6.40   241.65    .210E+07     2987.9        3.55      11.70
      7.10   242.35    .286E+07     4302.8        3.75      11.07
      7.81   243.06    .374E+07     6165.3        4.10      10.11
      8.51   243.76    .468E+07     8642.4        4.60       9.03
      9.22   244.47    .565E+07    11496.3        5.06       8.20
      9.93   245.18    .666E+07    14714.1        5.50       7.54
     10.63   245.88    .770E+07    18290.3        5.91       7.02
     11.34   246.59    .877E+07    22221.9        6.30       6.58
     12.04   247.29    .988E+07    26464.4        6.67       6.22
     12.75   248.00    .110E+08    31061.3        7.01       5.91

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     4.00    6.50  30.23      0.77      1.37
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     OUTFLOW: ID= 1 (6316)  165.21     3.50    7.00  30.23      0.75      1.36


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--------------------
| CALIB            |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   3.160 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  29.965
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.44        13.18
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     487.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        85.42
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.77 (ii)   20.17 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.09         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.16         1.59          4.209 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      60.70        36.19          46.97
     TOTAL RAINFALL   (mm)=      62.70        62.70          62.70
     RUNOFF COEFFICIENT   =       0.97         0.58           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3160      0.9307
                          0.0930     0.5020   |   2.9060      1.0021
                          0.5400     0.6637   |   3.5360      1.0731
                          1.1940     0.7495   |   3.9360      1.0831
                          1.6920     0.8359   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3161)     35.620      4.209      6.00      46.97
     OUTFLOW: ID= 1 (5316)     35.620      1.629      6.50      46.93

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.69
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8266

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   3.160     7.00    29.96
       + ID2= 2 (5316):    35.62   1.629     6.50    46.93
         ================================================
         ID = 3 (9316):   232.34   4.593     6.75    32.57


     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   3.495     7.00    30.23
       + ID2= 2 (9316):   232.34   4.593     6.75    32.57
         ================================================
         ID = 3 (8338):   397.55   7.866     7.00    31.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   3.684 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  27.291
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   2.615 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  15.525
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   1.342 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.858
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0308):   529.30   2.615     8.50    15.53
       + ID2= 2 (0310):   138.28   1.342     7.00    16.86
         ================================================
         ID = 3 (8342):   667.58   3.777     8.00    15.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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--------------------
              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation       Manning
                  0.00         265.94        0.0360
                 38.07         265.43        0.0360
                 59.82         263.98        0.0360
                103.32         254.59        0.0360
                157.70         252.16        0.0360
                217.52         250.45        0.0360
                233.84         247.69        0.0360
                234.71         247.27        0.0360
                239.71         246.38        0.0360
                244.71         246.12    0.0360 /0.0330  Main Channel
                247.71         245.17        0.0330      Main Channel
                249.71         245.19        0.0330      Main Channel
                251.71         245.64    0.0330 /0.0360  Main Channel
                259.71         246.67        0.0360
                282.78         247.12        0.0360
                315.41         251.60        0.0360
                424.17         256.13        0.0360
                478.55         257.04        0.0360
                516.62         259.37        0.0360
                538.37         266.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.47   245.64    .111E+04       3.1         1.78       6.07
      1.54   246.71    .103E+05      53.9         3.39       3.19
      2.61   247.78    .414E+05     281.3         4.40       2.45
      3.68   248.85    .839E+05     749.1         5.79       1.87
      4.74   249.91    .136E+06    1463.2         6.97       1.55
      5.81   250.98    .201E+06    2354.8         7.61       1.42
      6.88   252.05    .295E+06    3533.0         7.76       1.39
      7.95   253.12    .427E+06    5303.9         8.05       1.34
      9.02   254.19    .594E+06    7856.5         8.58       1.26
     10.09   255.26    .792E+06   11449.2         9.37       1.15
     11.15   256.32    .101E+07   15862.4        10.15       1.06
     12.22   257.39    .127E+07   21074.5        10.75       1.01
     13.29   258.46    .155E+07   28184.1        11.78       0.92
     14.36   259.53    .185E+07   36386.2        12.77       0.85
     15.43   260.60    .215E+07   46110.6        13.89       0.78
     16.50   261.67    .246E+07   56822.5        14.95       0.72
     17.56   262.73    .278E+07   68498.1        15.97       0.68
     18.63   263.80    .310E+07   81118.8        16.94       0.64
     19.70   264.87    .344E+07   93603.2        17.66       0.61

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     3.78    8.00  15.80      0.49      1.79
     OUTFLOW: ID= 1 (6312)  667.58     3.78    8.00  15.80      0.49      1.79


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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   3.684     8.00    27.29
       + ID2= 2 (6312):   667.58   3.776     8.00    15.80
         ================================================
         ID = 3 (8340):  1027.02   7.460     8.00    19.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.55   7.866     7.00    31.60
       + ID2= 2 (8340):  1027.02   7.460     8.00    19.82
         ================================================
         ID = 3 (8336):  1424.57  14.842     7.00    23.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8330) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.17  14.603     7.25    35.81
       + ID2= 2 (8336):  1424.57  14.842     7.00    23.11
         ================================================
         ID = 3 (8330):  2186.74  29.308     7.25    27.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation       Manning
                  0.00         234.38        0.0360
                 33.57         232.48        0.0360
                 67.14         230.14        0.0360
                 83.93         228.80        0.0360
                134.29         227.62        0.0360
                209.82         225.10        0.0360
                218.21         224.86        0.0360
                226.61         224.47        0.0360
                234.00         223.86    0.0360 /0.0300  Main Channel
                234.10         223.66        0.0300      Main Channel
                235.00         223.66        0.0300      Main Channel
                235.90         223.66        0.0300      Main Channel
                236.00         223.86    0.0300 /0.0360  Main Channel
                243.39         224.92        0.0360
                251.78         224.89        0.0360
                335.71         225.64        0.0360
                562.32         226.53        0.0360
                637.85         228.36        0.0360
                705.00         229.80        0.0360
                830.89         234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.20   223.86    .145E+04       0.2         0.43     147.27
      0.73   224.39    .159E+05       2.8         0.68      93.11
      1.27   224.93    .561E+05      11.0         0.75      85.19
      1.80   225.46    .217E+06      45.6         0.80      79.20
      2.33   225.99    .566E+06     134.4         0.91      70.20
      2.87   226.53    .122E+07     338.1         1.06      59.97
      3.40   227.06    .206E+07     744.3         1.38      46.16
      3.94   227.60    .298E+07    1295.9         1.66      38.38
      4.47   228.13    .399E+07    1979.9         1.90      33.59
      5.00   228.66    .509E+07    2807.5         2.11      30.21
      5.54   229.20    .627E+07    3815.1         2.32      27.41
      6.07   229.73    .753E+07    4984.1         2.53      25.17
      6.60   230.26    .884E+07    6346.3         2.74      23.20
      7.14   230.80    .102E+08    7861.2         2.95      21.61
      7.67   231.33    .116E+08    9526.4         3.14      20.29
      8.21   231.87    .131E+08   11342.2         3.32      19.18
      8.74   232.40    .146E+08   13309.6         3.49      18.22
      9.27   232.93    .161E+08   15414.0         3.66      17.41
      9.81   233.47    .177E+08   17671.0         3.81      16.70

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.74    29.31    7.25  27.54      1.55      0.78
     OUTFLOW: ID= 1 (6324) 2186.74    21.18    8.75  27.54      1.42      0.76


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--------------------
| CALIB            |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   4.720 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  26.303
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.420

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.06         7.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     299.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      82.76        80.70
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.55 (ii)   18.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.88          1.012 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      60.70        33.59         37.65
     TOTAL RAINFALL   (mm)=      62.70        62.70         62.70
     RUNOFF COEFFICIENT   =       0.97         0.54          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5324) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.9000      0.3505
                          0.0460     0.1645   |   1.1310      0.4008
                          0.2610     0.1903   |   1.3160      0.4499
                          0.4860     0.2456   |   1.7160      0.4599
                          0.6740     0.2932   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3241)     13.460      1.012      6.00      37.65
     OUTFLOW: ID= 1 (5324)     13.460      0.445      6.75      37.59

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.03
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2384

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--------------------
| ADD HYD   (9324) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3242):   602.18   4.720     8.50    26.30
       + ID2= 2 (5324):    13.46   0.445     6.75    37.59
         ================================================
         ID = 3 (9324):   615.64   4.842     8.25    26.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8328) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6324):  2186.74  21.184     8.75    27.54
       + ID2= 2 (9324):   615.64   4.842     8.25    26.55
         ================================================
         ID = 3 (8328):  2802.38  25.992     8.75    27.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| CALIB            |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   4.298 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  27.347
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.436

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8326) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   4.298     8.50    27.35
       + ID2= 2 (8328):  2802.38  25.992     8.75    27.32
         ================================================
         ID = 3 (8326):  3315.51  30.276     8.75    27.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8324) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   5.199     8.75    27.37
       + ID2= 2 (8326):  3315.51  30.276     8.75    27.32
         ================================================
         ID = 3 (8324):  3994.42  35.474     8.75    27.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3281.0) ------>
              Distance      Elevation       Manning
                 0.00         228.00        0.0380
                18.58         224.97        0.0380
                78.98         223.52        0.0380
               125.44         223.28        0.0380
               171.90         221.71        0.0380
               213.72         219.65        0.0380
               218.36         219.40        0.0380
               223.01         219.19        0.0380
               225.95         219.14    0.0380 /0.0320  Main Channel
               226.45         218.14        0.0320      Main Channel
               236.95         218.14        0.0320      Main Channel
               245.85         218.14        0.0320      Main Channel
               245.95         219.14    0.0320 /0.0380  Main Channel
               246.24         219.16        0.0380
               250.88         219.24        0.0380
               255.53         219.39        0.0380
               325.22         221.47        0.0380
               367.03         223.14        0.0380
               404.20         225.17        0.0380
               459.95         228.04        0.0380

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50    218.64    .373E+05       3.2          0.33      192.37
      1.00    219.14    .752E+05      10.1          0.51      124.71
      1.52    219.66    .149E+06      22.2          0.57      112.06
      2.04    220.18    .279E+06      43.4          0.59      107.06
      2.56    220.70    .464E+06      77.0          0.63      100.52
      3.08    221.22    .705E+06     125.7          0.68       93.56
      3.61    221.75    .100E+07     192.7          0.73       86.62
      4.13    222.27    .135E+07     278.1          0.79       80.92
      4.65    222.79    .176E+07     385.9          0.84       75.86
      5.17    223.31    .222E+07     514.9          0.89       71.82
      5.69    223.83    .280E+07     662.7          0.90       70.40
      6.21    224.35    .345E+07     867.7          0.96       66.35
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       6.73   224.87    .417E+07    1107.0          1.01      62.81
       7.25   225.39    .494E+07    1400.0          1.08      58.80
       7.78   225.92    .573E+07    1732.2          1.15      55.17
       8.30   226.44    .655E+07    2099.9          1.22      52.02
       8.82   226.96    .740E+07    2502.8          1.29      49.29
       9.34   227.48    .828E+07    2940.9          1.36      46.90
       9.86   228.00    .918E+07    3414.3          1.42      44.79

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8324) 3994.42    35.47    8.75  27.33      1.85      0.58
OUTFLOW: ID= 1 (6328) 3994.42    28.86   10.50  27.33      1.69      0.58


--------------------------------------------------------------------------------

------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8328):   492.92   3.474     8.75    24.83
      + ID2= 2 (6328):  3994.42  28.865    10.50    27.33
        ================================================
        ID = 3 (8320):  4487.34  32.131    10.50    27.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8320):  4487.34  32.131    10.50    27.06
      + ID2= 2 (8322):   861.74   6.582     9.75    25.44
        ================================================
        ID = 3 (8318):  5349.08  38.605    10.25    26.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5509): 10059.16  39.339    14.25    20.80
      + ID2= 2 (8318):  5349.08  38.605    10.25    26.80
        ================================================
        ID = 3 (8316): 15408.24  71.535    12.25    22.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8314):   620.10   0.793     7.00    13.65
      + ID2= 2 (8316): 15408.24  71.535    12.25    22.88
        ================================================
        ID = 3 (8312): 16028.34  72.210    12.25    22.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8310):   598.91  19.443     6.50    30.41
      + ID2= 2 (8312): 16028.34  72.210    12.25    22.52
        ================================================
        ID = 3 (8308): 16627.25  73.756    12.00    22.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     74.0090
                         66.5450    18.5023   |  *******     ********
                         98.5430    37.0045   |  *******     ********

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8308)   ********     73.756     12.00      22.81
     OUTFLOW: ID= 1 (5510)   ********     71.367     13.25      22.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.76
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 21.2924

--------------------------------------------------------------------------------

------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0336):  2785.00   2.580    22.25    21.25
      + ID2= 2 (5510): 16627.25  71.367    13.25    22.81
        ================================================
        ID = 3 (8240): 19412.25  73.582    13.25    22.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (5508):  9524.19  32.883    12.00    14.00
      + ID2= 2 (8240): 19412.25  73.582    13.25    22.59
        ================================================
        ID = 3 (8238): 28936.44 105.762    12.75    19.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| CALIB            |
| STANDHYD  (3427) |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
------------------

                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         112.23         137.17
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=        1289.44          40.00
     Mannings n           =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          82.76          24.21
               over (min)            15.00          45.00
     Storage Coeff.  (min)=          15.73 (ii)     34.60 (ii)
     Unit Hyd. Tpeak (min)=          15.00          45.00
     Unit Hyd. peak  (cms)=           0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=          13.50           5.30          15.709 (iii)
     TIME TO PEAK    (hrs)=           6.00           6.50           6.00
     RUNOFF VOLUME    (mm)=          60.70          21.29          34.29
     TOTAL RAINFALL   (mm)=          62.70          62.70          62.70
     RUNOFF COEFFICIENT   =           0.97           0.34           0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4700     5.4211
                          0.8500     3.0375   |  16.6800     6.4838
                          4.8400     3.5126   |  20.9500     7.4161
                          9.0000     4.5390   |  24.3900     8.3284
```

```
                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3427)    249.400     15.709      6.00      34.29
     OUTFLOW: ID= 1 (9425)    249.400      6.470      6.75      34.29

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.19
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.9189

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6600     12.0067
                          1.2080    11.1244   |   4.4200     12.4001
                          2.0570    11.3002   |   5.2300     12.7452
                          2.7240    11.3602   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9425)    249.400      6.470      6.75      34.29
     OUTFLOW: ID= 1 (5342)    249.400      0.534     17.00      34.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.25
                   TIME SHIFT OF PEAK FLOW         (min)=615.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.9183

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3422) |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   2.081 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  12.311
     TOTAL RAINFALL   (mm)=  62.700
     RUNOFF COEFFICIENT   =   0.196

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3422):   755.17   2.081    10.25    12.31
        + ID2= 2 (5342):   249.40   0.534    17.00    34.28
          ================================================
          ID = 3 (9342):  1004.57   2.558    10.50    17.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8238): 28936.44 105.762    12.75    19.76
        + ID2= 2 (9342):  1004.57   2.558    10.50    17.77
          ================================================
          ID = 3 (8236): 29941.01 108.149    12.75    19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8232):   285.79   7.859     6.00    28.59
        + ID2= 2 (8236): 29941.01 108.149    12.75    19.69
          ================================================
          ID = 3 (8234): 30226.80 108.594    12.75    19.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.43        128.41
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1122.02         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         13.09
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      14.47 (ii)    38.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.07          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.70          2.56          8.730 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         13.05         24.49
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.21          0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.51         94.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1017.02         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      82.76         14.18
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      13.64 (ii)    37.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.83          2.09          8.676 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      60.70         13.54         27.22
     TOTAL RAINFALL   (mm)=      62.70         62.70         62.70
     RUNOFF COEFFICIENT   =       0.97          0.22          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6700      6.1252
                          0.3000     1.6125   |   3.3150      7.0314
                          0.8100     3.0036   |   3.8990      7.9700
                          1.4170     4.2559   |   4.2990      7.9800
                          1.8540     5.0526   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150      8.676      6.00      27.22
     OUTFLOW: ID= 1 (5344)    155.150      0.773      8.50      27.21
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.91
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.9027
```

```
-------------------
| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3442):   188.84   8.730     6.00    24.49
       + ID2= 2 (5344):   155.15   0.773     8.50    27.21
         ================================================
         ID = 3 (9344):   343.99   8.952     6.00    25.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8234): 30226.80 108.594    12.75    19.78
       + ID2= 2 (9344):   343.99   8.952     6.00    25.71
         ================================================
         ID = 3 (8230): 30570.79 109.344    12.50    19.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06   8.750     8.50    12.28
       + ID2= 2 (8230): 30570.79 109.344    12.50    19.85
         ================================================
         ID = 3 (8228): 32522.85 114.868    12.25    19.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   3.392     8.00     9.30
       + ID2= 2 (8228): 32522.85 114.868    12.25    19.39
         ================================================
         ID = 3 (8190): 33538.07 117.084    12.00    19.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************


-------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ab70bd54-a452-450c-b03c-83cdc4826a98\12f62f64
| Ptotal= 73.10 mm |    Comments: 25-Year 12-Hour SCS II Design Storm
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    1.83 |  3.25    2.92 |  6.25   13.16 |  9.25    2.56
                0.50    1.83 |  3.50    2.92 |  6.50   13.16 |  9.50    2.56
                0.75    1.83 |  3.75    2.92 |  6.75    5.85 |  9.75    2.56
                1.00    1.83 |  4.00    2.92 |  7.00    5.85 | 10.00    2.56
                1.25    1.83 |  4.25    4.39 |  7.25    4.39 | 10.25    1.46
                1.50    1.83 |  4.50    4.39 |  7.50    4.39 | 10.50    1.46
                1.75    1.83 |  4.75    5.85 |  7.75    4.39 | 10.75    1.46
                2.00    1.83 |  5.00    5.85 |  8.00    4.39 | 11.00    1.46
                2.25    2.19 |  5.25    8.77 |  8.25    2.56 | 11.25    1.46
                2.50    2.19 |  5.50    8.77 |  8.50    2.56 | 11.50    1.46
                2.75    2.19 |  5.75   35.09 |  8.75    2.56 | 11.75    1.46
                3.00    2.19 |  6.00   96.49 |  9.00    2.56 | 12.00    1.46
```

```
-------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   4.610 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.581
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.172

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   3.316 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.078
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.220

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   2.124 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  13.386
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   2.211 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  13.458
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3501.0) ------>
              Distance      Elevation       Manning
                  0.00         287.00        0.0500
                 23.66         283.72        0.0500
                 70.98         280.94        0.0500
                112.38         280.23        0.0500
                171.52         276.80        0.0500
                260.24         274.46        0.0500
                266.16         274.26        0.0500
                272.07         274.12        0.0500
                276.49         274.12    0.0500 /0.0300  Main Channel
```

```
              276.99        273.82        0.0300      Main Channel
              277.99        273.82        0.0300      Main Channel
              279.49        273.82        0.0300      Main Channel
              280.49        274.27    0.0300 /0.0500  Main Channel
              283.90        274.27        0.0500
              289.81        274.57        0.0500
              325.30        275.75        0.0500
              396.28        278.98        0.0500
              449.51        280.97        0.0500
              496.83        283.90        0.0500
              585.54        287.92        0.0500

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   274.12    .273E+04       0.9         0.99      49.81
       0.98   274.80    .583E+05      20.8         1.05      46.71
       1.66   275.48    .203E+06      95.2         1.38      35.53
       2.33   276.15    .438E+06     256.0         1.73      28.50
       3.01   276.83    .755E+06     524.8         2.05      23.97
       3.69   277.51    .114E+07     935.8         2.43      20.26
       4.37   278.19    .157E+07    1472.0         2.76      17.82
       5.05   278.87    .206E+07    2140.7         3.06      16.06
       5.72   279.54    .261E+07    2938.6         3.33      14.79
       6.40   280.22    .321E+07    3887.6         3.57      13.77
       7.08   280.90    .390E+07    4795.4         3.63      13.56
       7.76   281.58    .468E+07    6196.2         3.91      12.58
       8.43   282.25    .550E+07    7803.9         4.19      11.74
       9.11   282.93    .637E+07    9601.9         4.45      11.05
       9.79   283.61    .728E+07   11594.8         4.70      10.46
      10.47   284.29    .823E+07   13845.3         4.96       9.91
      11.15   284.97    .922E+07   16293.4         5.21       9.43
      11.82   285.64    .103E+08   18952.0         5.45       9.02
      12.50   286.32    .113E+08   21824.3         5.69       8.65

                           <---- hydrograph ---->   <-pipe / channel->
                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0348)  590.18     2.21    9.00  13.46      0.34      0.99
OUTFLOW: ID= 1 (6350)  590.18     2.16   10.25  13.46      0.34      0.99


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-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0350):   366.84   2.124     7.50    13.39
       + ID2= 2 (6350):   590.18   2.158    10.25    13.46
         ================================================
         ID = 3 (8220):   957.02   3.943     8.75    13.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3461) |   Area    (ha)=  33.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  38.00
-------------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.51         13.11
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     473.43         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         86.14
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.11 (ii)   19.47 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.06          1.61      4.107 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=      71.10         35.19      48.83
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.48       0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.8    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.0090      0.6158
                         0.2450     0.2524   |   2.6260      0.6610
                         0.6230     0.3644   |   3.2370      0.7019
                         0.9920     0.4690   |   3.6370      0.7119
                         1.2510     0.5428   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3461)     33.620      4.107      6.00      48.83
     OUTFLOW: ID= 1 (5346)     33.620      1.934      6.50      48.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.09
                TIME SHIFT OF PEAK FLOW        (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6258

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   4.111 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  26.696
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.365

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3462):   317.31   4.111     7.25    26.70
       + ID2= 2 (5346):    33.62   1.934     6.50    48.83
         ================================================
         ID = 3 (9346):   350.93   5.662     6.50    28.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8220):   957.02   3.943     8.75    13.43
       + ID2= 2 (9346):   350.93   5.662     6.50    28.82
         ================================================
         ID = 3 (8222):  1307.95   8.520     7.25    17.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3521.0) ------>
              Distance      Elevation       Manning
                  0.00         257.95        0.0500
                  7.83         257.34        0.0500
                 15.66         256.19        0.0500
                 21.53         254.01        0.0500
                 41.11         244.06        0.0500
                 76.35         241.38        0.0500
                111.58         239.74        0.0500
                113.54         239.61        0.0500
                113.75         239.41    0.0500 /0.0300  Main Channel
```

113.85	238.81	0.0300	Main Channel
115.50	238.81	0.0300	Main Channel
116.15	238.81	0.0300	Main Channel
116.25	239.41	0.0300	Main Channel
117.46	239.52	0.0500	
119.41	239.72	0.0500	
121.37	240.04	0.0500	
131.16	241.84	0.0500	
156.61	247.03	0.0500	
176.19	251.46	0.0500	
193.80	258.79	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	239.41	.224E+04	2.2	1.52	17.12
1.58	240.39	.216E+05	22.3	1.61	16.16
2.55	241.36	.804E+05	101.0	1.96	13.27
3.53	242.34	.173E+06	275.6	2.48	10.46
4.50	243.31	.293E+06	553.9	2.95	8.80
5.48	244.29	.438E+06	961.8	3.42	7.60
6.45	245.26	.599E+06	1534.4	3.99	6.51
7.43	246.24	.770E+06	2228.4	4.51	5.76
8.41	247.22	.951E+06	3043.6	4.98	5.21
9.38	248.19	.114E+07	3982.1	5.43	4.78
10.36	249.17	.134E+07	5040.1	5.85	4.44
11.33	250.14	.155E+07	6218.5	6.24	4.16
12.31	251.12	.177E+07	7518.6	6.61	3.93
13.29	252.10	.200E+07	8969.0	6.98	3.72
14.26	253.07	.224E+07	10554.1	7.35	3.53
15.24	254.05	.248E+07	12257.1	7.71	3.37
16.21	255.02	.272E+07	14045.1	8.03	3.23
17.19	256.00	.298E+07	15954.8	8.34	3.11
18.16	256.97	.325E+07	17780.4	8.53	3.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8222)	1307.95	8.52	7.25	17.56	0.91	1.54
OUTFLOW: ID= 1 (6352)	1307.95	8.47	7.75	17.56	0.90	1.54

ADD HYD (8224)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0352):	381.43	3.316	7.00	16.08
	+ ID2= 2 (6352):	1307.95	8.472	7.75	17.56
	ID = 3 (8224):	1689.38	11.650	7.50	17.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6354)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3541.0) ------>

Distance	Elevation	Manning	
0.00	253.92	0.0500	
7.95	251.83	0.0500	
15.89	249.97	0.0500	
19.87	249.05	0.0500	
47.68	242.00	0.0500	
67.55	237.10	0.0500	
83.44	231.11	0.0500	
85.43	230.75	0.0500	
85.66	230.61	0.0500 /0.0300	Main Channel
85.76	230.01	0.0300	Main Channel
87.41	230.01	0.0300	Main Channel
88.06	230.01	0.0300	Main Channel
88.16	230.61	0.0300 /0.0500	Main Channel
89.40	230.72	0.0500	
91.39	230.88	0.0500	
93.37	231.03	0.0500	
133.11	233.96	0.0500	
150.99	235.39	0.0500	
172.84	239.03	0.0500	
196.68	250.00	0.0500	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	230.61	.451E+04	1.5	1.06	49.40
1.62	231.63	.394E+05	14.6	1.16	45.13
2.64	232.65	.128E+06	58.8	1.44	36.30
3.66	233.67	.269E+06	149.7	1.74	30.00
4.68	234.69	.463E+06	301.5	2.04	25.58
5.70	235.71	.705E+06	530.5	2.36	22.14
6.72	236.73	.980E+06	848.4	2.71	19.25
7.74	237.75	.128E+07	1237.9	3.02	17.29
8.76	238.77	.162E+07	1706.7	3.30	15.83
9.78	239.79	.199E+07	2291.9	3.61	14.45
10.81	240.82	.237E+07	2973.7	3.92	13.30
11.83	241.84	.278E+07	3742.2	4.21	12.38
12.85	242.86	.321E+07	4599.1	4.49	11.62
13.87	243.88	.365E+07	5544.6	4.75	10.98
14.89	244.90	.412E+07	6579.7	5.00	10.44
15.91	245.92	.461E+07	7705.9	5.23	9.97
16.93	246.94	.512E+07	8924.6	5.46	9.55
17.95	247.96	.564E+07	10237.5	5.68	9.19
18.97	248.98	.619E+07	11646.2	5.89	8.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8224)	1689.38	11.65	7.50	17.22	1.39	1.13
OUTFLOW: ID= 1 (6354)	1689.38	10.76	8.50	17.22	1.32	1.12

CALIB			
STANDHYD (3541)	Area (ha)=	8.01	
ID= 1 DT=15.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.01	2.00
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	231.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		96.49	11.04
over (min)		15.00	45.00
Storage Coeff. (min)=		5.27 (ii)	31.10 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.11	0.03
			TOTALS
PEAK FLOW (cms)=		1.45	0.04 1.461 (iii)
TIME TO PEAK (hrs)=		6.00	6.50 6.00
RUNOFF VOLUME (mm)=		71.10	10.44 52.90
TOTAL RAINFALL (mm)=		73.10	73.10 73.10
RUNOFF COEFFICIENT =		0.97	0.14 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 35.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5354)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.5360	0.2546
	0.0270	0.1427		0.6730	0.2758
	0.1550	0.1714		0.7830	0.2966
	0.2890	0.1975		1.1830	0.3066
	0.4010	0.2251		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3541)	8.010	1.461	6.00	52.90
OUTFLOW: ID= 1 (5354)	8.010	0.440	6.25	52.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.12
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2397

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--------------------
| CALIB            |
| NASHYD    (3542) |   Area    (ha)= 254.67   Curve Number   (CN)= 36.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.174

     PEAK FLOW       (cms)=   0.832 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=   9.103
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3542):   254.67   0.832     8.00     9.10
       + ID2= 2 (5354):     8.01   0.440     6.25    52.73
         ================================================
         ID = 3 (9354):   262.68   1.025     6.75    10.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6354):  1689.38  10.758     8.50    17.22
       + ID2= 2 (9354):   262.68   1.025     6.75    10.43
         ================================================
         ID = 3 (8226):  1952.06  11.661     8.50    16.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      63.86        74.97
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     962.05        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        20.74
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.41 (ii)   32.48 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       8.18         2.58          9.245 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10        17.18          32.28
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.24           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.24        61.72
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     989.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        44.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.62 (ii)   27.36 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.76         3.33         12.814 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        19.43         37.51
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.27          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  11.4780      4.3560
                          0.3860     2.0347   |  14.9940      4.9991
                          3.2310     2.5818   |  18.1680      5.6243
                          5.1770     3.1417   |  18.5680      5.6343
                          7.7590     3.6318   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)    146.960     12.814      6.00      37.51
     OUTFLOW: ID= 1 (5340)    146.960      4.037      6.75      37.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.50
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.8465

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--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   138.83   9.245     6.00    32.28
       + ID2= 2 (5340):   146.96   4.037     6.75    37.50
         ================================================
         ID = 3 (8232):   285.79   9.571     6.00    34.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   2.643 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  13.432
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.184

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198
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     PEAK FLOW       (cms)=   2.757 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.036
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   6.058 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  29.204
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.400

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  20.009
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.274

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.471 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   9.165
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   2.560 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  20.954
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.287

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451
```

```
     PEAK FLOW       (cms)=   4.212 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.530
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3641) |   Area    (ha)=   7.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.53          4.32
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     228.76         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         23.12
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.24 (ii)    24.46 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.32          0.21          0.452 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         16.74         25.44
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.23          0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5250      0.2044
                          0.0270     0.0959   |   0.6590      0.2337
                          0.1520     0.1110   |   0.7670      0.2624
                          0.2830     0.1432   |   1.1670      0.2724
                          0.3930     0.1710   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850      0.452      6.00      25.44
     OUTFLOW: ID= 1 (5364)     7.850      0.121      6.75      25.33

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.83
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1078

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96         116.46
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     991.36          40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         13.98
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.64 (ii)    36.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                          *TOTALS*
```

```
     PEAK FLOW       (cms)=       2.16         2.57          3.194 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.00
     RUNOFF VOLUME    (mm)=      71.10        13.32          17.36
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.18           0.24

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3642):   147.42   3.194     6.00    17.36
       + ID2= 2 (5364):     7.85   0.121     6.75    25.33
         ================================================
         ID = 3 (9364):   155.27   3.209     6.00    17.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9366):   462.62   4.212     7.50    20.53
       + ID2= 2 (9364):   155.27   3.209     6.00    17.76
         ================================================
         ID = 3 (8302):   617.89   6.845     6.50    19.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.611 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=   8.508
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.116

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.171 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  12.385
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.169

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   1.611     7.50     8.51
       + ID2= 2 (0360):   138.37   1.171     6.75    12.38
         ================================================
         ID = 3 (8306):   568.24   2.716     7.00     9.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation       Manning
                 0.00        261.46        0.0550
                27.86        254.23        0.0550
                51.07        251.96        0.0550
                74.29        250.77        0.0550
                97.50        249.91        0.0550
               125.36        249.40        0.0550
               150.93        247.40        0.0550
               155.93        247.33    0.0550 /0.0350  Main Channel
               157.93        246.85        0.0350      Main Channel
               159.18        246.65        0.0350      Main Channel
               160.18        246.63        0.0350      Main Channel
               160.93        246.85        0.0350      Main Channel
               161.93        247.18    0.0350 /0.0550  Main Channel
               163.18        248.03        0.0550
               168.18        248.58        0.0550
               183.18        250.18        0.0550
               201.97        252.59        0.0550
               213.57        256.02        0.0550
               225.18        260.31        0.0550
               229.82        261.00        0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.55   247.18    .556E+04        1.9        1.03      49.95
      1.28   247.91    .336E+05       16.7        1.53      33.61
      2.00   248.63    .913E+05       53.6        1.81      28.40
      2.73   249.36    .185E+06      122.3        2.05      25.18
      3.46   250.09    .344E+06      224.6        2.02      25.52
      4.19   250.82    .574E+06      417.9        2.25      22.91
      4.91   251.54    .855E+06      699.1        2.53      20.38
      5.64   252.27    .118E+07     1075.3        2.82      18.26
      6.37   253.00    .153E+07     1559.9        3.15      16.38
      7.10   253.73    .191E+07     2137.6        3.46      14.89
      7.82   254.45    .231E+07     2815.2        3.77      13.67
      8.55   255.18    .272E+07     3608.5        4.10      12.58
      9.28   255.91    .315E+07     4488.2        4.41      11.69
     10.01   256.64    .358E+07     5458.0        4.71      10.95
     10.73   257.36    .403E+07     6512.4        4.99      10.32
     11.46   258.09    .449E+07     7649.8        5.27       9.78
     12.19   258.82    .496E+07     8869.5        5.53       9.32
     12.92   259.55    .544E+07    10171.2        5.78       8.91
     13.64   260.27    .593E+07    11554.8        6.02       8.55

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     2.72    7.00   9.45      0.59      1.05
     OUTFLOW: ID= 1 (6362)  568.24     2.40    8.25   9.45      0.58      1.04

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--------------------
| CALIB            |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.34          6.53
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     281.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         24.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.93 (ii)    24.64 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.51          0.34          0.720 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
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     RUNOFF VOLUME    (mm)=      71.10        18.05          27.07
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.25           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7940      0.3091
                         0.0400     0.1451   |   0.9970      0.3534
                         0.2300     0.1678   |   1.1610      0.3968
                         0.4280     0.2166   |   1.5610      0.4068
                         0.5940     0.2586   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3621)    11.870     0.720      6.00      27.07
     OUTFLOW: ID= 1 (5362)    11.870     0.222      6.75      26.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.81
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1671

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-------------------
| CALIB            |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.66         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     844.24         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         15.90
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      11.47 (ii)    33.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.08          2.11      2.939 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=      71.10         14.80      19.87
     TOTAL RAINFALL   (mm)=      73.10         73.10      73.10
     RUNOFF COEFFICIENT   =       0.97          0.20       0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3622):   106.91   2.939     6.00    19.87
        + ID2= 2 (5362):    11.87   0.222     6.75    26.99
          ================================================
          ID = 3 (9362):   118.78   2.962     6.00    20.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6362):   568.24   2.400     8.25     9.45
        + ID2= 2 (9362):   118.78   2.962     6.00    20.58
          ================================================
          ID = 3 (8304):   687.02   3.973     6.50    11.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8302):   617.89   6.845     6.50    19.83
        + ID2= 2 (8304):   687.02   3.973     6.50    11.38
          ================================================
          ID = 3 (8300):  1304.91  10.818     6.50    15.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
              Distance      Elevation       Manning
                 0.00         230.00        0.0370
                18.48         223.26        0.0370
                36.96         223.05        0.0370
                64.67         222.94        0.0370
               110.87         222.86        0.0370
               133.96         222.74        0.0370
               147.82         222.65        0.0370
               170.92         222.31        0.0370
               174.79         222.26    0.0370 /0.0300  Main Channel
               174.89         221.86        0.0300      Main Channel
               175.54         221.86        0.0300      Main Channel
               176.19         221.86        0.0300      Main Channel
               176.29         222.26    0.0300 /0.0370  Main Channel
               180.16         222.25        0.0370
               184.78         222.28        0.0370
               189.40         222.31        0.0370
               332.60         222.37        0.0370
               450.00         230.00        0.0370

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.40   222.26    .771E+03        0.3         0.52       41.74
      0.81   222.67    .784E+05       30.3         0.51       43.17
      1.21   223.07    .210E+06      123.2         0.77       28.42
      1.62   223.48    .384E+06      301.0         1.03       21.25
      2.03   223.89    .563E+06      550.2         1.28       17.06
      2.44   224.30    .747E+06      860.7         1.51       14.46
      2.84   224.70    .934E+06     1228.1         1.73       12.68
      3.25   225.11    .113E+07     1649.3         1.92       11.37
      3.66   225.52    .132E+07     2122.3         2.11       10.37
      4.07   225.93    .152E+07     2645.5         2.29        9.58
      4.47   226.33    .172E+07     3217.8         2.45        8.92
      4.88   226.74    .193E+07     3838.3         2.61        8.38
      5.29   227.15    .214E+07     4506.3         2.76        7.92
      5.70   227.56    .236E+07     5221.3         2.91        7.52
      6.10   227.96    .258E+07     5983.0         3.05        7.17
      6.51   228.37    .280E+07     6790.9         3.19        6.87
      6.92   228.78    .303E+07     7645.0         3.32        6.60
      7.33   229.19    .326E+07     8545.1         3.45        6.35
      7.73   229.59    .349E+07     9491.0         3.57        6.13

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    10.82     6.50   15.38      0.54      0.52
     OUTFLOW: ID= 1 (6368) 1304.91     8.71     7.50   15.38      0.51      0.52

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| CALIB            |
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| STANDHYD  (3681) |   Area    (ha)=   2.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.33         1.62
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    140.24        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49        21.89
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      3.91 (ii)   23.55 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.12         0.08          0.163 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     71.10        15.73         24.03
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.97         0.22          0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  40.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5368) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1970      0.0767
                         0.0100     0.0360   |   0.2470      0.0877
                         0.0570     0.0416   |   0.2880      0.0984
                         0.1060     0.0537   |   0.6880      0.1084
                         0.1470     0.0642   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3681)     2.950     0.163      6.00      24.03
     OUTFLOW: ID= 1 (5368)     2.950     0.040      7.00      23.73

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.30
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0398

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3682)  |   Area    (ha)= 156.53   Curve Number   (CN)= 45.9
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   2.778

     PEAK FLOW       (cms)=   0.918 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.484
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.171

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3682):   156.53   0.918     7.25    12.48
        + ID2= 2 (5368):     2.95   0.040     7.00    23.73
          ================================================
          ID = 3 (9368):   159.48   0.953     7.25    12.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6368):  1304.91   8.705     7.50    15.38
        + ID2= 2 (9368):   159.48   0.953     7.25    12.69
          ================================================
          ID = 3 (8298):  1464.39   9.649     7.50    15.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8296) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0370):   191.85   2.560     6.75    20.95
        + ID2= 2 (8298):  1464.39   9.649     7.50    15.09
          ================================================
          ID = 3 (8296):  1656.24  11.977     7.50    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3721.0) ------>
               Distance      Elevation       Manning
                  0.00         225.00        0.0390
                 30.80         219.38        0.0390
                 61.61         219.30        0.0390
                 77.01         219.27        0.0390
                469.76         219.14        0.0390
                477.46         219.13        0.0390
                485.16         219.10        0.0390
                492.86         219.09        0.0390
                495.56         219.09    0.0390 /0.0310  Main Channel
                495.66         218.51        0.0310      Main Channel
                500.56         218.51        0.0310      Main Channel
                505.46         218.51        0.0310      Main Channel
                505.56         219.09    0.0310 /0.0390  Main Channel
                508.26         219.09        0.0390
                515.96         219.10        0.0390
                523.67         219.21        0.0390
                562.17         219.32        0.0390
                654.58         219.43        0.0390
                731.59         219.46        0.0390
                762.39         225.00        0.0390

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.29    218.80    .431E+04       1.7         0.58       43.48
      0.58    219.09    .867E+04       5.1         0.89       28.32
      0.93    219.44    .200E+06      58.2         0.44       57.35
      1.28    219.79    .568E+06     278.6         0.74       33.99
      1.62    220.13    .939E+06     630.2         1.01       24.84
      1.97    220.48    .131E+07    1090.4         1.25       20.05
      2.32    220.83    .169E+07    1647.7         1.47       17.06
      2.67    221.18    .206E+07    2294.6         1.68       14.99
      3.01    221.52    .244E+07    3025.6         1.87       13.46
      3.36    221.87    .282E+07    3836.5         2.05       12.27
      3.71    222.22    .321E+07    4723.7         2.22       11.31
      4.06    222.57    .359E+07    5684.6         2.39       10.53
      4.40    222.91    .398E+07    6716.6         2.55        9.87
      4.75    223.26    .437E+07    7817.7         2.70        9.31
      5.10    223.61    .476E+07    8986.2         2.85        8.83
      5.45    223.96    .515E+07   10220.4         2.99        8.40
      5.79    224.30    .555E+07   11519.1         3.13        8.03
      6.14    224.65    .594E+07   12880.8         3.27        7.69
      6.49    225.00    .634E+07   14304.5         3.40        7.39

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK   R.V.    MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8296) 1656.24    11.98     7.50  15.77      0.63      0.78
     OUTFLOW: ID= 1 (6372) 1656.24    11.36     8.25  15.77      0.62      0.79

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--------------------
| ADD HYD   (8294) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0372):   110.42   0.471     7.25     9.16
       + ID2= 2 (6372):  1656.24  11.364     8.25    15.77
         ================================================
         ID = 3 (8294):  1766.66  11.808     8.25    15.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8292) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0374):   545.70   3.687     8.25    20.01
       + ID2= 2 (8294):  1766.66  11.808     8.25    15.35
         ================================================
         ID = 3 (8292):  2312.36  15.495     8.25    16.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5505) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     15.495      8.25      16.45
     OUTFLOW: ID= 1 (5505)   2312.360     11.092     11.00      16.45

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.59
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 10.7426

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--------------------
| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):   463.85   6.058     7.50    29.20
       + ID2= 2 (5505):  2312.36  11.092    11.00    16.45
         ================================================
         ID = 3 (8272):  2776.21  15.089    10.00    18.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   3.390 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  25.220
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.628
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.214

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   3.048 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  16.653
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   1.875 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.209
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   2.408 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  19.881
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   2.408     7.25    19.88
       + ID2= 2 (0388):   220.77   1.875     7.25    18.21
         ================================================
         ID = 3 (8286):   462.04   4.284     7.25    19.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia        (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.095 (i)
     TIME TO PEAK    (hrs)=   7.250
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     RUNOFF VOLUME    (mm)=  11.721
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.160

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.322 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  10.074
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.138

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.181 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.501
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.212

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   1.322     6.50    10.07
       + ID2= 2 (0382):   216.59   2.181     6.75    15.50
         ============================================
         ID = 3 (8290):   398.60   3.495     6.75    13.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                 0.00         294.40        0.0380
                10.59         291.93        0.0380
                21.17         289.19        0.0380
                26.46         287.99        0.0380
                31.76         286.79        0.0380
                71.45         279.97        0.0380
                74.10         279.79        0.0380
                76.74         279.71        0.0380
                78.99         279.64    0.0380 /0.0300  Main Channel
                79.14         279.30        0.0300      Main Channel
                79.39         279.30        0.0300      Main Channel
                79.64         279.30        0.0300      Main Channel
                79.79         279.64    0.0300 /0.0380  Main Channel
                89.98         279.78        0.0380
               119.09         281.86        0.0380
               145.55         282.87        0.0380
               198.48         284.85        0.0380
               211.71         286.31        0.0380
               230.23         287.59        0.0380
               261.99         294.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.34   279.64    .715E+03       0.2          0.85      63.42
       1.10   280.40    .507E+05      21.9          1.40      38.54
       1.85   281.15    .141E+06      91.8          2.10      25.69
       2.61   281.91    .269E+06     218.9          2.63      20.46
       3.36   282.66    .445E+06     407.1          2.96      18.23
       4.12   283.42    .681E+06     698.3          3.31      16.26
       4.87   284.17    .977E+06    1111.8          3.68      14.65
       5.63   284.93    .133E+07    1674.3          4.06      13.27
       6.39   285.69    .173E+07    2457.8          4.59      11.73
       7.14   286.44    .215E+07    3378.8          5.07      10.63
       7.90   287.20    .261E+07    4418.4          5.47       9.85
       8.65   287.95    .310E+07    5676.3          5.92       9.11
       9.41   288.71    .361E+07    7150.5          6.40       8.42
      10.17   289.47    .414E+07    8783.1          6.86       7.86
      10.92   290.22    .469E+07   10575.1          7.30       7.38
      11.68   290.98    .525E+07   12520.4          7.72       6.98
      12.43   291.73    .582E+07   14619.0          8.12       6.64
      13.19   292.49    .642E+07   16863.2          8.50       6.34
      13.94   293.24    .703E+07   19259.8          8.86       6.08

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     3.50    6.75  13.02      0.45      0.90
     OUTFLOW: ID= 1 (6384)  398.60     2.74    8.00  13.02      0.43      0.89

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-------------------
| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   1.095     7.25    11.72
       + ID2= 2 (6384):   398.60   2.742     8.00    13.02
         ============================================
         ID = 3 (8288):   597.67   3.810     7.75    12.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   4.284     7.25    19.08
       + ID2= 2 (8288):   597.67   3.810     7.75    12.59
         ============================================
         ID = 3 (8284):  1059.71   8.003     7.50    15.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   3.048     7.50    16.65
       + ID2= 2 (8284):  1059.71   8.003     7.50    15.42
         ============================================
         ID = 3 (8280):  1479.71  11.051     7.50    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.002 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  20.396
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.279

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   4.102 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  16.674
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   4.102     7.75    16.67
       + ID2= 2 (0392):   167.22   2.002     7.00    20.40
         ================================================
         ID = 3 (8282):   773.94   5.981     7.25    17.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71  11.051     7.50    15.77
       + ID2= 2 (8282):   773.94   5.981     7.25    17.48
         ================================================
         ID = 3 (8278):  2253.65  17.022     7.50    16.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54   251.74    .827E+04      4.5          1.51      30.71
       2.19   253.39    .758E+05     73.2          2.69      17.27
       3.83   255.03    .282E+06    331.8          3.27      14.17
       5.48   256.68    .633E+06    917.3          4.03      11.51
       7.12   258.32    .112E+07   1889.5          4.69       9.90
       8.77   259.97    .179E+07   3410.2          5.31       8.73
      10.41   261.61    .259E+07   5627.6          6.05       7.66
      12.06   263.26    .351E+07   8605.1          6.83       6.79
      13.70   264.90    .447E+07  12544.9          7.81       5.94
      15.35   266.55    .546E+07  17101.4          8.71       5.32
      16.99   268.19    .648E+07  22251.7          9.56       4.85
      18.64   269.84    .752E+07  27979.0         10.36       4.48
      20.28   271.48    .858E+07  34269.0         11.11       4.17
      21.93   273.13    .967E+07  41110.8         11.83       3.92
      23.57   274.77    .108E+08  48495.9         12.51       3.71
      25.22   276.42    .119E+08  56418.1         13.17       3.52
      26.86   278.06    .131E+08  64410.6         13.69       3.39
      28.51   279.71    .143E+08  73002.1         14.18       3.27
      30.15   281.35    .156E+08  81379.3         14.50       3.20

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8278) 2253.65    17.02    7.50  16.36      0.84      1.64
     OUTFLOW: ID= 1 (6394) 2253.65    16.55    8.00  16.36      0.83      1.64

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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   2.485     7.25    15.63
       + ID2= 2 (6394):  2253.65  16.553     8.00    16.36
         ================================================
         ID = 3 (8276):  2579.10  18.926     8.00    16.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   228.95    .780E+04      2.2          0.98      58.06
       2.54   230.74    .277E+06    145.1          1.78      31.76
       4.33   232.53    .786E+06    609.1          2.63      21.50
       6.13   234.33    .140E+07   1481.5          3.59      15.77
       7.92   236.12    .207E+07   2677.3          4.39      12.90
       9.71   237.91    .280E+07   4184.8          5.09      11.14
      11.50   239.70    .357E+07   6001.4          5.71       9.93
      13.29   241.49    .441E+07   8129.1          6.27       9.03
      15.09   243.29    .530E+07  10549.4          6.77       8.37
      16.88   245.08    .625E+07  13300.6          7.24       7.83
      18.67   246.87    .726E+07  16396.2          7.68       7.38
      20.46   248.66    .834E+07  19809.8          8.07       7.02
      22.26   250.46    .949E+07  23532.5          8.43       6.72
      24.05   252.25    .107E+08  27641.2          8.77       6.46
      25.84   254.04    .120E+08  32155.2          9.10       6.22
      27.63   255.83    .134E+08  36901.0          9.37       6.05
      29.42   257.62    .149E+08  42147.7          9.64       5.88
      31.22   259.42    .164E+08  48149.1          9.97       5.68
      33.01   261.21    .181E+08  54644.8         10.29       5.51

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8276) 2579.10    18.93    8.00  16.26      0.96      1.03
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     OUTFLOW: ID= 1 (6396) 2579.10    17.09    9.00  16.26      0.93      1.02


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| ADD HYD   (8274) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   3.390     7.50    25.22
       + ID2= 2 (6396):  2579.10  17.092     9.00    16.26
         ================================================
         ID = 3 (8274):  2884.31  20.021     9.00    17.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  15.089    10.00    18.58
       + ID2= 2 (8274):  2884.31  20.021     9.00    17.21
         ================================================
         ID = 3 (8270):  5660.52  34.607     9.25    17.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     34.607      9.25      17.88
     OUTFLOW: ID= 1 (5506)   5660.520     28.433     11.75      17.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.16
                TIME SHIFT OF PEAK FLOW          (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 22.5372

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-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.315 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  22.790
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.312

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.475 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  12.944
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.177

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.133 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.936
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.222 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.807
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.203

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   2.909 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  16.581
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.227

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   2.909     7.00    16.58
       + ID2= 2 (0400):    93.97   1.222     6.50    14.81
         ================================================
         ID = 3 (8268):   422.16   4.012     6.75    16.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (4021.0) ------>
               Distance      Elevation       Manning
                   0.00         238.50        0.0360
                  11.50         238.00        0.0360
                  23.00         237.93        0.0360
                  34.49         236.39        0.0360
                  63.24         233.98        0.0360
                  97.73         228.15        0.0360
                 123.60         227.08        0.0360
                 126.48         226.61        0.0360
                 127.60         226.47    0.0360 /0.0330  Main Channel
                 127.85         225.25        0.0330      Main Channel
                 129.35         225.25        0.0330      Main Channel
                 130.85         225.25        0.0330      Main Channel
                 131.10         226.47    0.0330 /0.0360  Main Channel
                 132.22         226.59        0.0360
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            143.72        227.42        0.0360
            169.59        227.88        0.0360
            192.59        231.19        0.0360
            218.46        233.02        0.0360
            241.45        235.50        0.0360
            284.57        236.43        0.0360

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)     (min)
       0.41   225.66    .391E+04        1.7         1.36     38.31
       0.81   226.06    .804E+04        5.0         1.93     27.02
       1.22   226.47    .124E+05        9.1         2.30     22.61
       1.84   227.09    .308E+05       23.3         2.36     22.03
       2.46   227.71    .904E+05       62.0         2.14     24.31
       3.09   228.34    .223E+06      188.3         2.63     19.75
       3.71   228.96    .379E+06      410.2         3.38     15.39
       4.33   229.58    .550E+06      711.5         4.04     12.89
       4.95   230.20    .737E+06     1091.3         4.62     11.25
       5.58   230.83    .939E+06     1550.6         5.15     10.10
       6.20   231.45    .116E+07     2072.4         5.59      9.31
       6.82   232.07    .140E+07     2659.2         5.93      8.77
       7.44   232.69    .167E+07     3345.8         6.27      8.30
       8.07   233.32    .195E+07     4159.0         6.64      7.83
       8.69   233.94    .226E+07     5100.8         7.03      7.39
       9.31   234.56    .259E+07     6081.3         7.32      7.11
       9.93   235.18    .295E+07     7183.1         7.60      6.84
      10.56   235.81    .334E+07     8145.2         7.62      6.83
      11.18   236.43    .379E+07     9116.0         7.51      6.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.01    6.75  16.19      0.70      1.72
     OUTFLOW: ID= 1 (6402)  422.16     3.72    7.50  16.19      0.66      1.66


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-------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   2.133     7.50    19.94
       + ID2= 2 (6402):   422.16   3.724     7.50    16.19
         ================================================
         ID = 3 (8266):   666.16   5.857     7.50    17.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.475     7.25    12.94
       + ID2= 2 (8266):   666.16   5.857     7.50    17.56
         ================================================
         ID = 3 (8264):   912.62   7.330     7.50    16.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   2.315     6.50    22.79
       + ID2= 2 (8264):   912.62   7.330     7.50    16.31
         ================================================
         ID = 3 (8262):  1055.27   9.418     7.25    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52  28.433    11.75    17.88
       + ID2= 2 (8262):  1055.27   9.418     7.25    17.19
         ================================================
         ID = 3 (8260):  6715.79  32.587    11.00    17.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   2.757     6.75    18.04
       + ID2= 2 (8260):  6715.79  32.587    11.00    17.78
         ================================================
         ID = 3 (8258):  6947.41  33.435    11.00    17.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0410):   572.01   2.643     8.25    13.43
       + ID2= 2 (8258):  6947.41  33.435    11.00    17.78
         ================================================
         ID = 3 (8256):  7519.42  35.591    10.75    17.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  90.6140     67.8416
                         39.6440    12.3348   |  *******    160.3529
                         48.1390    18.5023   |  *******    160.3629
                         67.9600    37.0045   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8256)   7519.421     35.591     10.75      17.45
     OUTFLOW: ID= 1 (5507)   7519.421     34.824     11.75      17.45

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.85
               TIME SHIFT OF PEAK FLOW        (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 10.8364

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-------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   1.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  15.590
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)= 156.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      81.49         75.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1022.15         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         84.49
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.87 (ii)    24.31 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.83         8.20        12.089 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        33.45         41.35
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.46          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4144)  |   Area    (ha)=   2.10
|ID= 1 DT=15.0 min  |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.63         1.47
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     118.32        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        78.76
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       3.53 (ii)   15.30 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.18          0.190 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10        39.35         42.52
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.54          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9429) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1000      0.0386
                         0.0100     0.0195   |   0.1400      0.0480
                         0.0400     0.0218   |   0.1700      0.0569
                         0.0700     0.0312   |   0.2000      0.0655

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4144)    2.100     0.190      6.25      42.52
     OUTFLOW: ID= 1 (9429)    2.100     0.094      6.50      42.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.43
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0377

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-------------------
| ADD HYD   (9424) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4141):   156.72  12.089     6.00    41.35
       + ID2= 2 (9429):     2.10   0.094     6.50    42.30
         ================================================
         ID = 3 (9424):   158.82  12.098     6.00    41.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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-------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.7060      4.4896
                         0.1870     1.6651   |   5.4940      5.4773
                         2.0210     2.0447   |   6.0800      6.4738
                         2.9590     2.4658   |   6.4800      6.4838
                         3.7490     3.5575   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9424)    158.820    12.098      6.00      41.37
     OUTFLOW: ID= 1 (5414)    158.820     3.602      7.00      41.35

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.78
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.3552

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-------------------
| CALIB             |
| STANDHYD  (4142)  |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min  |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15        13.99
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     440.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        84.49
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.77 (ii)   19.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.48         1.70          2.578 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        33.45         41.35
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.46          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   2.578     6.00    41.35
       + ID2= 2 (5414):   158.82   3.602     7.00    41.35
         ================================================
         ID = 3 (8254):   187.96   5.037     6.25    41.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (4121)  |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90       111.10
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1160.46        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        49.39
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.89 (ii)   28.07 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.51         6.51        10.542 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10        21.53          29.46
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.29           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   6.5000      1.0500
                         0.3860     0.5085   |   7.9000      1.1500
                         1.8460     0.6103   |   9.3000      1.2500
                         3.5050     0.7566   |   9.7000      1.2600
                         4.7890     0.8929   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4121)    202.000     10.542      6.00       29.46
     OUTFLOW: ID= 1 (5412)    202.000      8.602      6.25       29.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 81.59
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2404

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (4122) |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.12         13.58
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     494.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         86.58
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.33 (ii)    19.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.92          1.67          2.985 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         27.16          36.83
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.37           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   2.985     6.00     36.83
       + ID2= 2 (5412):   202.00   8.602     6.25     29.46
         ================================================
         ID = 3 (9412):   238.70  10.831     6.25     30.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   5.037     6.25     41.35
       + ID2= 2 (9412):   238.70  10.831     6.25     30.59
         ================================================
         ID = 3 (8252):   426.66  15.868     6.25     35.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4161.0) ------>
               Distance      Elevation       Manning
                  0.00         270.07        0.0340
                 20.67         267.91        0.0340
                 62.01         264.33        0.0340
                113.69         259.75        0.0340
                165.37         253.30        0.0340
                227.38         246.29        0.0340
                232.55         246.03        0.0340
                237.72         246.16        0.0340
                241.39         246.02    0.0340 /0.0300  Main Channel
                241.64         245.75        0.0300      Main Channel
                242.89         245.75        0.0300      Main Channel
                244.14         245.75        0.0300      Main Channel
                244.39         246.02    0.0300 /0.0340  Main Channel
                248.06         246.20        0.0340
                253.22         246.28        0.0340
                258.39         246.63        0.0340
                346.25         252.57        0.0340
                413.43         257.77        0.0340
                465.11         261.78        0.0340
                511.62         270.00        0.0340

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.27   246.02    .295E+04        0.6        0.75       88.26
      1.53   247.28    .168E+06       69.7        1.65       40.13
      2.79   248.54    .490E+06      299.5        2.42       27.28
      4.06   249.81    .962E+06      740.1        3.05       21.67
      5.32   251.07    .158E+07     1440.0        3.61       18.33
      6.58   252.33    .235E+07     2443.8        4.12       16.06
      7.84   253.59    .327E+07     3811.2        4.63       14.30
      9.10   254.85    .432E+07     5565.1        5.11       12.94
     10.37   256.12    .550E+07     7721.3        5.57       11.88
     11.63   257.38    .682E+07    10309.9        6.00       11.02
     12.89   258.64    .827E+07    13360.6        6.42       10.31
     14.15   259.90    .985E+07    16884.5        6.81        9.72
     15.42   261.17    .116E+08    20818.4        7.14        9.26
     16.68   262.43    .134E+08    25510.4        7.53        8.78
     17.94   263.69    .154E+08    30958.0        7.97        8.30
     19.20   264.95    .175E+08    36988.3        8.38        7.89
     20.46   266.21    .197E+08    43617.1        8.78        7.53
     21.73   267.48    .220E+08    50868.1        9.17        7.22
     22.99   268.74    .244E+08    58854.0        9.56        6.92

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.66    15.87    6.25  35.33      0.55      0.85
     OUTFLOW: ID= 1 (6416)  426.66     7.64    7.25  35.33      0.40      0.79


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-------------------
| CALIB            |
| NASHYD    (4164) |   Area    (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   1.968 (i)
     TIME TO PEAK    (hrs)=   7.500
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     RUNOFF VOLUME    (mm)=  31.268
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.428

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.4700      2.5000
                          0.9000     1.0000   |   5.9800      3.0000
                          1.7300     1.5000   |   7.5000      3.5000
                          3.2200     2.0000   |   8.7400      4.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4164)     89.300      1.968      7.50      31.27
     OUTFLOW: ID= 1 (9427)     89.300      1.106      9.25      31.26

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.20
                    TIME SHIFT OF PEAK FLOW         (min)=105.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1262

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--------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5980      0.7565
                          0.0330     0.3532   |   1.8570      0.8137
                          0.7450     0.4481   |   2.0990      0.8707
                          1.0270     0.5154   |   2.4990      0.8807
                          1.3050     0.6350   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      1.106      9.25      31.26
     OUTFLOW: ID= 1 (5416)     89.300      1.035     10.25      31.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 93.53
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5192

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--------------------
| CALIB            |
| NASHYD    (4162) |   Area    (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   2.705 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.157
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9416) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4162):   349.99   2.705     8.00    20.16
        + ID2= 2 (5416):    89.30   1.035    10.25    31.23
          ================================================
          ID = 3 (9416):   439.29   3.388     9.25    22.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6416):   426.66   7.635     7.25    35.33

        + ID2= 2 (9416):   439.29   3.388     9.25    22.41
          ================================================
          ID = 3 (8250):   865.95  10.264     7.50    28.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0418) |   Area    (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.825

     PEAK FLOW       (cms)=   1.695 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.774
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         2.61          6.09
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         0.50          0.50
     Length            (m)=       240.83         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        96.49         66.87
               over (min)          15.00         30.00
     Storage Coeff.  (min)=         5.41 (ii)    17.97 (ii)
     Unit Hyd. Tpeak (min)=        15.00         30.00
     Unit Hyd. peak  (cms)=         0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.22          0.60          0.643 (iii)
     TIME TO PEAK    (hrs)=         6.00          6.25           6.25
     RUNOFF VOLUME    (mm)=        71.10         33.67          37.41
     TOTAL RAINFALL   (mm)=        73.10         73.10          73.10
     RUNOFF COEFFICIENT   =         0.97          0.46           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4300      0.1618
                          0.0300     0.0818   |   0.5800      0.2012
                          0.1700     0.0912   |   0.7300      0.2384
                          0.3100     0.1306   |   0.8500      0.2747

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4184)     8.700      0.643      6.25      37.41
     OUTFLOW: ID= 1 (9428)     8.700      0.318      6.75      37.33

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.48
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1355

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--------------------
| ADD HYD   (9423) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (0418):   174.09   1.695     7.50    21.77
        + ID2= 2 (9428):     8.70   0.318     6.75    37.33
          ================================================
          ID = 3 (9423):   182.79   1.954     7.00    22.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8250):   865.95  10.264     7.50    28.78
        + ID2= 2 (9423):   182.79   1.954     7.00    22.51
          ================================================
          ID = 3 (8248):  1048.74  12.200     7.25    27.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0420):   175.82   1.485     7.00    15.59
        + ID2= 2 (8248):  1048.74  12.200     7.25    27.68
          ================================================
          ID = 3 (8246):  1224.56  13.670     7.25    25.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8244) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5507):  7519.42  34.824    11.75    17.45
        + ID2= 2 (8246):  1224.56  13.670     7.25    25.95
          ================================================
          ID = 3 (8244):  8743.98  42.082    10.75    18.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4227) |   Area    (ha)=  66.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     19.37         47.43
     Dep. Storage     (mm)=      2.00          5.00
     Average Slope     (%)=      0.50          0.50
     Length            (m)=    667.33         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     96.49         20.78
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     9.96 (ii)     30.02 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.09          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.27          1.70      2.970 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.50       6.00
     RUNOFF VOLUME    (mm)=     71.10         19.03      26.84
     TOTAL RAINFALL   (mm)=     73.10         73.10      73.10
     RUNOFF COEFFICIENT   =      0.97          0.26       0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9426) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.3400      1.2303
                          0.2300     0.6171   |   4.4700      1.5350
                          1.3000     0.6860   |   5.6100      1.8228
                          2.4100     0.9909   |   6.5300      2.1041

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4227)     66.800      2.970      6.00      26.84
     OUTFLOW: ID= 1 (9426)     66.800      1.478      6.75      26.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.74
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7373

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--------------------
| RESERVOIR (5422) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3110      2.6782
                          0.2180     1.7874   |   5.4130      2.9186
                          1.2490     1.9110   |   6.3010      3.1540
                          2.3250     2.1760   |   6.7010      3.1640
                          3.2250     2.4038   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9426)     66.800      1.478      6.75      26.83
     OUTFLOW: ID= 1 (5422)     66.800      0.129     16.50      26.80

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.73
                TIME SHIFT OF PEAK FLOW         (min)=585.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0580

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--------------------
| CALIB            |
| NASHYD    (4222) |   Area    (ha)= 713.41   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.252

     PEAK FLOW       (cms)=   3.189 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.241
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.222

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9422) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4222):   713.41   3.189     9.00    16.24
        + ID2= 2 (5422):    66.80   0.129    16.50    26.80
          ================================================
          ID = 3 (9422):   780.21   3.292     9.25    17.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8242) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8244):  8743.98  42.082    10.75    18.64
        + ID2= 2 (9422):   780.21   3.292     9.25    17.14
          ================================================
          ID = 3 (8242):  9524.19  45.212    10.50    18.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (5508) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  *******    197.3574
                       76.4550    30.8371   |  *******    394.7148
                       *******    61.6742   |  *******    394.7248
                       *******    *******   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.190     45.212     10.50      18.52
     OUTFLOW: ID= 1 (5508)   9524.190     43.777     12.00      18.52

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.83
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 17.6601

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-------------------
| CALIB           |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.370 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  27.751
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     168.98       264.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1699.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        55.22
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.46 (ii)   31.03 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.07         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      15.81        15.12        22.247 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10        27.59         36.29
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.38          0.50

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.78        77.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1050.78        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        73.31
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.08 (ii)   25.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.23         7.21         13.809 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        30.84         41.71
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.42          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   9.5300      3.8529
                        0.6370     1.6350   |  12.1350      4.2725
                        2.7300     2.1009   |  14.3850      4.6808
                        5.1010     2.7445   |  14.7850      4.6908
                        7.0460     3.2936   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620     13.809      6.00      41.71
     OUTFLOW: ID= 1 (5338)    165.620      5.954      6.75      41.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.12
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.0265

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| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   433.29  22.247     6.00    36.29
       + ID2= 2 (5338):   165.62   5.954     6.75    41.71
         ================================================
         ID = 3 (8310):   598.91  26.377     6.50    37.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (3342) |   Area    (ha)= 586.87   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   8.20

     Unit Hyd Qpeak  (cms)=   1.221

     PEAK FLOW       (cms)=   0.823 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  17.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.237

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3341) |   Area    (ha)=  33.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  21.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.95        16.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     470.67        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        55.02
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.08 (ii)   21.67 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.67         1.21          2.431 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        22.68         32.85
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.31          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  51.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6690     0.4664
                         0.0400     0.1927   |   0.8520     0.5318
                         0.1900     0.2643   |   1.0360     0.5973
                         0.3830     0.3576   |   1.4360     0.6073
                         0.4460     0.3863   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.230     2.431      6.00      32.85
     OUTFLOW: ID= 1 (5334)     33.230     0.802      6.75      32.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.99
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5174

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| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   586.87   0.823    15.25    17.32
       + ID2= 2 (5334):    33.23   0.802     6.75    32.81
         ================================================
         ID = 3 (8314):   620.10   1.095     6.75    18.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.445 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  15.318
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.210

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.078 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.027
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.438

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.351 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  38.894
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8388) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   5.078     8.00    32.03
       + ID2= 2 (0284):    78.93   2.351     6.50    38.89
         ================================================
         ID = 3 (8388):   528.31   6.886     7.25    33.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation       Manning
                  0.00         233.00        0.0450
                 20.58         228.51        0.0450
                 41.17         227.74        0.0450
                 51.46         227.41        0.0450
                 97.77         225.96        0.0450
                149.23         223.94        0.0450
                200.69         220.84        0.0450
                226.42         220.66        0.0450
                238.85         220.22        0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70        0.0350      Main Channel
                245.85         219.72        0.0350      Main Channel
                246.35         220.06        0.0350      Main Channel
                248.85         220.23        0.0350      Main Channel
                303.60         221.64        0.0350      Main Channel
                380.79         224.98        0.0450
                432.25         229.54        0.0450
                457.98         233.33        0.0450
                483.71         234.27        0.0450
                509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31   220.01    .382E+04       0.8          0.57       82.89
      1.06   220.76    .525E+05      12.1          0.66       72.51
      1.81   221.51    .240E+06      88.6          1.05       45.21
      2.56   222.26    .510E+06     261.7          1.46       32.47
      3.31   223.01    .843E+06     533.8          1.81       26.34
      4.06   223.76    .124E+07     913.6          2.10       22.64
      4.81   224.51    .171E+07    1399.0          2.34       20.33
      5.56   225.26    .225E+07    2051.0          2.60       18.27
      6.31   226.01    .285E+07    2907.0          2.91       16.35
      7.06   226.76    .352E+07    3902.5          3.16       15.04
      7.82   227.52    .426E+07    5069.9          3.39       14.01
      8.57   228.27    .507E+07    6433.0          3.62       13.13
      9.32   229.02    .593E+07    8069.2          3.89       12.24
     10.07   229.77    .681E+07    9926.7          4.16       11.44
     10.82   230.52    .772E+07   11962.8          4.42       10.75
     11.57   231.27    .864E+07   14167.1          4.68       10.17
     12.32   232.02    .959E+07   16537.1          4.92        9.66
     13.07   232.77    .105E+08   19070.7          5.16        9.22
     13.82   233.52    .115E+08   21790.4          5.39        8.82

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
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                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     6.89    7.25  33.05      0.72      0.62
     OUTFLOW: ID= 1 (6286)  528.31     5.82    9.00  33.05      0.64      0.61


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| CALIB            |
| STANDHYD  (2861) |   Area    (ha)=  54.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.69         30.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     604.76         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         96.20
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.39 (ii)    20.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.40          4.10          5.117 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         42.05         47.57
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.58          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6700      1.4285
                          0.1860     0.6703   |   4.6080      1.6332
                          1.0630     0.7754   |   5.3640      1.8336
                          1.9790     1.0010   |   5.7640      1.8436
                          2.7460     1.1950   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2861)     54.860      5.117      6.00      47.57
     OUTFLOW: ID= 1 (5286)     54.860      2.500      6.75      47.55

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.86
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1556

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| CALIB            |
| STANDHYD  (2862) |   Area    (ha)= 205.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.24        160.41
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1170.90         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         66.79
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.96 (ii)    26.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.07          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.14         13.23         15.143 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10         37.15         40.55
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.51          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9286) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2862):   205.65  15.143     6.25    40.55
        + ID2= 2 (5286):    54.86   2.500     6.75    47.55
          ================================================
          ID = 3 (9286):   260.51  16.974     6.25    42.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6286):   528.31   5.824     9.00    33.05
        + ID2= 2 (9286):   260.51  16.974     6.25    42.02
          ================================================
          ID = 3 (8386):   788.82  18.452     6.25    36.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   2.715 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  18.313
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.251

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.541 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  12.163
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3001) |   Area    (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.04          0.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=      24.49         40.00
     Mannings n             =     0.013         0.250
```

```
     Max.Eff.Inten.(mm/hr)=      96.49        44.00
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      1.37 (ii)   16.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00         0.006 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      71.10        19.07        26.80
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.26         0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0060     0.0023
                          0.0020     0.0012   |   0.0070     0.0026
                          0.0030     0.0016   |   0.0090     0.0029
                          0.0040     0.0019   |   0.4090     0.0129

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)     0.090      0.006      6.00      26.80
     OUTFLOW: ID= 1 (5300)     0.090      0.002      6.75      25.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.38
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0010

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3002) |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   1.750 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  15.084
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3002):   258.84   1.750     7.50    15.08
        + ID2= 2 (5300):     0.09   0.002     6.75    25.34
          ================================================
          ID = 3 (9300):   258.93   1.751     7.50    15.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0298):   330.51   1.541     8.00    12.16
        + ID2= 2 (9300):   258.93   1.751     7.50    15.09
          ================================================
          ID = 3 (8395):   589.44   3.273     7.75    13.45
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   2.858 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  33.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.453

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   3.986 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  32.883
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.450

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0288):   340.83   2.858     9.25    33.08
        + ID2= 2 (0290):   269.18   3.986     7.25    32.88
          ================================================
          ID = 3 (8397):   610.01   6.617     8.00    32.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   3.926 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  31.003
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   6.145 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  24.582
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   2.485 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  17.633
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.241

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   6.145     8.25    24.58
       + ID2= 2 (0294):   274.15   2.485     7.00    17.63
         ============================================
         ID = 3 (8398):  1012.64   8.463     8.00    22.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation       Manning
                  0.00         243.98        0.0400
                 42.59         243.18        0.0400
                 85.17         241.81        0.0400
                120.66         240.50        0.0400
                156.15         239.56        0.0400
                198.74         236.15        0.0400
                237.78         234.01        0.0400
                241.33         233.82        0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32        0.0400      Main Channel
                250.37         231.80        0.0400      Main Channel
                250.87         232.23        0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22        0.0400
                259.07         233.87        0.0400
                262.62         234.12        0.0400
                266.17         234.23        0.0400
                283.91         234.73        0.0400
                337.15         241.75        0.0400
                351.34         244.00        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43   232.23    .510E+03       0.1         0.53      81.07
      0.87   232.67    .213E+04       0.7         0.83      51.49
      1.30   233.10    .501E+04       2.2         1.10      38.75
      1.98   233.78    .242E+05      12.6         1.34      31.93
      2.66   234.46    .738E+05      42.1         1.46      29.21
      3.34   235.14    .177E+06     127.9         1.84      23.13
      4.02   235.82    .314E+06     281.4         2.29      18.61
      4.70   236.50    .481E+06     509.4         2.71      15.73
      5.38   237.18    .672E+06     815.6         3.11      13.73
      6.06   237.86    .886E+06    1200.7         3.46      12.30
      6.74   238.54    .112E+07    1669.4         3.80      11.23
      7.42   239.22    .139E+07    2226.9         4.11      10.38
      8.10   239.90    .168E+07    2808.4         4.28       9.95
      8.78   240.58    .202E+07    3470.4         4.40       9.68
      9.46   241.26    .240E+07    4331.7         4.61       9.24
     10.14   241.94    .283E+07    5335.2         4.83       8.84
     10.82   242.62    .330E+07    6482.6         5.03       8.48
     11.50   243.30    .381E+07    7764.1         5.21       8.18
     12.18   243.98    .439E+07    9101.2         5.31       8.04

                               <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64     8.46    8.00  22.70      1.71      1.23

     OUTFLOW: ID= 1 (6296) 1012.64     8.22    8.50  22.70      1.69      1.22

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--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   3.926     7.50    31.00
       + ID2= 2 (6296):  1012.64   8.218     8.50    22.70
         ============================================
         ID = 3 (8396):  1306.29  11.968     8.25    24.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  11.968     8.25    24.57
       + ID2= 2 (8397):   610.01   6.617     8.00    32.99
         ============================================
         ID = 3 (8394):  1916.30  18.538     8.00    27.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  18.538     8.00    27.25
       + ID2= 2 (8395):   589.44   3.273     7.75    13.45
         ============================================
         ID = 3 (8392):  2505.74  21.800     8.00    24.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3021.0) ------>
               Distance      Elevation       Manning
                  0.00         228.10        0.0400
                 18.47         227.12        0.0400
                 36.95         226.12        0.0400
                 46.18         225.84        0.0400
                 55.42         225.58        0.0400
                272.47         222.88        0.0400
                277.09         222.76        0.0400
                281.71         222.58        0.0400
                288.54         222.18    0.0400 /0.0300  Main Channel
                288.64         221.00        0.0300      Main Channel
                290.94         221.00        0.0300      Main Channel
                291.04         221.00        0.0300      Main Channel
                291.54         222.75    0.0300 /0.0400  Main Channel
                300.18         222.83        0.0400
                304.80         223.04        0.0400
                309.42         223.25        0.0400
                318.65         223.69        0.0400
                360.22         225.57        0.0400
                397.16         227.60        0.0400
                457.20         228.35        0.0400

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.29   221.29    .228E+04       0.2         0.32     165.63
      0.59   221.59    .465E+04       0.7         0.45     116.15
      0.88   221.88    .713E+04       1.2         0.54      96.87
      1.18   222.18    .971E+04       1.9         0.61      86.20
      1.57   222.57    .175E+05       3.3         0.59      88.86
      1.97   222.97    .427E+05       6.4         0.47     111.39
      2.36   223.36    .115E+06      16.1         0.44     119.14
      2.76   223.76    .237E+06      37.1         0.49     106.49
      3.15   224.15    .409E+06      72.9         0.56      93.40
      3.55   224.55    .631E+06     127.0         0.63      82.76
      3.94   224.94    .903E+06     202.4         0.70      74.37
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       4.34   225.34    .123E+07     301.8          0.77      67.68
       4.73   225.73    .160E+07     433.5          0.85      61.37
       5.13   226.13    .200E+07     602.2          0.95      55.29
       5.52   226.52    .242E+07     804.7          1.05      50.13
       5.92   226.92    .286E+07    1034.2          1.14      46.11
       6.31   227.31    .332E+07    1290.5          1.22      42.88
       6.71   227.71    .380E+07    1560.9          1.29      40.55
       7.10   228.10    .432E+07    1835.6          1.34      39.19

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    21.80    8.00  24.00      2.47      0.45
    OUTFLOW: ID= 1 (6302) 2505.74    17.15   10.25  24.00      2.38      0.44


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--------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   2.715     8.50    18.31
       + ID2= 2 (6302):  2505.74  17.146    10.25    24.00
         ================================================
         ID = 3 (8390):  2979.64  19.656    10.25    23.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82  18.452     6.25    36.01
       + ID2= 2 (8390):  2979.64  19.656    10.25    23.10
         ================================================
         ID = 3 (8348):  3768.46  26.760    10.00    25.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.78

    Unit Hyd Qpeak  (cms)=   1.793

    PEAK FLOW       (cms)=   1.311 (i)
    TIME TO PEAK    (hrs)=  10.250
    RUNOFF VOLUME    (mm)=  21.297
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.291

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

    Unit Hyd Qpeak  (cms)=   6.009

    PEAK FLOW       (cms)=   6.103 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  36.959
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.506

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

    Unit Hyd Qpeak  (cms)=   5.453

    PEAK FLOW       (cms)=   6.254 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  37.239
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.509

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

    Unit Hyd Qpeak  (cms)=   2.302

    PEAK FLOW       (cms)=   2.014 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  33.570
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.459

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

    Unit Hyd Qpeak  (cms)=   6.182

    PEAK FLOW       (cms)=   5.249 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  30.083
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.412

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   5.249     7.50    30.08
       + ID2= 2 (0276):    90.89   2.014     6.75    33.57
         ================================================
         ID = 3 (8360):   483.38   7.141     7.00    30.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   6.254     8.00    37.24
       + ID2= 2 (8360):   483.38   7.141     7.00    30.74
         ================================================
         ID = 3 (8358):   968.87  13.139     7.50    34.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (2801.0) ------>
               Distance      Elevation       Manning
                   0.00         241.14        0.0500
                  13.32         240.80        0.0500
                  39.95         240.07        0.0500
                  96.54         236.21        0.0500
                 113.19         234.15        0.0500
                 123.18         232.35        0.0500
                 143.15         225.80        0.0500
                 149.81         225.62        0.0500
```

```
                153.14        225.40        0.0500
                157.30        224.76    0.0500 /0.0300  Main Channel
                159.80        224.26        0.0300      Main Channel
                162.30        224.85        0.0300      Main Channel
                162.55        224.97    0.0300 /0.0500  Main Channel
                167.80        225.05        0.0500
                186.43        229.14        0.0500
                213.06        234.75        0.0500
                236.37        237.09        0.0500
                266.33        237.31        0.0500
                292.96        237.83        0.0500
                329.58        241.50        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   224.76    .263E+04       0.8          0.65      58.31
       1.36   225.62    .278E+05      13.4          1.10      34.54
       2.22   226.48    .855E+05      52.6          1.40      27.09
       3.09   227.35    .157E+06     120.4          1.74      21.78
       3.95   228.21    .242E+06     216.3          2.04      18.64
       4.81   229.07    .340E+06     341.8          2.29      16.56
       5.67   229.93    .450E+06     498.3          2.52      15.06
       6.53   230.79    .574E+06     688.3          2.73      13.90
       7.40   231.66    .711E+06     913.8          2.93      12.97
       8.26   232.52    .861E+06    1173.4          3.11      12.23
       9.12   233.38    .103E+07    1461.3          3.24      11.72
       9.98   234.24    .121E+07    1793.3          3.37      11.26
      10.85   235.11    .142E+07    2141.0          3.45      11.02
      11.71   235.97    .165E+07    2530.4          3.50      10.86
      12.57   236.83    .192E+07    2954.0          3.51      10.81
      13.43   237.69    .226E+07    3160.3          3.18      11.93
      14.29   238.55    .271E+07    3869.4          3.26      11.67
      15.16   239.42    .320E+07    4740.3          3.38      11.24
      16.02   240.28    .373E+07    5688.4          3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    13.14    7.50  34.00      1.34      1.08
     OUTFLOW: ID= 1 (6280)  968.87    12.85    8.00  34.00      1.32      1.06


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--------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   6.103     7.00     36.96
       + ID2= 2 (6280):   968.87  12.849     8.00     34.00
         ================================================
         ID = 3 (8354):  1268.73  18.341     7.75     34.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   3.490 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  35.833
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.490

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   3.054 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  29.811
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   2.622 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  21.852
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (2641) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.18          4.39
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     342.34         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         50.20
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.68 (ii)    20.77 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.07          0.30          3.259 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10         27.36          57.98
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.37           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5264) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1760      0.5589
                          0.0600     0.3133   |   1.4770      0.6054
                          0.3410     0.3763   |   1.7190      0.6511
                          0.6340     0.4336   |   2.1190      0.6611
                          0.8800     0.4941   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2641)     17.580      3.259      6.00      57.98
     OUTFLOW: ID= 1 (5264)     17.580      1.047      6.25      57.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.13
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5314

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--------------------
| CALIB            |
| NASHYD    (2642) |   Area    (ha)= 336.37   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.28
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```
     Unit Hyd Qpeak  (cms)=   3.192

     PEAK FLOW       (cms)=   2.444 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  25.245
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2642):   336.37   2.444     8.00    25.25
       + ID2= 2 (5264):    17.58   1.047     6.25    57.90
         ================================================
         ID = 3 (9264):   353.95   2.959     6.50    26.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0266):   508.09   2.622     9.25    21.85
       + ID2= 2 (9264):   353.95   2.959     6.50    26.87
         ================================================
         ID = 3 (8380):   862.04   5.291     8.00    23.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2681.0) ------>
               Distance      Elevation       Manning
                   0.00         274.03        0.0500
                  10.55         272.73        0.0500
                  21.10         271.28        0.0500
                  50.12         266.83        0.0500
                  87.04         260.36        0.0500
                  92.32         260.06        0.0500
                  94.95         259.93        0.0500
                 101.00         256.87        0.0500
                 103.00         256.58    0.0500 /0.0350  Main Channel
                 104.00         256.32        0.0350      Main Channel
                 106.00         256.05        0.0350      Main Channel
                 108.00         256.25        0.0350      Main Channel
                 110.78         256.65    0.0350 /0.0500  Main Channel
                 113.42         256.81        0.0500
                 116.06         257.00        0.0500
                 155.62         260.24        0.0500
                 187.27         263.35        0.0500
                 211.01         267.22        0.0500
                 224.20         269.60        0.0500
                 261.13         272.68        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.53   256.58   .697E+04        2.1         0.97      55.64
       1.38   257.43   .477E+05       25.9         1.76      30.66
       2.22   258.27   .123E+06       84.3         2.22      24.26
       3.07   259.12   .231E+06      185.4         2.60      20.72
       3.92   259.97   .371E+06      335.8         2.92      18.42
       4.77   260.82   .560E+06      547.6         3.15      17.06
       5.61   261.66   .790E+06      845.6         3.46      15.57
       6.46   262.51   .106E+07     1225.0         3.75      14.37
       7.31   263.36   .136E+07     1693.3         4.02      13.37
       8.16   264.21   .169E+07     2283.2         4.35      12.36
       9.00   265.05   .206E+07     2969.1         4.66      11.54
       9.85   265.90   .245E+07     3754.4         4.96      10.86
      10.70   266.75   .286E+07     4643.0         5.24      10.28
      11.55   267.60   .331E+07     5636.1         5.50       9.78
      12.39   268.44   .378E+07     6746.2         5.76       9.34
      13.24   269.29   .428E+07     7972.2         6.01       8.96
      14.09   270.14   .482E+07     9218.9         6.18       8.71
      14.94   270.99   .539E+07    10550.5         6.32       8.52
      15.78   271.83   .601E+07    12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.04     5.29    8.00  23.91      0.64      1.03
     OUTFLOW: ID= 1 (6268)  862.04     5.09    9.50  23.91      0.64      1.03

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--------------------
| ADD HYD   (8382) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):   215.76   3.054     7.00    29.81
       + ID2= 2 (6268):   862.04   5.094     9.50    23.91
         ================================================
         ID = 3 (8382):  1077.80   7.571     8.25    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2701.0) ------>
               Distance      Elevation       Manning
                   0.00         245.98        0.0500
                   8.14         245.66        0.0500
                  16.28         245.16        0.0500
                  20.35         244.84        0.0500
                  38.66         242.98        0.0500
                  48.83         240.65        0.0500
                  63.07         235.91        0.0500
                  65.11         235.18        0.0500
                  68.43         234.34    0.0500 /0.0300  Main Channel
                  68.68         233.95        0.0300      Main Channel
                  69.18         233.89        0.0300      Main Channel
                  69.68         233.95        0.0300      Main Channel
                  71.21         234.48    0.0300 /0.0500  Main Channel
                  81.38         236.44        0.0500
                  95.63         236.66        0.0500
                 120.04         237.00        0.0500
                 148.53         241.77        0.0500
                 158.70         242.34        0.0500
                 187.18         244.03        0.0500
                 201.42         244.36        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)    (cu.m.)      (cms)        (m/s)      (min)
       0.45   234.34   .217E+04        0.7         0.99      52.83
       0.98   234.87   .966E+04        4.6         1.49      35.20
       1.50   235.39   .250E+05       13.7         1.73      30.41
       2.03   235.92   .475E+05       29.5         1.95      26.87
       2.56   236.45   .772E+05       52.5         2.14      24.50
       3.09   236.98   .142E+06       82.4         1.83      28.73
       3.61   237.50   .246E+06      158.1         2.03      25.91
       4.14   238.03   .357E+06      262.0         2.31      22.73
       4.67   238.56   .477E+06      392.1         2.59      20.27
       5.20   239.09   .604E+06      547.8         2.86      18.38
       5.72   239.61   .739E+06      729.2         3.11      16.90
       6.25   240.14   .882E+06      936.5         3.34      15.70
       6.78   240.67   .103E+07     1169.7         3.57      14.72
       7.31   241.20   .119E+07     1425.9         3.77      13.94
       7.83   241.72   .136E+07     1710.4         3.96      13.26
       8.36   242.25   .154E+07     1967.9         4.02      13.07
       8.89   242.78   .174E+07     2264.9         4.09      12.83
       9.42   243.31   .196E+07     2589.3         4.15      12.65
       9.94   243.83   .221E+07     2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.80     7.57    8.25  25.09      1.15      1.56
     OUTFLOW: ID= 1 (6270) 1077.80     7.43    9.00  25.09      1.14      1.56

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| ADD HYD   (8384) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0270):   243.61   3.490     7.25    35.83
       + ID2= 2 (6270):  1077.80   7.431     9.00    25.09
         ================================================
         ID = 3 (8384):  1321.41  10.559     8.50    27.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0262)  |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   4.455 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  37.033
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.507

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0258)  |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   1.930 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  33.887
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0256)  |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   1.174 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.749
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0254)  |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   1.990 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  16.662
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2561.0) ------>
```

```
                Distance      Elevation       Manning
                   0.00        276.07        0.0400
                  11.68        273.71        0.0400
                  23.36        271.35        0.0400
                  29.19        270.30        0.0400
                  35.03        269.44        0.0400
                  55.47        267.90        0.0400
                  78.82        266.24        0.0400
                  90.50        265.63        0.0400
                 102.18        265.40        0.0400
                 105.10        264.95    0.0400 /0.0350  Main Channel
                 108.02        264.39        0.0350      Main Channel
                 110.94        264.72        0.0350      Main Channel
                 113.86        265.19    0.0350 /0.0400  Main Channel
                 116.78        265.49        0.0400
                 143.05        268.24        0.0400
                 172.25        270.53        0.0400
                 207.28        271.95        0.0400
                 233.55        273.72        0.0400
                 256.91        274.98        0.0400
                 289.02        275.97        0.0400

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56    264.95    .723E+04       1.9         0.90       62.51
       1.14    265.53    .307E+05      13.5         1.49       37.92
       1.72    266.11    .951E+05      48.6         1.73       32.62
       2.30    266.69    .191E+06     117.8         2.09       27.03
       2.88    267.27    .314E+06     225.2         2.43       23.24
       3.46    267.85    .464E+06     375.5         2.74       20.59
       4.04    268.43    .641E+06     573.2         3.03       18.62
       4.62    269.01    .846E+06     821.9         3.29       17.15
       5.20    269.59    .108E+07    1135.0         3.56       15.87
       5.78    270.17    .134E+07    1525.1         3.86       14.64
       6.36    270.75    .162E+07    1971.1         4.12       13.71
       6.94    271.33    .194E+07    2474.0         4.33       13.04
       7.52    271.91    .228E+07    3065.0         4.55       12.42
       8.10    272.49    .266E+07    3773.4         4.80       11.75
       8.68    273.07    .306E+07    4566.3         5.05       11.17
       9.26    273.65    .348E+07    5443.7         5.30       10.66
       9.84    274.23    .393E+07    6389.6         5.51       10.25
      10.42    274.81    .440E+07    7426.2         5.72        9.88
      11.00    275.39    .490E+07    8490.1         5.86        9.63

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     1.99    8.00  16.66      0.56      0.90
     OUTFLOW: ID= 1 (6256)  403.00     1.87    9.75  16.66      0.54      0.90

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-------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.174     8.00    23.75
       + ID2= 2 (6256):   403.00   1.869     9.75    16.66
         ================================================
         ID = 3 (8370):   548.79   2.934     9.25    18.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0250)  |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   1.508 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  25.980
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| CALIB          |
| NASHYD   (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   2.778 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  16.720
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB          |
| NASHYD   (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   1.326 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.646
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   2.778    10.00    16.72
        + ID2= 2 (0248):   146.04   1.326     7.25    21.65
          ================================================
          ID = 3 (8364):   905.65   3.933     8.25    17.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2501.0) ------>
               Distance      Elevation       Manning
                   0.00         269.96        0.0500
                   8.56         268.55        0.0500
                  17.13         266.91        0.0500
                  21.41         266.13        0.0500
                  40.68         263.15        0.0500
                  62.09         260.75        0.0500
                  85.64         258.02        0.0500
                  88.20         257.69        0.0500
                  93.20         257.05    0.0500 /0.0350  Main Channel
                  93.45         256.88        0.0350      Main Channel
                  94.20         256.56        0.0350      Main Channel
                  94.95         256.83        0.0350      Main Channel
                  95.20         257.08    0.0350 /0.0500  Main Channel
                 100.62         257.45        0.0500
                 115.61         258.57        0.0500
                 139.16         260.43        0.0500
                 152.01         261.95        0.0500
                 171.27         264.63        0.0500
                 188.40         267.90        0.0500
                 211.95         274.18        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.49   257.05    .205E+04       0.4          0.68      89.65
       1.17   257.73    .248E+05       5.7          0.85      72.16
       1.85   258.41    .841E+05      25.2          1.10      55.60
       2.53   259.09    .180E+06      66.5          1.36      45.14
       3.21   259.77    .312E+06     135.7          1.60      38.36
       3.89   260.45    .481E+06     238.3          1.82      33.61
       4.57   261.13    .681E+06     383.5          2.07      29.60
       5.25   261.81    .911E+06     568.9          2.29      26.70
       5.93   262.49    .117E+07     800.5          2.51      24.36
       6.61   263.17    .146E+07    1079.0          2.72      22.49
       7.28   263.84    .177E+07    1413.4          2.94      20.85
       7.96   264.52    .210E+07    1797.0          3.14      19.50
       8.64   265.20    .246E+07    2241.6          3.35      18.28
       9.32   265.88    .283E+07    2739.9          3.55      17.25
      10.00   266.56    .323E+07    3295.7          3.75      16.34
      10.68   267.24    .364E+07    3908.9          3.94      15.54
      11.36   267.92    .408E+07    4578.5          4.12      14.84
      12.04   268.60    .453E+07    5320.1          4.32      14.18
      12.72   269.28    .499E+07    6109.1          4.50      13.61

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8364)  905.65     3.93    8.25  17.51      0.94      0.78
     OUTFLOW: ID= 1 (6250)  905.65     3.66   10.25  17.51      0.90      0.77

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-------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   1.508     8.00    25.98
        + ID2= 2 (6250):   905.65   3.662    10.25    17.51
          ================================================
          ID = 3 (8366):  1098.53   5.036    10.00    19.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   5.036    10.00    19.00
        + ID2= 2 (8370):   548.79   2.934     9.25    18.54
          ================================================
          ID = 3 (8368):  1647.32   7.940     9.75    18.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB          |
| STANDHYD  (2521) |   Area    (ha)=  32.51
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.38          8.13
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     465.55         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         55.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.03 (ii)    21.53 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.46          0.62          5.852 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         30.25         58.84
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.41          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  70.6     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5252) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   2.1750      1.0334
                        0.1100     0.5793   |   2.7310      1.1195
                        0.6300     0.6958   |   3.1790      1.2039
                        1.1730     0.8017   |   3.5790      1.2139
                        1.6270     0.9137   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2521)     32.510      5.852      6.00      58.84
     OUTFLOW: ID= 1 (5252)     32.510      1.915      6.25      58.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.72
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9878

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (2522) |   Area    (ha)= 287.47   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.448

     PEAK FLOW       (cms)=   2.701 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  27.086
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2522):   287.47   2.701     8.00    27.09
       + ID2= 2 (5252):    32.51   1.915     6.25    58.80
         ================================================
         ID = 3 (9252):   319.98   4.226     6.50    30.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8368):  1647.32   7.940     9.75    18.85
       + ID2= 2 (9252):   319.98   4.226     6.50    30.31
         ================================================
         ID = 3 (8372):  1967.30  10.671     8.75    20.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2581.0) ------>
               Distance      Elevation       Manning
                   0.00         252.88        0.0500
                  15.47         251.89        0.0500
                  46.41         248.45        0.0500
                  73.48         245.81        0.0500
                  88.95         243.75        0.0500
                 112.15         242.00        0.0500
                 135.35         240.23        0.0500
                 162.42         239.76        0.0500
                 170.97         239.52    0.0500 /0.0350  Main Channel
                 171.58         239.03        0.0350      Main Channel
                 174.02         239.03        0.0350      Main Channel
                 176.46         239.03        0.0350      Main Channel
                 177.07         239.52    0.0350 /0.0500  Main Channel
                 185.63         239.67        0.0500
                 208.83         239.87        0.0500
                 239.77         240.14        0.0500
                 274.57         244.93        0.0500
                 336.45         249.51        0.0500
                 363.52         249.77        0.0500
                 382.85         251.78        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.49    239.52    .135E+05        2.5           0.92       91.32
       1.14    240.17    .175E+06       25.6           0.73      114.22
       1.78    240.81    .532E+06      123.5           1.17       71.85
       2.43    241.46    .932E+06      285.3           1.54       54.48
       3.07    242.10    .138E+07      506.5           1.85       45.25
       3.72    242.75    .186E+07      786.8           2.12       39.42
       4.36    243.39    .239E+07     1127.3           2.37       35.33
       5.01    244.04    .296E+07     1535.8           2.61       32.12
       5.65    244.68    .356E+07     2014.3           2.84       29.48
       6.30    245.33    .420E+07     2535.9           3.03       27.60
       6.94    245.97    .488E+07     3108.4           3.20       26.16
       7.59    246.62    .561E+07     3740.6           3.35       24.98
       8.23    247.26    .638E+07     4446.7           3.50       23.93
       8.88    247.91    .721E+07     5229.7           3.64       22.98
       9.52    248.55    .809E+07     6094.3           3.78       22.12
      10.17    249.20    .901E+07     7050.4           3.93       21.31
      10.81    249.84    .100E+08     7773.0           3.90       21.46
      11.46    250.49    .111E+08     8998.8           4.07       20.56
      12.10    251.13    .122E+08    10318.2           4.24       19.75

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8372) 1967.30    10.67    8.75  20.71      0.72      0.84
     OUTFLOW: ID= 1 (6258) 1967.30     9.71   11.00  20.71      0.69      0.85

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-------------------
| ADD HYD   (8374) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0258):   181.99   1.930     8.00    33.89
       + ID2= 2 (6258):  1967.30   9.711    11.00    20.71
         ================================================
         ID = 3 (8374):  2149.29  11.272    10.75    21.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (2601) |   Area    (ha)=  56.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  48.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      36.54         19.68
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     612.21         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49        103.47
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.46 (ii)    20.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.21          2.90          8.146 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10         44.80         57.42
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.61          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5260) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   3.7610      1.6799
                        0.1900     0.8974   |   4.7220      1.8499
                        1.0890     1.0678   |   5.4970      2.0146
                        2.0290     1.2667   |   5.8970      2.0246
                        2.8140     1.4621   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2601)     56.220      8.146      6.00      57.42
     OUTFLOW: ID= 1 (5260)     56.220      3.166      6.50      57.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.86
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.5490

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--------------------
| CALIB            |
| NASHYD    (2602) |   Area    (ha)= 420.02   Curve Number   (CN)= 83.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.946

     PEAK FLOW       (cms)=   4.735 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  38.653
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.529

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2602):   420.02   4.735     8.00    38.65
       + ID2= 2 (5260):    56.22   3.166     6.50    57.40
         ================================================
         ID = 3 (9260):   476.24   7.137     6.75    40.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8374):  2149.29  11.272    10.75    21.83
       + ID2= 2 (9260):   476.24   7.137     6.75    40.87
         ================================================
         ID = 3 (8376):  2625.53  15.848    10.00    25.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0262):   341.31   4.455     7.75    37.03
       + ID2= 2 (8376):  2625.53  15.848    10.00    25.28
         ================================================
         ID = 3 (8378):  2966.84  19.602     9.50    26.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8378):  2966.84  19.602     9.50    26.63
       + ID2= 2 (8384):  1321.41  10.559     8.50    27.07
         ================================================
         ID = 3 (8362):  4288.25  29.982     9.00    26.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (2721.0) ------>
               Distance      Elevation       Manning
                   0.00         231.01        0.0450
                  23.01         223.65        0.0450
                  34.51         222.46        0.0450
                  51.77         222.11        0.0450
                  69.02         221.87        0.0450
                 161.06         221.92        0.0450
                 166.81         221.91        0.0450
                 172.56         221.89        0.0450
                 180.57         221.40    0.0450 /0.0300  Main Channel
                 181.57         220.60        0.0300      Main Channel
                 184.07         220.16        0.0300      Main Channel
                 195.57         221.85    0.0300 /0.0450  Main Channel
                 201.32         221.82        0.0450
                 207.07         221.77        0.0450
                 212.83         221.72        0.0450
                 253.09         222.52        0.0450
                 408.40         222.65        0.0450
                 460.17         223.20        0.0450
                 517.69         224.84        0.0450
                 569.46         232.57        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.41    220.57    .189E+04         0.5          0.49       60.18
       0.83    220.99    .697E+04         3.2          0.82       35.79
       1.24    221.40    .145E+05         8.8          1.07       27.45
       1.84    222.00    .643E+05        29.3          0.81       36.61
       2.44    222.60    .282E+06       132.9          0.83       35.41
       3.04    223.20    .707E+06       413.7          1.04       28.50
       3.64    223.80    .118E+07       876.8          1.31       22.46
       4.24    224.40    .168E+07      1494.8          1.57       18.75
       4.84    225.00    .221E+07      2264.1          1.82       16.23
       5.44    225.60    .274E+07      3196.3          2.06       14.29
       6.04    226.20    .328E+07      4258.6          2.30       12.84
       6.65    226.81    .383E+07      5444.7          2.52       11.72
       7.25    227.41    .438E+07      6749.7          2.73       10.82
       7.85    228.01    .494E+07      8169.4          2.93       10.08
       8.45    228.61    .551E+07      9700.7          3.12        9.46
       9.05    229.21    .608E+07     11340.8          3.30        8.94
       9.65    229.81    .666E+07     13087.4          3.48        8.48
      10.25    230.41    .724E+07     14938.5          3.65        8.08
      10.85    231.01    .783E+07     16892.4          3.82        7.73

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.25    29.98    9.00  26.77      1.84      0.81
     OUTFLOW: ID= 1 (6272) 4288.25    29.40   10.00  26.77      1.84      0.81

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2721) |   Area    (ha)=   2.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  19.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08          1.13
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     121.38         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         93.23
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       3.58 (ii)    14.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11          0.21          0.318 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.00          6.00
     RUNOFF VOLUME    (mm)=      71.10         37.99         44.28
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.52          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5272)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1480	0.0589
0.0070	0.0284	0.1850	0.0669
0.0430	0.0331	0.2160	0.0746
0.0800	0.0419	0.6160	0.0846
0.1100	0.0497	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2721)	2.210	0.318	6.00	44.28
OUTFLOW: ID= 1 (5272)	2.210	0.097	6.50	43.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.34
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0468

CALIB
NASHYD (2722)
ID= 1 DT=15.0 min

Area (ha)= 155.17 Curve Number (CN)= 75.3
Ia (mm)= 5.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.09

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 2.087 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 30.353
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.415

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9272)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2722):	155.17	2.087	7.50	30.35
+ ID2= 2 (5272):	2.21	0.097	6.50	43.82
ID = 3 (9272):	157.38	2.142	7.25	30.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8356)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6272):	4288.25	29.404	10.00	26.77
+ ID2= 2 (9272):	157.38	2.142	7.25	30.54
ID = 3 (8356):	4445.63	30.985	9.75	26.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8352)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8354):	1268.73	18.341	7.75	34.70
+ ID2= 2 (8356):	4445.63	30.985	9.75	26.90
ID = 3 (8352):	5714.36	47.011	8.50	28.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6304)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (3041.0) ------>

Distance	Elevation	Manning	
0.00	232.08	0.0500	
19.00	231.87	0.0500	
38.00	231.33	0.0500	
66.51	230.44	0.0500	
104.51	228.25	0.0500	
118.76	225.17	0.0500	
128.26	219.86	0.0500	
175.77	219.17	0.0500	
185.27	218.90	0.0500 /0.0300	Main Channel
185.52	218.65	0.0300	Main Channel
190.02	218.37	0.0300	Main Channel
194.52	218.60	0.0300	Main Channel
194.77	218.85	0.0300 /0.0500	Main Channel
204.27	219.60	0.0500	
299.28	220.91	0.0500	
327.78	222.36	0.0500	
375.28	225.71	0.0500	
403.79	229.37	0.0500	
432.29	230.43	0.0500	
470.29	232.00	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	218.85	.121E+05	1.2	0.36	173.94
1.17	219.54	.839E+05	9.8	0.44	142.60
1.86	220.23	.323E+06	41.0	0.47	131.43
2.56	220.93	.708E+06	109.5	0.58	107.67
3.25	221.62	.118E+07	224.3	0.71	87.36
3.94	222.31	.168E+07	376.5	0.84	74.48
4.63	223.00	.222E+07	567.9	0.96	65.26
5.32	223.69	.279E+07	794.7	1.07	58.58
6.02	224.39	.339E+07	1056.2	1.17	53.52
6.71	225.08	.402E+07	1352.4	1.26	49.52
7.40	225.77	.468E+07	1677.3	1.34	46.46
8.09	226.46	.536E+07	2050.0	1.43	43.58
8.79	227.16	.607E+07	2457.9	1.52	41.14
9.48	227.85	.680E+07	2901.0	1.60	39.05
10.17	228.54	.755E+07	3352.7	1.66	37.53
10.86	229.23	.834E+07	3812.5	1.71	36.48
11.55	229.92	.919E+07	4241.8	1.73	36.13
12.25	230.62	.101E+08	4697.0	1.74	35.93
12.94	231.31	.111E+08	5186.3	1.74	35.83

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8352)	5714.36	47.01	8.50	28.63	1.93	0.48
OUTFLOW: ID= 1 (6304)	5714.36	38.62	11.25	28.63	1.81	0.47

ADD HYD (8350)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0304):	292.37	1.311	10.25	21.30
+ ID2= 2 (6304):	5714.36	38.620	11.25	28.63
ID = 3 (8350):	6006.73	39.915	11.25	28.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8346)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8348):	3768.46	26.760	10.00	25.80
+ ID2= 2 (8350):	6006.73	39.915	11.25	28.28
ID = 3 (8346):	9775.19	65.369	10.50	27.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8344)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0306):	283.97	0.445	13.75	15.32
+	ID2= 2 (8346):	9775.19	65.369	10.50	27.32
	ID = 3 (8344):	10059.16	65.769	10.75	26.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5509) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	370.0451
	41.0590	56.7403	*******	863.4386
	48.1390	86.3439	*******	********
	56.6340	*******	*******	********
	67.9600	*******	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8344)	********	65.769	10.75	26.98
OUTFLOW: ID= 1 (5509)	********	45.657	15.00	26.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 69.42
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 75.9949

CALIB / NASHYD (0332) / ID= 1 DT=15.0 min	Area (ha)= 393.44	Curve Number (CN)= 75.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 2.32

Unit Hyd Qpeak (cms)= 2.894

PEAK FLOW (cms)= 2.902 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 30.269
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.414

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / NASHYD (0330) / ID= 1 DT=15.0 min	Area (ha)= 468.30	Curve Number (CN)= 80.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 1.09

Unit Hyd Qpeak (cms)= 7.335

PEAK FLOW (cms)= 7.311 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 34.924
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.478

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (6332) / IN= 2---> OUT= 1 : Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3321.0) ------>

Distance	Elevation	Manning	
0.00	234.00	0.0380	
25.85	227.20	0.0380	
96.94	226.44	0.0380	
168.03	227.38	0.0380	
219.73	225.62	0.0380	
342.52	221.57	0.0380	
368.37	221.42	0.0380	
374.83	221.23	0.0380	
379.79	220.98	0.0380 /0.0300	Main Channel
380.29	220.47	0.0300	Main Channel
381.29	220.47	0.0300	Main Channel
382.79	220.47	0.0300	Main Channel
383.29	220.98	0.0300 /0.0380	Main Channel
394.22	221.22	0.0380	
400.68	221.33	0.0380	
407.14	221.44	0.0380	
491.16	225.70	0.0380	
568.71	227.55	0.0380	
607.49	230.14	0.0380	
639.80	234.08	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.51	220.98	.554E+04	0.9	0.56	107.27
1.20	221.67	.885E+05	12.1	0.49	122.32
1.88	222.35	.309E+06	64.7	0.76	79.70
2.57	223.04	.615E+06	165.4	0.97	61.99
3.25	223.72	.101E+07	322.1	1.16	52.06
3.94	224.41	.148E+07	542.9	1.33	45.51
4.62	225.09	.204E+07	835.4	1.48	40.77
5.31	225.78	.269E+07	1202.8	1.62	37.27
5.99	226.46	.344E+07	1618.0	1.70	35.46
6.68	227.15	.447E+07	1932.0	1.56	38.56
7.36	227.83	.580E+07	2763.9	1.72	34.96
8.05	228.52	.718E+07	3861.9	1.95	30.97
8.73	229.20	.859E+07	5115.4	2.16	27.98
9.42	229.89	.100E+08	6519.2	2.35	25.64
10.10	230.57	.115E+08	8092.3	2.55	23.69
10.79	231.26	.130E+08	9821.5	2.73	22.05
11.47	231.94	.145E+08	11690.0	2.92	20.68
12.16	232.63	.160E+08	13694.9	3.09	19.52
12.84	233.31	.176E+08	15833.9	3.26	18.52

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0330)	468.30	7.31	7.50	34.92	0.90	0.52
OUTFLOW: ID= 1 (6332)	468.30	5.57	9.75	34.92	0.80	0.53

ADD HYD (8322)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0332):	393.44	2.902	9.75	30.27
+	ID2= 2 (6332):	468.30	5.567	9.75	34.92
	ID = 3 (8322):	861.74	8.469	9.75	32.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / NASHYD (0328) / ID= 1 DT=15.0 min	Area (ha)= 492.92	Curve Number (CN)= 77.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 4.411

PEAK FLOW (cms)= 4.508 (i)
TIME TO PEAK (hrs)= 8.750
RUNOFF VOLUME (mm)= 32.087
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.439

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / NASHYD (0326) / ID= 1 DT=15.0 min	Area (ha)= 678.91	Curve Number (CN)= 80.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 1.95

Unit Hyd Qpeak (cms)= 5.941

PEAK FLOW (cms)= 6.697 (i)

```
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  35.107
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3181) |   Area    (ha)= 357.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  32.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     200.09       157.21
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1543.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        89.00
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      16.48 (ii)   27.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      21.42        16.96         32.339 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      71.10        37.27         48.10
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.51          0.66


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  22.8580      8.7280
                         0.8190     2.5190   |  27.5380      9.6853
                         4.2860     5.8947   |  32.5800     10.8345
                        11.0600     6.7336   |  32.9800     10.8445
                        16.3830     7.4416   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    357.300     32.339      6.00      48.10
     OUTFLOW: ID= 1 (5318)    357.300     16.211      6.75      48.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.13
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.5534

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3182) |   Area    (ha)= 126.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  12.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.49        99.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     916.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        52.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.06 (ii)   25.88 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.22         6.53          7.852 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      71.10        30.69         35.54
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.42          0.49


***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3182):   126.13   7.852     6.25    35.54
        + ID2= 2 (5318):   357.30  16.211     6.75    48.09
          ================================================
          ID = 3 (8334):   483.43  21.595     6.50    44.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3201.0) ------>
               Distance      Elevation       Manning
                   0.00         249.00        0.0380
                  22.92         245.86        0.0380
                  45.83         244.87        0.0380
                  91.66         243.11        0.0380
                 126.03         239.53        0.0380
                 160.41         237.17        0.0380
                 166.14         237.06        0.0380
                 177.59         237.13        0.0380
                 183.32         237.20        0.0380
                 189.05         236.70    0.0380 /0.0350  Main Channel
                 193.05         235.89        0.0350      Main Channel
                 197.05         236.64    0.0350 /0.0380  Main Channel
                 200.51         236.74        0.0380
                 206.24         237.03        0.0380
                 246.34         238.82        0.0380
                 263.53         243.87        0.0380
                 389.56         247.64        0.0380
                 452.58         247.74        0.0380
                 498.41         248.60        0.0380
                 567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
      0.37    236.26    .270E+04        0.4          0.58      107.96
      0.75    236.64    .108E+05        2.6          0.92       68.01
      1.48    237.37    .877E+05       27.4          1.17       53.35
      2.20    238.09    .277E+06      122.1          1.65       37.83
      2.93    238.82    .540E+06      299.7          2.08       30.01
      3.66    239.55    .857E+06      587.8          2.57       24.29
      4.39    240.28    .120E+07      977.8          3.04       20.52
      5.11    241.00    .158E+07     1458.1          3.46       18.02
      5.84    241.73    .198E+07     2028.6          3.84       16.23
      6.57    242.46    .240E+07     2690.5          4.19       14.86
      7.29    243.18    .285E+07     3431.8          4.50       13.84
      8.02    243.91    .335E+07     4149.1          4.64       13.44
      8.75    244.64    .393E+07     4746.6          4.51       13.80
      9.47    245.36    .463E+07     5618.6          4.53       13.75
     10.20    246.09    .545E+07     6781.8          4.66       13.39
     10.93    246.82    .635E+07     8274.5          4.87       12.79
     11.66    247.55    .733E+07     9988.0          5.10       12.23
     12.38    248.27    .853E+07    11422.0          5.01       12.45
     13.11    249.00    .989E+07    13749.7          5.20       11.98

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.43    21.60    6.50  44.82      1.31      1.10
     OUTFLOW: ID= 1 (6320)  483.43    12.79    7.25  44.82      1.05      1.01


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| CALIB              |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   1.930 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  35.589
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.487

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB              |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.38         106.80
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=    1137.78          40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49          99.45
               over (min)        15.00          30.00
     Storage Coeff.  (min)=      13.72 (ii)     24.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.29          13.78          16.642 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25           6.25
     RUNOFF VOLUME    (mm)=      71.10          41.96          46.63
     TOTAL RAINFALL   (mm)=      73.10          73.10          73.10
     RUNOFF COEFFICIENT   =       0.97           0.57           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.4940      4.4477
                         0.2490     1.8139   |   9.8910      4.7762
                         1.2830     3.1517   |  12.4550      5.0763
                         3.7490     3.7610   |  12.8550      5.0863
                         5.0040     4.0198   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180     16.642      6.25      46.63
     OUTFLOW: ID= 1 (5320)    194.180      7.396      6.75      46.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.44
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.4468

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-------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56   1.930     6.75    35.59
       + ID2= 2 (5320):   194.18   7.396     6.75    46.62
         ==========================================
         ID = 3 (9320):   278.74   9.326     6.75    43.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43  12.787     7.25    44.82
       + ID2= 2 (9320):   278.74   9.326     6.75    43.27
         ==========================================
         ID = 3 (8332):   762.17  21.451     7.00    44.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB              |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   3.170 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  32.332
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB              |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.72          12.74
     Dep. Storage     (mm)=       2.00           5.00
     Average Slope     (%)=       0.50           0.50
     Length            (m)=     532.04          40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         111.92
               over (min)        15.00          30.00
     Storage Coeff.  (min)=       8.70 (ii)     18.92 (ii)
     Unit Hyd. Tpeak (min)=      15.00          30.00
     Unit Hyd. peak  (cms)=       0.09           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.60           2.07           5.966 (iii)
     TIME TO PEAK    (hrs)=       6.00           6.25           6.00
     RUNOFF VOLUME    (mm)=      71.10          40.28          54.46
     TOTAL RAINFALL   (mm)=      73.10          73.10          73.10
     RUNOFF COEFFICIENT   =       0.97           0.55           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.8400      1.3064
                         0.1440     0.7144   |   3.5660      1.4269
                         0.8230     0.8540   |   4.1520      1.5451
                         1.5320     0.9987   |   4.5520      1.5551
                         2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460      5.966      6.00      54.46
     OUTFLOW: ID= 1 (5314)     42.460      2.158      6.50      54.43

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.16
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.1548
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--------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3142):   122.75   3.170     6.50    32.33
       + ID2= 2 (5314):    42.46   2.158     6.50    54.43
         ================================================
         ID = 3 (9314):   165.21   5.328     6.50    38.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3161.0) ------>
              Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
               207.98         235.25        0.0310      Main Channel
               209.98         235.53        0.0310      Main Channel
               210.48         236.00    0.0310 /0.0350  Main Channel
               216.42         236.73        0.0350
               258.31         239.09        0.0350
               328.12         239.84        0.0350
               439.83         241.47        0.0350
               530.58         242.08        0.0350
               586.43         242.93        0.0350
               691.16         248.00        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.37   235.62    .215E+04        0.7         0.77      53.88
      0.75   236.00    .634E+04        3.5         1.36      30.45
      1.46   236.71    .297E+05       19.3         1.62      25.66
      2.16   237.41    .103E+06       75.8         1.84      22.60
      2.87   238.12    .229E+06      202.8         2.21      18.79
      3.57   238.82    .407E+06      423.3         2.59      16.03
      4.28   239.53    .654E+06      727.7         2.77      14.97
      4.99   240.24    .103E+07     1242.0         3.01      13.76
      5.69   240.94    .151E+07     2002.3         3.31      12.54
      6.40   241.65    .210E+07     2987.9         3.55      11.70
      7.10   242.35    .286E+07     4302.8         3.75      11.07
      7.81   243.06    .374E+07     6165.3         4.10      10.11
      8.51   243.76    .468E+07     8642.4         4.60       9.03
      9.22   244.47    .565E+07    11496.3         5.06       8.20
      9.93   245.18    .666E+07    14714.1         5.50       7.54
     10.63   245.88    .770E+07    18290.3         5.91       7.02
     11.34   246.59    .877E+07    22221.9         6.30       6.58
     12.04   247.29    .988E+07    26464.4         6.67       6.22
     12.75   248.00    .110E+08    31061.3         7.01       5.91

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     5.33    6.50  38.01      0.83      1.39
     OUTFLOW: ID= 1 (6316)  165.21     4.60    7.00  38.01      0.80      1.38


--------------------
| CALIB            |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   4.054 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  38.127
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        22.44          13.18
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         0.50           0.50
     Length            (m)=       487.31          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        96.49         106.17
               over (min)          15.00          30.00
     Storage Coeff.  (min)=         8.25 (ii)     18.70 (ii)
     Unit Hyd. Tpeak (min)=        15.00          30.00
     Unit Hyd. peak  (cms)=         0.09           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         3.74           2.05      5.114 (iii)
     TIME TO PEAK    (hrs)=         6.00           6.25       6.00
     RUNOFF VOLUME    (mm)=        71.10          45.15      56.57
     TOTAL RAINFALL   (mm)=        73.10          73.10      73.10
     RUNOFF COEFFICIENT   =         0.97           0.62       0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   2.3160      0.9307
                         0.0930     0.5020    |   2.9060      1.0021
                         0.5400     0.6637    |   3.5360      1.0731
                         1.1940     0.7495    |   3.9360      1.0831
                         1.6920     0.8359    |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3161)     35.620      5.114      6.00       56.57
     OUTFLOW: ID= 1 (5316)     35.620      2.285      6.50       56.53

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.67
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9431

--------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   4.054     7.00    38.13
       + ID2= 2 (5316):    35.62   2.285     6.50    56.53
         ================================================
         ID = 3 (9316):   232.34   6.108     6.50    40.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   4.598     7.00    38.01
       + ID2= 2 (9316):   232.34   6.108     6.50    40.95
         ================================================
         ID = 3 (8338):   397.55  10.268     6.75    39.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   4.750 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  35.011
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.479

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   3.491 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  20.621
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   1.788 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.291
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0308):   529.30   3.491     8.25    20.62
       + ID2= 2 (0310):   138.28   1.788     7.00    22.29
         ================================================
         ID = 3 (8342):   667.58   5.034     7.75    20.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation       Manning
                 0.00         265.94        0.0360
                38.07         265.43        0.0360
                59.82         263.98        0.0360
               103.32         254.59        0.0360
               157.70         252.16        0.0360
               217.52         250.45        0.0360
               233.84         247.69        0.0360
               234.71         247.27        0.0360
               239.71         246.38        0.0360
               244.71         246.12    0.0360 /0.0330  Main Channel
               247.71         245.17        0.0330      Main Channel
               249.71         245.19        0.0330      Main Channel
               251.71         245.64    0.0330 /0.0360  Main Channel
               259.71         246.67        0.0360
               282.78         247.12        0.0360
               315.41         251.60        0.0360
               424.17         256.13        0.0360
               478.55         257.04        0.0360
               516.62         259.37        0.0360
               538.37         266.00        0.0360

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.47   245.64    .111E+04       3.1         1.78       6.07
        1.54   246.71    .103E+05      53.9         3.39       3.19
        2.61   247.78    .414E+05     281.3         4.40       2.45
        3.68   248.85    .839E+05     749.1         5.79       1.87
        4.74   249.91    .136E+06    1463.2         6.97       1.55
        5.81   250.98    .201E+06    2354.8         7.61       1.42
        6.88   252.05    .295E+06    3533.0         7.76       1.39
        7.95   253.12    .427E+06    5303.9         8.05       1.34
        9.02   254.19    .594E+06    7856.5         8.58       1.26
       10.09   255.26    .792E+06   11449.2         9.37       1.15
       11.15   256.32    .101E+07   15862.4        10.15       1.06
       12.22   257.39    .127E+07   21074.5        10.75       1.01
       13.29   258.46    .155E+07   28184.1        11.78       0.92
       14.36   259.53    .185E+07   36386.2        12.77       0.85
       15.43   260.60    .215E+07   46110.6        13.89       0.78
       16.50   261.67    .246E+07   56822.5        14.95       0.72
       17.56   262.73    .278E+07   68498.1        15.97       0.68
       18.63   263.80    .310E+07   81118.8        16.94       0.64
       19.70   264.87    .344E+07   93603.2        17.66       0.61

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8342)  667.58     5.03    7.75  20.97      0.51      1.81
     OUTFLOW: ID= 1 (6312)  667.58     5.03    8.00  20.97      0.51      1.81

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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   4.750     8.00    35.01
       + ID2= 2 (6312):   667.58   5.033     8.00    20.97
         ================================================
         ID = 3 (8340):  1027.02   9.783     8.00    25.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.55  10.268     6.75    39.73
       + ID2= 2 (8340):  1027.02   9.783     8.00    25.88
         ================================================
         ID = 3 (8336):  1424.57  19.372     7.00    29.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.17  21.451     7.00    44.25
       + ID2= 2 (8336):  1424.57  19.372     7.00    29.75
         ================================================
         ID = 3 (8330):  2186.74  40.824     7.00    34.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3241.0) ------>
              Distance      Elevation       Manning
```

```
                0.00        234.38        0.0360
               33.57        232.48        0.0360
               67.14        230.14        0.0360
               83.93        228.80        0.0360
              134.29        227.62        0.0360
              209.82        225.10        0.0360
              218.21        224.86        0.0360
              226.61        224.47        0.0360
              234.00        223.86    0.0360 /0.0300  Main Channel
              234.10        223.66        0.0300      Main Channel
              235.00        223.66        0.0300      Main Channel
              235.90        223.66        0.0300      Main Channel
              236.00        223.86    0.0300 /0.0360  Main Channel
              243.39        224.92        0.0360
              251.78        224.89        0.0360
              335.71        225.64        0.0360
              562.32        226.53        0.0360
              637.85        228.36        0.0360
              705.00        229.80        0.0360
              830.89        234.00        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.20   223.86    .145E+04       0.2         0.43     147.27
      0.73   224.39    .159E+05       2.8         0.68      93.11
      1.27   224.93    .561E+05      11.0         0.75      85.19
      1.80   225.46    .217E+06      45.6         0.80      79.20
      2.33   225.99    .566E+06     134.4         0.91      70.20
      2.87   226.53    .122E+07     338.1         1.06      59.97
      3.40   227.06    .206E+07     744.3         1.38      46.16
      3.94   227.60    .298E+07    1295.9         1.66      38.38
      4.47   228.13    .399E+07    1979.9         1.90      33.59
      5.00   228.66    .509E+07    2807.5         2.11      30.21
      5.54   229.20    .627E+07    3815.1         2.32      27.41
      6.07   229.73    .753E+07    4984.1         2.53      25.17
      6.60   230.26    .884E+07    6346.3         2.74      23.20
      7.14   230.80    .102E+08    7861.2         2.95      21.61
      7.67   231.33    .116E+08    9526.4         3.14      20.29
      8.21   231.87    .131E+08   11342.2         3.32      19.18
      8.74   232.40    .146E+08   13309.6         3.49      18.22
      9.27   232.93    .161E+08   15414.0         3.66      17.41
      9.81   233.47    .177E+08   17671.0         3.81      16.70

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.74    40.82    7.00  34.80      1.73      0.80
    OUTFLOW: ID= 1 (6324) 2186.74    28.35    8.50  34.80      1.53      0.77


--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   6.103 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  33.847
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.463

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.06         7.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    299.56        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     96.49       101.17
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.16 (ii)   16.81 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.51         1.14          1.273 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=     71.10        42.19         46.53
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.97         0.58          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5324) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.9000      0.3505
                         0.0460     0.1645   |   1.1310      0.4008
                         0.2610     0.1903   |   1.3160      0.4499
                         0.4860     0.2456   |   1.7160      0.4599
                         0.6740     0.2932   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3241)     13.460     1.273      6.00      46.53
     OUTFLOW: ID= 1 (5324)     13.460     0.615      6.50      46.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.29
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2836

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| ADD HYD   (9324) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3242):   602.18   6.103     8.50    33.85
       + ID2= 2 (5324):    13.46   0.615     6.50    46.46
         ================================================
         ID = 3 (9324):   615.64   6.289     8.00    34.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8328) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6324):  2186.74  28.349     8.50    34.80
       + ID2= 2 (9324):   615.64   6.289     8.00    34.12
         ================================================
         ID = 3 (8328):  2802.38  34.596     8.50    34.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   5.538 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  35.083
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.480

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   513.13   5.538     8.50    35.08
       + ID2= 2 (8328):  2802.38  34.596     8.50    34.65
         ================================================
         ID = 3 (8326):  3315.51  40.135     8.50    34.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0326):   678.91   6.697     8.75    35.11
       + ID2= 2 (8326):  3315.51  40.135     8.50    34.72
         ================================================
         ID = 3 (8324):  3994.42  46.820     8.50    34.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3281.0) ------>
              Distance      Elevation       Manning
                 0.00         228.00        0.0380
                18.58         224.97        0.0380
                78.98         223.52        0.0380
               125.44         223.28        0.0380
               171.90         221.71        0.0380
               213.72         219.65        0.0380
               218.36         219.40        0.0380
               223.01         219.19        0.0380
               225.95         219.14    0.0380 /0.0320  Main Channel
               226.45         218.14        0.0320      Main Channel
               236.95         218.14        0.0320      Main Channel
               245.85         218.14        0.0320      Main Channel
               245.95         219.14    0.0320 /0.0380  Main Channel
               246.24         219.16        0.0380
               250.88         219.24        0.0380
               255.53         219.39        0.0380
               325.22         221.47        0.0380
               367.03         223.14        0.0380
               404.20         225.17        0.0380
               459.95         228.04        0.0380

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   218.64    .373E+05       3.2         0.33      192.37
      1.00   219.14    .752E+05      10.1         0.51      124.71
      1.52   219.66    .149E+06      22.2         0.57      112.06
      2.04   220.18    .279E+06      43.4         0.59      107.06
      2.56   220.70    .464E+06      77.0         0.63      100.52
      3.08   221.22    .705E+06     125.7         0.68       93.56
      3.61   221.75    .100E+07     192.7         0.73       86.62
      4.13   222.27    .135E+07     278.1         0.79       80.92
      4.65   222.79    .176E+07     385.9         0.84       75.86
      5.17   223.31    .222E+07     514.9         0.89       71.82
      5.69   223.83    .280E+07     662.7         0.90       70.40
      6.21   224.35    .345E+07     867.7         0.96       66.35
      6.73   224.87    .417E+07    1107.0         1.01       62.81
      7.25   225.39    .494E+07    1400.0         1.08       58.80
      7.78   225.92    .573E+07    1732.2         1.15       55.17
      8.30   226.44    .655E+07    2099.9         1.22       52.02
      8.82   226.96    .740E+07    2502.8         1.29       49.29
      9.34   227.48    .828E+07    2940.9         1.36       46.90
      9.86   228.00    .918E+07    3414.3         1.42       44.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.42    46.82    8.50  34.79      2.10      0.60
    OUTFLOW: ID= 1 (6328) 3994.42    37.55   10.25  34.79      1.89      0.59


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--------------------
| ADD HYD   (8320) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   492.92   4.508     8.75    32.09
       + ID2= 2 (6328):  3994.42  37.547    10.25    34.79
         ================================================
         ID = 3 (8320):  4487.34  41.837    10.25    34.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8318) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.34  41.837    10.25    34.49
       + ID2= 2 (8322):   861.74   8.469     9.75    32.80
         ================================================
         ID = 3 (8318):  5349.08  50.241    10.00    34.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.16  45.657    15.00    26.98
       + ID2= 2 (8318):  5349.08  50.241    10.00    34.22
         ================================================
         ID = 3 (8316): 15408.24  89.618    11.25    29.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   1.095     6.75    18.15
       + ID2= 2 (8316): 15408.24  89.618    11.25    29.49
         ================================================
         ID = 3 (8312): 16028.34  90.502    11.25    29.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.91  26.377     6.50    37.79
       + ID2= 2 (8312): 16028.34  90.502    11.25    29.06
         ================================================
         ID = 3 (8308): 16627.25  92.591    11.00    29.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     74.0090
                         66.5450    18.5023   |  *******    ********
                         98.5430    37.0045   |  *******    ********

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********     92.591     11.00      29.37
    OUTFLOW: ID= 1 (5510)   ********     87.775     13.00      29.37

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.80
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 30.8017

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| ADD HYD   (8240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   3.370    22.25    27.75
       + ID2= 2 (5510): 16627.25  87.775    13.00    29.37
         ================================================
         ID = 3 (8240): 19412.25  90.638    13.00    29.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.19  43.777    12.00    18.52
       + ID2= 2 (8240): 19412.25  90.638    13.00    29.14
         ================================================
         ID = 3 (8238): 28936.44 133.864    12.50    25.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3427) |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     112.23       137.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1289.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        51.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     14.79 (ii)   28.73 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      16.16         8.32        21.358 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      71.10        27.73         42.04
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.97         0.38          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  12.4700     5.4211
                         0.8500     3.0375   |  16.6800     6.4838
                         4.8400     3.5126   |  20.9500     7.4161
                         9.0000     4.5390   |  24.3900     8.3284

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3427)    249.400     21.358      6.00      42.04
     OUTFLOW: ID= 1 (9425)    249.400      9.160      6.75      42.04

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.89
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  4.6596

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.6600     12.0067
                         1.2080    11.1244   |   4.4200     12.4001
                         2.0570    11.3002   |   5.2300     12.7452
                         2.7240    11.3602   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9425)    249.400      9.160      6.75      42.04
     OUTFLOW: ID= 1 (5342)    249.400      0.682     14.50      42.03

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.45
                   TIME SHIFT OF PEAK FLOW         (min)=465.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.2806

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3422) |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   2.794 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  16.512
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3422):   755.17   2.794    10.00    16.51
       + ID2= 2 (5342):   249.40   0.682    14.50    42.03
         ================================================
         ID = 3 (9342):  1004.57   3.446    10.25    22.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8238): 28936.44 133.864    12.50    25.65
       + ID2= 2 (9342):  1004.57   3.446    10.25    22.85
         ================================================
         ID = 3 (8236): 29941.01 137.100    12.50    25.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.79   9.571     6.00    34.97
       + ID2= 2 (8236): 29941.01 137.100    12.50    25.55
         ================================================
         ID = 3 (8234): 30226.80 137.626    12.50    25.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.43       128.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1122.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      96.49        17.66
```

```
            over (min)       15.00         45.00
     Storage Coeff.  (min)=      13.61 (ii)   35.01 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.21          3.62        10.687 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         17.43         30.31
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.24          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.51         94.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1017.02         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      96.49         19.08
            over (min)       15.00         45.00
     Storage Coeff.  (min)=      12.83 (ii)   33.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.08          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.35          2.95        10.562 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.50          6.00
     RUNOFF VOLUME    (mm)=      71.10         18.05         33.43
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.25          0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6700      6.1252
                          0.3000     1.6125   |   3.3150      7.0314
                          0.8100     3.0036   |   3.8990      7.9700
                          1.4170     4.2559   |   4.2990      7.9800
                          1.8540     5.0526   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150     10.562      6.00      33.43
     OUTFLOW: ID= 1 (5344)    155.150      1.052      8.25      33.42

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.96
                    TIME SHIFT OF PEAK FLOW        (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.5039

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--------------------
| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3442):   188.84  10.687     6.00    30.31
       + ID2= 2 (5344):   155.15   1.052     8.25    33.42
         ================================================
         ID = 3 (9344):   343.99  10.957     6.00    31.72
```

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8234): 30226.80 137.626    12.50    25.64
       + ID2= 2 (9344):   343.99  10.957     6.00    31.72
         ================================================
         ID = 3 (8230): 30570.79 138.627    12.50    25.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  11.661     8.50    16.31
       + ID2= 2 (8230): 30570.79 138.627    12.50    25.71
         ================================================
         ID = 3 (8228): 32522.85 146.202    12.00    25.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   4.610     8.00    12.58
       + ID2= 2 (8228): 32522.85 146.202    12.00    25.15
         ================================================
         ID = 3 (8190): 33538.07 149.263    12.00    24.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ab70bd54-a452-450c-b03c-83cdc4826a98\2515b17a
| Ptotal= 80.80 mm |    Comments: 50-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.02 |  3.25    3.23 |  6.25   14.54 |  9.25    2.83
                0.50    2.02 |  3.50    3.23 |  6.50   14.54 |  9.50    2.83
                0.75    2.02 |  3.75    3.23 |  6.75    6.46 |  9.75    2.83
                1.00    2.02 |  4.00    3.23 |  7.00    6.46 | 10.00    2.83
                1.25    2.02 |  4.25    4.85 |  7.25    4.85 | 10.25    1.62
                1.50    2.02 |  4.50    4.85 |  7.50    4.85 | 10.50    1.62
                1.75    2.02 |  4.75    6.46 |  7.75    4.85 | 10.75    1.62
                2.00    2.02 |  5.00    6.46 |  8.00    4.85 | 11.00    1.62
                2.25    2.42 |  5.25    9.70 |  8.25    2.83 | 11.25    1.62
                2.50    2.42 |  5.50    9.70 |  8.50    2.83 | 11.50    1.62
                2.75    2.42 |  5.75   38.78 |  8.75    2.83 | 11.75    1.62
                3.00    2.42 |  6.00  106.66 |  9.00    2.83 | 12.00    1.62

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--------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   5.609 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  15.266
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.189
```

```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.018 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.394
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.240

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   2.583 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  16.221
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   2.683 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  16.307
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3501.0) ------>
             Distance      Elevation       Manning
                0.00         287.00        0.0500
               23.66         283.72        0.0500
               70.98         280.94        0.0500
              112.38         280.23        0.0500
              171.52         276.80        0.0500
              260.24         274.46        0.0500
              266.16         274.26        0.0500
              272.07         274.12        0.0500
              276.49         274.12    0.0500 /0.0300  Main Channel
              276.99         273.82        0.0300      Main Channel
              277.99         273.82        0.0300      Main Channel
              279.49         273.82        0.0300      Main Channel
              280.49         274.27    0.0300 /0.0500  Main Channel
              283.90         274.27        0.0500
              289.81         274.57        0.0500
              325.30         275.75        0.0500
              396.28         278.98        0.0500
              449.51         280.97        0.0500
              496.83         283.90        0.0500
              585.54         287.92        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   274.12    .273E+04       0.9          0.99      49.81
       0.98   274.80    .583E+05      20.8          1.05      46.71
       1.66   275.48    .203E+06      95.2          1.38      35.53
       2.33   276.15    .438E+06     256.0          1.73      28.50
       3.01   276.83    .755E+06     524.8          2.05      23.97
       3.69   277.51    .114E+07     935.8          2.43      20.26
       4.37   278.19    .157E+07    1472.0          2.76      17.82
       5.05   278.87    .206E+07    2140.7          3.06      16.06
       5.72   279.54    .261E+07    2938.6          3.33      14.79
       6.40   280.22    .321E+07    3887.6          3.57      13.77
       7.08   280.90    .390E+07    4795.4          3.63      13.56
       7.76   281.58    .468E+07    6196.2          3.91      12.58
       8.43   282.25    .550E+07    7803.9          4.19      11.74
       9.11   282.93    .637E+07    9601.9          4.45      11.05
       9.79   283.61    .728E+07   11594.8          4.70      10.46
      10.47   284.29    .823E+07   13845.3          4.96       9.91
      11.15   284.97    .922E+07   16293.4          5.21       9.43
      11.82   285.64    .103E+08   18952.0          5.45       9.02
      12.50   286.32    .113E+08   21824.3          5.69       8.65

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0348)  590.18     2.68    9.00  16.31      0.36      0.99
     OUTFLOW: ID= 1 (6350)  590.18     2.62   10.25  16.31      0.36      0.99

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-------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (0350):   366.84   2.583    7.50    16.22
      + ID2= 2 (6350):   590.18   2.617   10.25    16.31
        ================================================
        ID = 3 (8220):   957.02   4.788    8.75    16.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3461) |   Area    (ha)=  33.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  38.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       20.51         13.11
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      473.43         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66        100.59
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        7.79 (ii)    18.46 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.41          1.93      4.678 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=       78.80         41.08      55.41
     TOTAL RAINFALL   (mm)=       80.80         80.80      80.80
     RUNOFF COEFFICIENT   =        0.98          0.51       0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                        0.0000     0.0000    |   2.0090      0.6158
                        0.2450     0.2524    |   2.6260      0.6610
                        0.6230     0.3644    |   3.2370      0.7019
                        0.9920     0.4690    |   3.6370      0.7119
                        1.2510     0.5428    |   0.0000      0.0000
```

```
                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3461)     33.620      4.678      6.00      55.41
     OUTFLOW: ID= 1 (5346)     33.620      2.485      6.25      55.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.12
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6679

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   4.897 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  31.656
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.392

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3462):   317.31   4.897     7.25    31.66
       + ID2= 2 (5346):    33.62   2.485     6.25    55.41
         ============================================
         ID = 3 (9346):   350.93   6.816     6.50    33.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8220):   957.02   4.788     8.75    16.27
       + ID2= 2 (9346):   350.93   6.816     6.50    33.93
         ============================================
         ID = 3 (8222):  1307.95  10.135     7.50    21.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3521.0) ------>
              Distance      Elevation       Manning
                  0.00         257.95        0.0500
                  7.83         257.34        0.0500
                 15.66         256.19        0.0500
                 21.53         254.01        0.0500
                 41.11         244.06        0.0500
                 76.35         241.38        0.0500
                111.58         239.74        0.0500
                113.54         239.61        0.0500
                113.75         239.41    0.0500 /0.0300  Main Channel
                113.85         238.81        0.0300      Main Channel
                115.50         238.81        0.0300      Main Channel
                116.15         238.81        0.0300      Main Channel
                116.25         239.41        0.0300      Main Channel
                117.46         239.52        0.0500
                119.41         239.72        0.0500
                121.37         240.04        0.0500
                131.16         241.84        0.0500
                156.61         247.03        0.0500
                176.19         251.46        0.0500
                193.80         258.79        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.60   239.41    .224E+04       2.2          1.52      17.12
       1.58   240.39    .216E+05      22.3          1.61      16.16
       2.55   241.36    .804E+05     101.0          1.96      13.27
       3.53   242.34    .173E+06     275.6          2.48      10.46
       4.50   243.31    .293E+06     553.9          2.95       8.80
       5.48   244.29    .438E+06     961.8          3.42       7.60
       6.45   245.26    .599E+06    1534.4          3.99       6.51
       7.43   246.24    .770E+06    2228.4          4.51       5.76
       8.41   247.22    .951E+06    3043.6          4.98       5.21
       9.38   248.19    .114E+07    3982.1          5.43       4.78
      10.36   249.17    .134E+07    5040.1          5.85       4.44
      11.33   250.14    .155E+07    6218.5          6.24       4.16
      12.31   251.12    .177E+07    7518.6          6.61       3.93
      13.29   252.10    .200E+07    8969.0          6.98       3.72
      14.26   253.07    .224E+07   10554.1          7.35       3.53
      15.24   254.05    .248E+07   12257.1          7.71       3.37
      16.21   255.02    .272E+07   14045.1          8.03       3.23
      17.19   256.00    .298E+07   15954.8          8.34       3.11
      18.16   256.97    .325E+07   17780.4          8.53       3.04

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8222) 1307.95    10.13    7.50  21.01      0.99       1.55
     OUTFLOW: ID= 1 (6352) 1307.95    10.08    7.75  21.01      0.98       1.55

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--------------------
| ADD HYD   (8224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):   381.43   4.018     7.00    19.39
       + ID2= 2 (6352):  1307.95  10.082     7.75    21.01
         ============================================
         ID = 3 (8224):  1689.38  13.917     7.50    20.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3541.0) ------>
              Distance      Elevation       Manning
                  0.00         253.92        0.0500
                  7.95         251.83        0.0500
                 15.89         249.97        0.0500
                 19.87         249.05        0.0500
                 47.68         242.00        0.0500
                 67.55         237.10        0.0500
                 83.44         231.11        0.0500
                 85.43         230.75        0.0500
                 85.66         230.61    0.0500 /0.0300  Main Channel
                 85.76         230.01        0.0300      Main Channel
                 87.41         230.01        0.0300      Main Channel
                 88.06         230.01        0.0300      Main Channel
                 88.16         230.61    0.0300 /0.0500  Main Channel
                 89.40         230.72        0.0500
                 91.39         230.88        0.0500
                 93.37         231.03        0.0500
                133.11         233.96        0.0500
                150.99         235.39        0.0500
                172.84         239.03        0.0500
                196.68         250.00        0.0500

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.60   230.61    .451E+04       1.5          1.06      49.40
       1.62   231.63    .394E+05      14.6          1.16      45.13
       2.64   232.65    .128E+06      58.8          1.44      36.30
       3.66   233.67    .269E+06     149.7          1.74      30.00
       4.68   234.69    .463E+06     301.5          2.04      25.58
       5.70   235.71    .705E+06     530.5          2.36      22.14
       6.72   236.73    .980E+06     848.4          2.71      19.25
       7.74   237.75    .128E+07    1237.9          3.02      17.29
       8.76   238.77    .162E+07    1706.7          3.30      15.83
       9.78   239.79    .199E+07    2291.9          3.61      14.45
      10.81   240.82    .237E+07    2973.7          3.92      13.30
      11.83   241.84    .278E+07    3742.2          4.21      12.38
      12.85   242.86    .321E+07    4599.1          4.49      11.62
```

```
      13.87   243.88    .365E+07    5544.6          4.75      10.98
      14.89   244.90    .412E+07    6579.7          5.00      10.44
      15.91   245.92    .461E+07    7705.9          5.23       9.97
      16.93   246.94    .512E+07    8924.6          5.46       9.55
      17.95   247.96    .564E+07   10237.5          5.68       9.19
      18.97   248.98    .619E+07   11646.2          5.89       8.86

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8224) 1689.38    13.92    7.50  20.65      1.57      1.15
    OUTFLOW: ID= 1 (6354) 1689.38    12.91    8.50  20.65      1.48      1.14


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3541) |   Area    (ha)=   8.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       6.01         2.00
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     231.08        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     106.66        13.49
              over (min)       15.00        30.00
    Storage Coeff.  (min)=       5.07 (ii)   28.91 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
    PEAK FLOW       (cms)=       1.61         0.05        1.637 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25         6.00
    RUNOFF VOLUME    (mm)=      78.80        12.69        58.96
    TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
    RUNOFF COEFFICIENT   =       0.98         0.16         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  35.4    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5354) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5360     0.2546
                         0.0270     0.1427   |   0.6730     0.2758
                         0.1550     0.1714   |   0.7830     0.2966
                         0.2890     0.1975   |   1.1830     0.3066
                         0.4010     0.2251   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3541)     8.010     1.637      6.00      58.96
    OUTFLOW: ID= 1 (5354)     8.010     0.534      6.25      58.80

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.63
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2625

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3542) |   Area    (ha)= 254.67   Curve Number   (CN)= 36.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.37

    Unit Hyd Qpeak  (cms)=   3.174

    PEAK FLOW       (cms)=   1.018 (i)
    TIME TO PEAK    (hrs)=   8.000
    RUNOFF VOLUME    (mm)=  11.109
    TOTAL RAINFALL   (mm)=  80.800
    RUNOFF COEFFICIENT   =   0.137

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (9354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3542):   254.67   1.018     8.00    11.11
      + ID2= 2 (5354):     8.01   0.534     6.25    58.80
        ================================================
        ID = 3 (9354):   262.68   1.235     6.50    12.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6354):  1689.38  12.911     8.50    20.65
      + ID2= 2 (9354):   262.68   1.235     6.50    12.56
        ================================================
        ID = 3 (8226):  1952.06  14.006     8.50    19.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      63.86        74.97
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     962.05        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     106.66        25.06
              over (min)       15.00        45.00
    Storage Coeff.  (min)=      11.92 (ii)   30.53 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       9.18         3.21       10.510 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.50         6.00
    RUNOFF VOLUME    (mm)=      78.80        20.64        36.93
    TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
    RUNOFF COEFFICIENT   =       0.98         0.26         0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  47.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      85.24        61.72
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       0.50         0.50
    Length            (m)=     989.81        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=     106.66        53.85
              over (min)       15.00        30.00
    Storage Coeff.  (min)=      12.13 (ii)   25.83 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
    PEAK FLOW       (cms)=      12.07         4.12       14.630 (iii)
    TIME TO PEAK    (hrs)=       6.00         6.25         6.00
    RUNOFF VOLUME    (mm)=      78.80        23.23        42.68
    TOTAL RAINFALL   (mm)=      80.80        80.80        80.80
    RUNOFF COEFFICIENT   =       0.98         0.29         0.53
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 47.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5340)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	11.4780	4.3560
0.3860	2.0347	14.9940	4.9991
3.2310	2.5818	18.1680	5.6243
5.1770	3.1417	18.5680	5.6343
7.7590	3.6318	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3401)	146.960	14.630	6.00	42.68
OUTFLOW: ID= 1 (5340)	146.960	4.994	6.50	42.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.14
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 3.1315

ADD HYD (8232)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3402):	138.83	10.510	6.00	36.93
+ ID2= 2 (5340):	146.96	4.994	6.50	42.67
ID = 3 (8232):	285.79	10.880	6.00	39.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0410)	Area (ha)= 572.01	Curve Number (CN)= 48.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.46		

Unit Hyd Qpeak (cms)= 6.698

PEAK FLOW (cms)= 3.210 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 16.276
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.201

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0408)	Area (ha)= 231.62	Curve Number (CN)= 58.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.64		

Unit Hyd Qpeak (cms)= 6.198

PEAK FLOW (cms)= 3.331 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 21.683
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0376)	Area (ha)= 463.85	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.07		

Unit Hyd Qpeak (cms)= 7.380

PEAK FLOW (cms)= 7.184 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 34.493
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0374)	Area (ha)= 545.70	Curve Number (CN)= 61.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.51		

Unit Hyd Qpeak (cms)= 6.158

PEAK FLOW (cms)= 4.432 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 23.989
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.297

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0372)	Area (ha)= 110.42	Curve Number (CN)= 37.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.96		

Unit Hyd Qpeak (cms)= 1.954

PEAK FLOW (cms)= 0.576 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 11.182
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.138

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0370)	Area (ha)= 191.85	Curve Number (CN)= 63.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.67		

Unit Hyd Qpeak (cms)= 4.860

PEAK FLOW (cms)= 3.080 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 25.072
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.310

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0366)	Area (ha)= 462.62	Curve Number (CN)= 62.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.06		

Unit Hyd Qpeak (cms)= 7.451

PEAK FLOW (cms)= 5.064 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 24.589
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.304

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (3641)	Area (ha)= 7.85		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 16.00	

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.53         4.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     228.76        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        45.70
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.04 (ii)   19.67 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.36         0.28          0.533 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        20.11          29.50
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.25           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5250     0.2044
                         0.0270     0.0959   |   0.6590     0.2337
                         0.1520     0.1110   |   0.7670     0.2624
                         0.2830     0.1432   |   1.1670     0.2724
                         0.3930     0.1710   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850     0.533      6.00      29.50
     OUTFLOW: ID= 1 (5364)     7.850     0.175      6.75      29.39

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.87
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1178

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96       116.46
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     991.36        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        17.00
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      12.14 (ii)   33.87 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.42         3.22          3.811 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      78.80        16.11          20.50
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.20           0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3642):   147.42   3.811     6.50    20.50
       + ID2= 2 (5364):     7.85   0.175     6.75    29.39
         ================================================
         ID = 3 (9364):   155.27   3.979     6.50    20.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0366):   462.62   5.064     7.50    24.59
       + ID2= 2 (9364):   155.27   3.979     6.50    20.95
         ================================================
         ID = 3 (8302):   617.89   8.409     6.50    23.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   1.973 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  10.392
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.129

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.427 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  15.028
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   1.973     7.50    10.39
       + ID2= 2 (0360):   138.37   1.427     6.75    15.03
         ================================================
         ID = 3 (8306):   568.24   3.321     7.00    11.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3621.0) ------>
              Distance      Elevation       Manning
                  0.00         261.46        0.0550
                 27.86         254.23        0.0550
                 51.07         251.96        0.0550
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                74.29        250.77        0.0550
                97.50        249.91        0.0550
               125.36        249.40        0.0550
               150.93        247.40        0.0550
               155.93        247.33    0.0550 /0.0350  Main Channel
               157.93        246.85        0.0350      Main Channel
               159.18        246.65        0.0350      Main Channel
               160.18        246.63        0.0350      Main Channel
               160.93        246.85        0.0350      Main Channel
               161.93        247.18    0.0350 /0.0550  Main Channel
               163.18        248.03        0.0550
               168.18        248.58        0.0550
               183.18        250.18        0.0550
               201.97        252.59        0.0550
               213.57        256.02        0.0550
               225.18        260.31        0.0550
               229.82        261.00        0.0550

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.55   247.18    .556E+04        1.9         1.03      49.95
      1.28   247.91    .336E+05       16.7         1.53      33.61
      2.00   248.63    .913E+05       53.6         1.81      28.40
      2.73   249.36    .185E+06      122.3         2.05      25.18
      3.46   250.09    .344E+06      224.6         2.02      25.52
      4.19   250.82    .574E+06      417.9         2.25      22.91
      4.91   251.54    .855E+06      699.1         2.53      20.38
      5.64   252.27    .118E+07     1075.3         2.82      18.26
      6.37   253.00    .153E+07     1559.9         3.15      16.38
      7.10   253.73    .191E+07     2137.6         3.46      14.89
      7.82   254.45    .231E+07     2815.2         3.77      13.67
      8.55   255.18    .272E+07     3608.5         4.10      12.58
      9.28   255.91    .315E+07     4488.2         4.41      11.69
     10.01   256.64    .358E+07     5458.0         4.71      10.95
     10.73   257.36    .403E+07     6512.4         4.99      10.32
     11.46   258.09    .449E+07     7649.8         5.27       9.78
     12.19   258.82    .496E+07     8869.5         5.53       9.32
     12.92   259.55    .544E+07    10171.2         5.78       8.91
     13.64   260.27    .593E+07    11554.8         6.02       8.55

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     3.32    7.00  11.52      0.62      1.07
     OUTFLOW: ID= 1 (6362)  568.24     2.94    8.25  11.52      0.60      1.06


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| CALIB            |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.34         6.53
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     281.31        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        48.76
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.70 (ii)  19.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.57         0.45       0.848 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=      78.80        21.64      31.35
     TOTAL RAINFALL   (mm)=      80.80        80.80      80.80
     RUNOFF COEFFICIENT   =       0.98         0.27       0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7940      0.3091
                          0.0400     0.1451   |   0.9970      0.3534
                          0.2300     0.1678   |   1.1610      0.3968
                          0.4280     0.2166   |   1.5610      0.4068
                          0.5940     0.2586   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3621)     11.870      0.848      6.00      31.35
     OUTFLOW: ID= 1 (5362)     11.870      0.289      6.75      31.28

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.01
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1842

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--------------------
| CALIB            |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.66        81.25
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     844.24        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        19.29
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      11.02 (ii)  31.68 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.33         2.64       3.415 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50       6.00
     RUNOFF VOLUME    (mm)=      78.80        17.86      23.35
     TOTAL RAINFALL   (mm)=      80.80        80.80      80.80
     RUNOFF COEFFICIENT   =       0.98         0.22       0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3622):   106.91   3.415     6.00    23.35
       + ID2= 2 (5362):    11.87   0.289     6.75    31.28
         ================================================
         ID = 3 (9362):   118.78   3.443     6.00    24.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8304) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6362):   568.24   2.938     8.25    11.52
       + ID2= 2 (9362):   118.78   3.443     6.00    24.14
         ================================================
         ID = 3 (8304):   687.02   4.941     6.50    13.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89   8.409     6.50    23.67
       + ID2= 2 (8304):   687.02   4.941     6.50    13.70
         ================================================
         ID = 3 (8300):  1304.91  13.350     6.50    18.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3681.0) ------>
              Distance      Elevation       Manning
                  0.00         230.00        0.0370
                 18.48         223.26        0.0370
                 36.96         223.05        0.0370
                 64.67         222.94        0.0370
                110.87         222.86        0.0370
                133.96         222.74        0.0370
                147.82         222.65        0.0370
                170.92         222.31        0.0370
                174.79         222.26    0.0370 /0.0300  Main Channel
                174.89         221.86        0.0300      Main Channel
                175.54         221.86        0.0300      Main Channel
                176.19         221.86        0.0300      Main Channel
                176.29         222.26    0.0300 /0.0370  Main Channel
                180.16         222.25        0.0370
                184.78         222.28        0.0370
                189.40         222.31        0.0370
                332.60         222.37        0.0370
                450.00         230.00        0.0370

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40   222.26    .771E+03        0.3         0.52      41.74
      0.81   222.67    .784E+05       30.3         0.51      43.17
      1.21   223.07    .210E+06      123.2         0.77      28.42
      1.62   223.48    .384E+06      301.0         1.03      21.25
      2.03   223.89    .563E+06      550.2         1.28      17.06
      2.44   224.30    .747E+06      860.7         1.51      14.46
      2.84   224.70    .934E+06     1228.1         1.73      12.68
      3.25   225.11    .113E+07     1649.3         1.92      11.37
      3.66   225.52    .132E+07     2122.3         2.11      10.37
      4.07   225.93    .152E+07     2645.5         2.29       9.58
      4.47   226.33    .172E+07     3217.8         2.45       8.92
      4.88   226.74    .193E+07     3838.3         2.61       8.38
      5.29   227.15    .214E+07     4506.3         2.76       7.92
      5.70   227.56    .236E+07     5221.3         2.91       7.52
      6.10   227.96    .258E+07     5983.0         3.05       7.17
      6.51   228.37    .280E+07     6790.9         3.19       6.87
      6.92   228.78    .303E+07     7645.0         3.32       6.60
      7.33   229.19    .326E+07     8545.1         3.45       6.35
      7.73   229.59    .349E+07     9491.0         3.57       6.13

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (8300) 1304.91    13.35    6.50  18.42      0.58      0.52
     OUTFLOW: ID= 1 (6368) 1304.91    10.52    7.50  18.42      0.54      0.52


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| CALIB             |
| STANDHYD  (3681) |   Area    (ha)=   2.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.33         1.62
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     140.24        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        43.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       3.75 (ii)   18.69 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
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                                                                  *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.10          0.193 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        18.92         27.90
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.23          0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  40.6     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5368) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1970      0.0767
                          0.0100     0.0360   |   0.2470      0.0877
                          0.0570     0.0416   |   0.2880      0.0984
                          0.1060     0.0537   |   0.6880      0.1084
                          0.1470     0.0642   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3681)      2.950      0.193      6.00      27.90
     OUTFLOW: ID= 1 (5368)      2.950      0.061      6.75      27.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.69
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0430

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-------------------
| CALIB             |
| NASHYD    (3682) |   Area    (ha)= 156.53   Curve Number   (CN)= 45.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   2.778

     PEAK FLOW       (cms)=   1.119 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.149
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.187

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3682):   156.53   1.119     7.25    15.15
       + ID2= 2 (5368):     2.95   0.061     6.75    27.60
         ================================================
         ID = 3 (9368):   159.48   1.164     7.00    15.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8298) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6368):  1304.91  10.523     7.50    18.42
       + ID2= 2 (9368):   159.48   1.164     7.00    15.38
         ================================================
         ID = 3 (8298):  1464.39  11.670     7.50    18.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ADD HYD (8296)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0370):	191.85	3.080	6.75	25.07	
+ ID2= 2 (8298):	1464.39	11.670	7.50	18.09	
ID = 3 (8296):	1656.24	14.492	7.25	18.90	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84
1.97	220.48	.131E+07	1090.4	1.25	20.05
2.32	220.83	.169E+07	1647.7	1.47	17.06
2.67	221.18	.206E+07	2294.6	1.68	14.99
3.01	221.52	.244E+07	3025.6	1.87	13.46
3.36	221.87	.282E+07	3836.5	2.05	12.27
3.71	222.22	.321E+07	4723.7	2.22	11.31
4.06	222.57	.359E+07	5684.6	2.39	10.53
4.40	222.91	.398E+07	6716.6	2.55	9.87
4.75	223.26	.437E+07	7817.7	2.70	9.31
5.10	223.61	.476E+07	8986.2	2.85	8.83
5.45	223.96	.515E+07	10220.4	2.99	8.40
5.79	224.30	.555E+07	11519.1	3.13	8.03
6.14	224.65	.594E+07	12880.8	3.27	7.69
6.49	225.00	.634E+07	14304.5	3.40	7.39

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8296)	1656.24	14.49	7.25	18.90	0.64	0.75
OUTFLOW: ID= 1 (6372)	1656.24	13.64	8.25	18.90	0.64	0.76

ADD HYD (8294)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0372):	110.42	0.576	7.25	11.18	
+ ID2= 2 (6372):	1656.24	13.636	8.25	18.90	
ID = 3 (8294):	1766.66	14.179	8.25	18.42	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8292)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0374):	545.70	4.432	8.25	23.99	
+ ID2= 2 (8294):	1766.66	14.179	8.25	18.42	
ID = 3 (8292):	2312.36	18.611	8.25	19.73	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5505)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	65.1290	345.3754	
	25.4850	24.6697	84.9510	456.3890	
	31.1490	98.6787	*******	838.7689	
	39.6440	*******	*******	838.7789	
	48.1390	*******	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8292)	2312.360	18.611	8.25	19.73
OUTFLOW: ID= 1 (5505)	2312.360	13.335	11.00	19.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 71.65
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 12.9148

ADD HYD (8272)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0376):	463.85	7.184	7.25	34.49	
+ ID2= 2 (5505):	2312.36	13.335	11.00	19.73	
ID = 3 (8272):	2776.21	18.024	10.00	22.20	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0396)	Area (ha)= 305.21	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.08		

Unit Hyd Qpeak (cms)= 4.811

PEAK FLOW (cms)= 4.047 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 29.979
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.371

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0394)	Area (ha)= 325.45	Curve Number (CN)= 53.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.92		

Unit Hyd Qpeak (cms)= 6.013

PEAK FLOW (cms)= 3.012 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 18.867
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.233

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0390)	Area (ha)= 420.00	Curve Number (CN)= 55.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.07		

```
     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   3.688 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  20.072
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   2.265 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  21.891
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   2.901 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.835
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   2.901     7.00    23.84
       + ID2= 2 (0388):   220.77   2.265     7.25    21.89
         ================================================
         ID = 3 (8286):   462.04   5.164     7.25    22.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.336 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  14.242
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.618 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  12.271
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.152

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   2.645 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.713
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.232

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   1.618     6.50    12.27
       + ID2= 2 (0382):   216.59   2.645     6.75    18.71
         ================================================
         ID = 3 (8290):   398.60   4.252     6.75    15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3841.0) ------>
              Distance      Elevation       Manning
                  0.00         294.40        0.0380
                 10.59         291.93        0.0380
                 21.17         289.19        0.0380
                 26.46         287.99        0.0380
                 31.76         286.79        0.0380
                 71.45         279.97        0.0380
                 74.10         279.79        0.0380
                 76.74         279.71        0.0380
                 78.99         279.64    0.0380 /0.0300  Main Channel
                 79.14         279.30        0.0300      Main Channel
                 79.39         279.30        0.0300      Main Channel
                 79.64         279.30        0.0300      Main Channel
                 79.79         279.64    0.0300 /0.0380  Main Channel
                 89.98         279.78        0.0380
                119.09         281.86        0.0380
                145.55         282.87        0.0380
                198.48         284.85        0.0380
                211.71         286.31        0.0380
                230.23         287.59        0.0380
                261.99         294.00        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.34    279.64    .715E+03        0.2          0.85       63.42
      1.10    280.40    .507E+05       21.9          1.40       38.54
      1.85    281.15    .141E+06       91.8          2.10       25.69
      2.61    281.91    .269E+06      218.9          2.63       20.46
      3.36    282.66    .445E+06      407.1          2.96       18.23
      4.12    283.42    .681E+06      698.3          3.31       16.26
      4.87    284.17    .977E+06     1111.8          3.68       14.65
      5.63    284.93    .133E+07     1674.3          4.06       13.27
      6.39    285.69    .173E+07     2457.8          4.59       11.73
      7.14    286.44    .215E+07     3378.8          5.07       10.63
      7.90    287.20    .261E+07     4418.4          5.47        9.85
      8.65    287.95    .310E+07     5676.3          5.92        9.11
      9.41    288.71    .361E+07     7150.5          6.40        8.42
     10.17    289.47    .414E+07     8783.1          6.86        7.86
     10.92    290.22    .469E+07    10575.1          7.30        7.38
```

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 11.68   290.98    .525E+07   12520.4          7.72       6.98
 12.43   291.73    .582E+07   14619.0          8.12       6.64
 13.19   292.49    .642E+07   16863.2          8.50       6.34
 13.94   293.24    .703E+07   19259.8          8.86       6.08

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8290)  398.60     4.25    6.75  15.77      0.48      0.92
OUTFLOW: ID= 1 (6384)  398.60     3.34    8.00  15.77      0.45      0.90


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| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   1.336     7.25    14.24
       + ID2= 2 (6384):   398.60   3.339     8.00    15.77
         ================================================
         ID = 3 (8288):   597.67   4.648     7.75    15.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   5.164     7.25    22.91
       + ID2= 2 (8288):   597.67   4.648     7.75    15.26
         ================================================
         ID = 3 (8284):  1059.71   9.705     7.50    18.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   3.688     7.50    20.07
       + ID2= 2 (8284):  1059.71   9.705     7.50    18.59
         ================================================
         ID = 3 (8280):  1479.71  13.393     7.50    19.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0392)  |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.409 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  24.429
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0378)  |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   4.960 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  20.097
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   4.960     7.75    20.10
       + ID2= 2 (0392):   167.22   2.409     7.00    24.43
         ================================================
         ID = 3 (8282):   773.94   7.226     7.25    21.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8278) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71  13.393     7.50    19.01
       + ID2= 2 (8282):   773.94   7.226     7.25    21.03
         ================================================
         ID = 3 (8278):  2253.65  20.600     7.50    19.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3941.0) ------>
              Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.54    251.74    .827E+04       4.5         1.51       30.71
     2.19    253.39    .758E+05      73.2         2.69       17.27
     3.83    255.03    .282E+06     331.8         3.27       14.17
     5.48    256.68    .633E+06     917.3         4.03       11.51
     7.12    258.32    .112E+07    1889.5         4.69        9.90
     8.77    259.97    .179E+07    3410.2         5.31        8.73
    10.41    261.61    .259E+07    5627.6         6.05        7.66
    12.06    263.26    .351E+07    8605.1         6.83        6.79
    13.70    264.90    .447E+07   12544.9         7.81        5.94
    15.35    266.55    .546E+07   17101.4         8.71        5.32
    16.99    268.19    .648E+07   22251.7         9.56        4.85
    18.64    269.84    .752E+07   27979.0        10.36        4.48
    20.28    271.48    .858E+07   34269.0        11.11        4.17
    21.93    273.13    .967E+07   41110.8        11.83        3.92
    23.57    274.77    .108E+08   48495.9        12.51        3.71
    25.22    276.42    .119E+08   56418.1        13.17        3.52
    26.86    278.06    .131E+08   64410.6        13.69        3.39
    28.51    279.71    .143E+08   73002.1        14.18        3.27
    30.15    281.35    .156E+08   81379.3        14.50        3.20

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8278) 2253.65    20.60    7.50  19.71      0.93      1.68
OUTFLOW: ID= 1 (6394) 2253.65    20.08    8.00  19.71      0.91      1.68
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| ADD HYD   (8276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   3.012     7.25    18.87
       + ID2= 2 (6394):  2253.65  20.077     8.00    19.71
         ================================================
         ID = 3 (8276):  2579.10  22.946     8.00    19.60

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3961.0) ------>
              Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75   228.95    .780E+04       2.2          0.98      58.06
       2.54   230.74    .277E+06     145.1          1.78      31.76
       4.33   232.53    .786E+06     609.1          2.63      21.50
       6.13   234.33    .140E+07    1481.5          3.59      15.77
       7.92   236.12    .207E+07    2677.3          4.39      12.90
       9.71   237.91    .280E+07    4184.8          5.09      11.14
      11.50   239.70    .357E+07    6001.4          5.71       9.93
      13.29   241.49    .441E+07    8129.1          6.27       9.03
      15.09   243.29    .530E+07   10549.4          6.77       8.37
      16.88   245.08    .625E+07   13300.6          7.24       7.83
      18.67   246.87    .726E+07   16396.2          7.68       7.38
      20.46   248.66    .834E+07   19809.8          8.07       7.02
      22.26   250.46    .949E+07   23532.5          8.43       6.72
      24.05   252.25    .107E+08   27641.2          8.77       6.46
      25.84   254.04    .120E+08   32155.2          9.10       6.22
      27.63   255.83    .134E+08   36901.0          9.37       6.05
      29.42   257.62    .149E+08   42147.7          9.64       5.88
      31.22   259.42    .164E+08   48149.1          9.97       5.68
      33.01   261.21    .181E+08   54644.8         10.29       5.51

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    22.95    8.00  19.60      1.01      1.04
    OUTFLOW: ID= 1 (6396) 2579.10    20.73    9.00  19.60      0.98      1.04


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| ADD HYD   (8274) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   4.047     7.50    29.98
       + ID2= 2 (6396):  2579.10  20.733     9.00    19.60
         ================================================
         ID = 3 (8274):  2884.31  24.211     9.00    20.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  18.024    10.00    22.20
       + ID2= 2 (8274):  2884.31  24.211     9.00    20.70
         ================================================
         ID = 3 (8270):  5660.52  41.573     9.25    21.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  60.8810    135.6832
                         31.1490    24.6697   |  96.2770    900.4431
                         36.8120    37.0045   |  96.6770    900.4531
                         45.3070    86.3439   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8270)   5660.520     41.573      9.25      21.44
    OUTFLOW: ID= 1 (5506)   5660.520     32.561     12.00      21.44

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.32
                TIME SHIFT OF PEAK FLOW         (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 27.7584

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-------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   2.779 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  27.183
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   1.795 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  15.696
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   2.567 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.900
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.483 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.889
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   3.522 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  19.985
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   3.522     7.00    19.99
       + ID2= 2 (0400):    93.97   1.483     6.50    17.89
         ================================================
         ID = 3 (8268):   422.16   4.864     6.75    19.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (4021.0) ------>
              Distance      Elevation       Manning
                  0.00         238.50        0.0360
                 11.50         238.00        0.0360
                 23.00         237.93        0.0360
                 34.49         236.39        0.0360
                 63.24         233.98        0.0360
                 97.73         228.15        0.0360
                123.60         227.08        0.0360
                126.48         226.61        0.0360
                127.60         226.47    0.0360 /0.0330  Main Channel
                127.85         225.25        0.0330      Main Channel
                129.35         225.25        0.0330      Main Channel
                130.85         225.25        0.0330      Main Channel
                131.10         226.47    0.0330 /0.0360  Main Channel
                132.22         226.59        0.0360
                143.72         227.42        0.0360
                169.59         227.88        0.0360
                192.59         231.19        0.0360
                218.46         233.02        0.0360
                241.45         235.50        0.0360
                284.57         236.43        0.0360

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.41   225.66    .391E+04       1.7         1.36      38.31
       0.81   226.06    .804E+04       5.0         1.93      27.02
       1.22   226.47    .124E+05       9.1         2.30      22.61
       1.84   227.09    .308E+05      23.3         2.36      22.03
       2.46   227.71    .904E+05      62.0         2.14      24.31
       3.09   228.34    .223E+06     188.3         2.63      19.75
       3.71   228.96    .379E+06     410.2         3.38      15.39
       4.33   229.58    .550E+06     711.5         4.04      12.89
       4.95   230.20    .737E+06    1091.3         4.62      11.25
       5.58   230.83    .939E+06    1550.6         5.15      10.10
       6.20   231.45    .116E+07    2072.4         5.59       9.31
       6.82   232.07    .140E+07    2659.2         5.93       8.77
       7.44   232.69    .167E+07    3345.8         6.27       8.30
       8.07   233.32    .195E+07    4159.0         6.64       7.83
       8.69   233.94    .226E+07    5100.8         7.03       7.39
       9.31   234.56    .259E+07    6081.3         7.32       7.11
       9.93   235.18    .295E+07    7183.1         7.60       6.84
      10.56   235.81    .334E+07    8145.2         7.62       6.83
      11.18   236.43    .379E+07    9116.0         7.51       6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     4.86    6.75  19.52      0.80      1.90
     OUTFLOW: ID= 1 (6402)  422.16     4.63    7.25  19.52      0.77      1.84

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| ADD HYD   (8266) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):   244.00   2.567     7.50    23.90
       + ID2= 2 (6402):   422.16   4.628     7.25    19.52
         ================================================
         ID = 3 (8266):   666.16   7.186     7.25    21.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0404):   246.46   1.795     7.25    15.70
       + ID2= 2 (8266):   666.16   7.186     7.25    21.12
         ================================================
         ID = 3 (8264):   912.62   8.981     7.25    19.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0406):   142.65   2.779     6.50    27.18
       + ID2= 2 (8264):   912.62   8.981     7.25    19.66
         ================================================
         ID = 3 (8262):  1055.27  11.503     7.25    20.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5506):  5660.52  32.561    12.00    21.44
       + ID2= 2 (8262):  1055.27  11.503     7.25    20.68
         ================================================
         ID = 3 (8260):  6715.79  37.879    10.25    21.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0408):   231.62   3.331     6.75    21.68
       + ID2= 2 (8260):  6715.79  37.879    10.25    21.32
         ================================================
         ID = 3 (8258):  6947.41  39.172    10.25    21.33
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8256)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0410):		572.01	3.210	8.25	16.28
+ ID2= 2 (8258):		6947.41	39.172	10.25	21.33
ID = 3 (8256):		7519.42	41.992	10.00	20.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5507)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	90.6140	67.8416	
	39.6440	12.3348	*******	160.3529	
	48.1390	18.5023	*******	160.3629	
	67.9600	37.0045	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8256)	7519.421	41.992	10.00	20.94
OUTFLOW: ID= 1 (5507)	7519.421	40.270	11.75	20.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 95.90
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 12.7930

CALIB					
NASHYD (0420)	Area (ha)= 175.82	Curve Number (CN)= 53.0			
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50			
	U.H. Tp(hrs)= 0.81				

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 1.800 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 18.821
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.233

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (4141)	Area (ha)= 156.72		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 21.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	81.49	75.23
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	1022.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	98.96
over (min)	15.00	30.00
Storage Coeff. (min)=	12.36 (ii)	23.11 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	7.67	9.86	14.044 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	78.80	39.15	47.47
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.48	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (4144)	Area (ha)= 2.10		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 10.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.63	1.47
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	0.50
Length (m)=	118.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	106.66	91.34
over (min)	15.00	15.00
Storage Coeff. (min)=	3.39 (ii)	14.48 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	0.06	0.27	0.327 (iii)
TIME TO PEAK	(hrs)=	6.00	6.00	6.00
RUNOFF VOLUME	(mm)=	78.80	45.70	49.01
TOTAL RAINFALL	(mm)=	80.80	80.80	80.80
RUNOFF COEFFICIENT	=	0.98	0.57	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9429)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1000	0.0386	
	0.0100	0.0195	0.1400	0.0480	
	0.0400	0.0218	0.1700	0.0569	
	0.0700	0.0312	0.2000	0.0655	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4144)	2.100	0.327	6.00	49.01
OUTFLOW: ID= 1 (9429)	2.100	0.114	6.50	48.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.86
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0429

ADD HYD (9424)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (4141):		156.72	14.044	6.00	47.47
+ ID2= 2 (9429):		2.10	0.114	6.50	48.79
ID = 3 (9424):		158.82	14.105	6.00	47.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5414)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	4.7060	4.4896	
	0.1870	1.6651	5.4940	5.4773	
	2.0210	2.0447	6.0800	6.4738	
	2.9590	2.4658	6.4800	6.4838	
	3.7490	3.5575	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

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     INFLOW : ID= 2 (9424)    158.820     14.105      6.00      47.49
     OUTFLOW: ID= 1 (5414)    158.820      4.095      7.00      47.48

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.03
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.8974

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--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15         13.99
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     440.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         98.96
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       7.46 (ii)   18.21 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.65          2.03          2.979 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         39.15          47.47
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.48           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8254) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   2.979     6.00    47.47
       + ID2= 2 (5414):   158.82   4.095     7.00    47.48
         ================================================
         ID = 3 (8254):   187.96   5.690     6.25    47.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4121) |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90        111.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1160.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66         59.01
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      13.34 (ii)   26.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.32          8.02         12.319 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         25.67          34.17
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.32           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.5000      1.0500
                          0.3860     0.5085   |   7.9000      1.1500
                          1.8460     0.6103   |   9.3000      1.2500
                          3.5050     0.7566   |   9.7000      1.2600
                          4.7890     0.8929   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4121)    202.000     12.319      6.00      34.17
     OUTFLOW: ID= 1 (5412)    202.000     11.040      6.25      34.17

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.62
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3043

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--------------------
| CALIB            |
| STANDHYD  (4122) |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.12         13.58
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     494.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        102.38
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.00 (ii)   18.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.14          2.02          3.443 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         32.05          42.34
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.40           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   3.443     6.00    42.34
       + ID2= 2 (5412):   202.00  11.040     6.25    34.17
         ================================================
         ID = 3 (9412):   238.70  13.664     6.25    35.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   5.690     6.25    47.48
       + ID2= 2 (9412):   238.70  13.664     6.25    35.42
         ================================================
         ID = 3 (8252):   426.66  19.354     6.25    40.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (4161.0) ------>
              Distance      Elevation       Manning
                 0.00         270.07        0.0340
                20.67         267.91        0.0340
                62.01         264.33        0.0340
               113.69         259.75        0.0340
               165.37         253.30        0.0340
               227.38         246.29        0.0340
               232.55         246.03        0.0340
               237.72         246.16        0.0340
               241.39         246.02    0.0340 /0.0300  Main Channel
               241.64         245.75        0.0300      Main Channel
               242.89         245.75        0.0300      Main Channel
               244.14         245.75        0.0300      Main Channel
               244.39         246.02    0.0300 /0.0340  Main Channel
               248.06         246.20        0.0340
               253.22         246.28        0.0340
               258.39         246.63        0.0340
               346.25         252.57        0.0340
               413.43         257.77        0.0340
               465.11         261.78        0.0340
               511.62         270.00        0.0340

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.27   246.02    .295E+04        0.6        0.75       88.26
      1.53   247.28    .168E+06       69.7        1.65       40.13
      2.79   248.54    .490E+06      299.5        2.42       27.28
      4.06   249.81    .962E+06      740.1        3.05       21.67
      5.32   251.07    .158E+07     1440.0        3.61       18.33
      6.58   252.33    .235E+07     2443.8        4.12       16.06
      7.84   253.59    .327E+07     3811.2        4.63       14.30
      9.10   254.85    .432E+07     5565.1        5.11       12.94
     10.37   256.12    .550E+07     7721.3        5.57       11.88
     11.63   257.38    .682E+07    10309.9        6.00       11.02
     12.89   258.64    .827E+07    13360.6        6.42       10.31
     14.15   259.90    .985E+07    16884.5        6.81        9.72
     15.42   261.17    .116E+08    20818.4        7.14        9.26
     16.68   262.43    .134E+08    25510.4        7.53        8.78
     17.94   263.69    .154E+08    30958.0        7.97        8.30
     19.20   264.95    .175E+08    36988.3        8.38        7.89
     20.46   266.21    .197E+08    43617.1        8.78        7.53
     21.73   267.48    .220E+08    50868.1        9.17        7.22
     22.99   268.74    .244E+08    58854.0        9.56        6.92

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.66    19.35    6.25  40.73      0.61      0.88
     OUTFLOW: ID= 1 (6416)  426.66     8.91    7.25  40.73      0.42      0.80


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-------------------
| CALIB             |
| NASHYD    (4164) |   Area     (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.327 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  36.826
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.456

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.4700      2.5000
                         0.9000     1.0000   |   5.9800      3.0000
                         1.7300     1.5000   |   7.5000      3.5000
                         3.2200     2.0000   |   8.7400      4.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4164)     89.300      2.327      7.50       36.83
     OUTFLOW: ID= 1 (9427)     89.300      1.375      9.25       36.82

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.10
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.2874

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-------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.5980      0.7565
                         0.0330     0.3532   |   1.8570      0.8137
                         0.7450     0.4481   |   2.0990      0.8707
                         1.0270     0.5154   |   2.4990      0.8807
                         1.3050     0.6350   |   0.0000      0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      1.375      9.25       36.82
     OUTFLOW: ID= 1 (5416)     89.300      1.232     10.25       36.79

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.59
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6039

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-------------------
| CALIB             |
| NASHYD    (4162) |   Area     (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   3.252 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  24.159
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9416) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4162):   349.99   3.252    8.00     24.16
        + ID2= 2 (5416):    89.30   1.232   10.25     36.79
          ================================================
          ID = 3 (9416):   439.29   4.090    9.00     26.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6416):   426.66   8.906    7.25     40.73
        + ID2= 2 (9416):   439.29   4.090    9.00     26.73
          ================================================
          ID = 3 (8250):   865.95  12.069    7.25     33.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0418) |   Area     (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.825
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     PEAK FLOW       (cms)=   2.034 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  26.026
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.61         6.09
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    240.83        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        78.36
               over (min)      15.00        30.00
     Storage Coeff.  (min)=     5.19 (ii)   16.99 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.25         0.72          0.767 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=     78.80        39.44          43.38
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.49           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4300     0.1618
                         0.0300     0.0818   |   0.5800     0.2012
                         0.1700     0.0912   |   0.7300     0.2384
                         0.3100     0.1306   |   0.8500     0.2747

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4184)     8.700     0.767      6.25      43.38
     OUTFLOW: ID= 1 (9428)     8.700     0.394      6.50      43.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.41
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1554

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| ADD HYD   (9423) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9418):   174.09   2.034     7.50    26.03
       + ID2= 2 (9428):     8.70   0.394     6.50    43.30
         ================================================
         ID = 3 (9423):   182.79   2.348     7.00    26.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8250):   865.95  12.069     7.25    33.63
       + ID2= 2 (9423):   182.79   2.348     7.00    26.85
         ================================================
         ID = 3 (8248):  1048.74  14.393     7.25    32.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8246) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   1.800     7.00    18.82
       + ID2= 2 (8248):  1048.74  14.393     7.25    32.45
         ================================================
         ID = 3 (8246):  1224.56  16.174     7.25    30.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5507):  7519.42  40.270    11.75    20.94
       + ID2= 2 (8246):  1224.56  16.174     7.25    30.49
         ================================================
         ID = 3 (8244):  8743.98  50.284    10.50    22.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (4227) |   Area    (ha)=  66.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  29.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     19.37        47.43
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    667.33        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        25.06
               over (min)      15.00        30.00
     Storage Coeff.  (min)=      9.57 (ii)   28.18 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.09         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.54         2.30          3.954 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        22.81          31.21
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.28           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (9426) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.3400     1.2303
                         0.2300     0.6171   |   4.4700     1.5350
                         1.3000     0.6860   |   5.6100     1.8228
                         2.4100     0.9909   |   6.5300     2.1041

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4227)     66.800     3.954      6.00      31.21
     OUTFLOW: ID= 1 (9426)     66.800     1.798      6.75      31.20

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.47
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
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                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8326

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| RESERVOIR (5422) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.3110      2.6782
                          0.2180     1.7874   |   5.4130      2.9186
                          1.2490     1.9110   |   6.3010      3.1540
                          2.3250     2.1760   |   6.7010      3.1640
                          3.2250     2.4038   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9426)     66.800      1.798      6.75      31.20
     OUTFLOW: ID= 1 (5422)     66.800      0.153     15.25      31.17

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.50
                    TIME SHIFT OF PEAK FLOW         (min)=510.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2538

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--------------------
| CALIB            |
| NASHYD    (4222) |   Area    (ha)= 713.41   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   6.252

     PEAK FLOW       (cms)=   3.855 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  19.591
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.242

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9422) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4222):   713.41   3.855     9.00    19.59
       + ID2= 2 (5422):    66.80   0.153    15.25    31.17
         ==========================================
         ID = 3 (9422):   780.21   3.986     9.00    20.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8244):  8743.98  50.284    10.50    22.28
       + ID2= 2 (9422):   780.21   3.986     9.00    20.58
         ==========================================
         ID = 3 (8242):  9524.19  54.172    10.25    22.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5508) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    197.3574
                         76.4550    30.8371   |  *******    394.7148
                         *******    61.6742   |  *******    394.7248
                         *******    *******   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8242)   9524.190     54.172     10.25      22.14
     OUTFLOW: ID= 1 (5508)   9524.190     51.747     11.75      22.14

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.52
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
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                    MAXIMUM  STORAGE   USED       (ha.m.)= 20.8822

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--------------------
| CALIB            |
| NASHYD    (0336) |   Area    (ha)=2785.00   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=  15.39

     Unit Hyd Qpeak  (cms)=   3.090

     PEAK FLOW       (cms)=   3.992 (i)
     TIME TO PEAK    (hrs)=  22.250
     RUNOFF VOLUME    (mm)=  32.865
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     168.98       264.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1699.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        65.39
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.77 (ii)   29.45 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=     17.80        20.09         30.431 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        32.61          41.85
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.40           0.52

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.78        77.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1050.78        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        86.27
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.57 (ii)   23.92 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=     10.36         8.72         15.946 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        36.25          47.74
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.45           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   9.5300      3.8529
                          0.6370     1.6350   |  12.1350      4.2725
                          2.7300     2.1009   |  14.3850      4.6808
                          5.1010     2.7445   |  14.7850      4.6908
                          7.0460     3.2936   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620     15.946      6.00      47.74
     OUTFLOW: ID= 1 (5338)    165.620      7.069      6.75      47.74

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.33
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.3590

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--------------------
| ADD HYD   (8310) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3382):   433.29  30.431     6.00    41.85
        + ID2= 2 (5338):   165.62   7.069     6.75    47.74
          ================================================
          ID = 3 (8310):   598.91  34.971     6.25    43.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 586.87   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   8.20

     Unit Hyd Qpeak  (cms)=   1.221

     PEAK FLOW       (cms)=   0.991 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  20.856
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.258

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  21.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       16.95         16.28
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      470.67         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66         65.60
               over (min)        15.00         30.00
     Storage Coeff.  (min)=        7.76 (ii)   20.43 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=        1.87          1.49          2.804 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=       78.80         26.99          37.87
     TOTAL RAINFALL   (mm)=       80.80         80.80          80.80
     RUNOFF COEFFICIENT   =        0.98          0.33           0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

```
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6690      0.4664
                          0.0400     0.1927   |   0.8520      0.5318
                          0.1900     0.2643   |   1.0360      0.5973
                          0.3830     0.3576   |   1.4360      0.6073
                          0.4460     0.3863   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.230      2.804      6.00      37.87
     OUTFLOW: ID= 1 (5334)     33.230      0.980      6.75      37.83

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.94
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5837

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--------------------
| ADD HYD   (8314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3342):   586.87   0.991    15.25    20.86
        + ID2= 2 (5334):    33.23   0.980     6.75    37.83
          ================================================
          ID = 3 (8314):   620.10   1.336     6.75    21.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.538 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  18.507
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.229

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   5.992 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  37.664
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.466

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.746 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  45.199
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.559
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8388)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (0282):	449.38	5.992	8.00	37.66
	+ ID2= 2 (0284):	78.93	2.746	6.50	45.20
	ID = 3 (8388):	528.31	8.107	7.25	38.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6286) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2861.0) ------>

Distance	Elevation	Manning	
0.00	233.00	0.0450	
20.58	228.51	0.0450	
41.17	227.74	0.0450	
51.46	227.41	0.0450	
97.77	225.96	0.0450	
149.23	223.94	0.0450	
200.69	220.84	0.0450	
226.42	220.66	0.0450	
238.85	220.22	0.0450	
241.35	220.01	0.0450 /0.0350	Main Channel
241.85	219.70	0.0350	Main Channel
245.85	219.72	0.0350	Main Channel
246.35	220.06	0.0350	Main Channel
248.85	220.23	0.0350	Main Channel
303.60	221.64	0.0350	Main Channel
380.79	224.98	0.0450	
432.25	229.54	0.0450	
457.98	233.33	0.0450	
483.71	234.27	0.0450	
509.44	233.81	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	220.01	.382E+04	0.8	0.57	82.89
1.06	220.76	.525E+05	12.1	0.66	72.51
1.81	221.51	.240E+06	88.6	1.05	45.21
2.56	222.26	.510E+06	261.7	1.46	32.47
3.31	223.01	.843E+06	533.8	1.81	26.34
4.06	223.76	.124E+07	913.6	2.10	22.64
4.81	224.51	.171E+07	1399.0	2.34	20.33
5.56	225.26	.225E+07	2051.0	2.60	18.27
6.31	226.01	.285E+07	2907.0	2.91	16.35
7.06	226.76	.352E+07	3902.5	3.16	15.04
7.82	227.52	.426E+07	5069.9	3.39	14.01
8.57	228.27	.507E+07	6433.0	3.62	13.13
9.32	229.02	.593E+07	8069.2	3.89	12.24
10.07	229.77	.681E+07	9926.7	4.16	11.44
10.82	230.52	.772E+07	11962.8	4.42	10.75
11.57	231.27	.864E+07	14167.1	4.68	10.17
12.32	232.02	.959E+07	16537.1	4.92	9.66
13.07	232.77	.105E+08	19070.7	5.16	9.22
13.82	233.52	.115E+08	21790.4	5.39	8.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8388)	528.31	8.11	7.25	38.79	0.80	0.62
OUTFLOW: ID= 1 (6286)	528.31	6.86	9.00	38.79	0.71	0.62

CALIB | STANDHYD (2861) | ID= 1 DT=15.0 min | Area (ha)= 54.86 | Total Imp(%)= 45.00 | Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.69	30.17
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	604.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	110.98
over (min)		15.00	30.00
Storage Coeff. (min)	=	9.02 (ii)	19.28 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.09	0.05

		TOTALS
PEAK FLOW	(cms)=	5.922 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	54.35
TOTAL RAINFALL	(mm)=	80.80
RUNOFF COEFFICIENT	=	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20% YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5286) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	3.6700	1.4285
0.1860	0.6703	4.6080	1.6332
1.0630	0.7754	5.3640	1.8336
1.9790	1.0010	5.7640	1.8436
2.7460	1.1950	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2861)	54.860	5.922	6.00	54.35
OUTFLOW: ID= 1 (5286)	54.860	3.028	6.50	54.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 51.14
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.2876

CALIB | STANDHYD (2862) | ID= 1 DT=15.0 min | Area (ha)= 205.65 | Total Imp(%)= 22.00 | Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.24	160.41
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1170.90	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	77.81
over (min)		15.00	30.00
Storage Coeff. (min)	=	13.41 (ii)	25.24 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	17.942 (iii)
TIME TO PEAK	(hrs)=	6.25
RUNOFF VOLUME	(mm)=	46.87
TOTAL RAINFALL	(mm)=	80.80
RUNOFF COEFFICIENT	=	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20% YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (9286) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2862):   205.65  17.942     6.25    46.87
       + ID2= 2 (5286):    54.86   3.028     6.50    54.33
         ================================================
         ID = 3 (9286):   260.51  20.291     6.25    48.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6286):   528.31   6.862     9.00    38.79
       + ID2= 2 (9286):   260.51  20.291     6.25    48.44
         ================================================
         ID = 3 (8386):   788.82  22.089     6.25    41.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0302) |   Area    (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.272 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  22.015
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.272

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0298) |   Area    (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   1.875 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  14.769
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.183

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (3001) |   Area    (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.04         0.05
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=     24.49        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    106.66        52.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      1.32 (ii)   15.13 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.00         0.00          0.007 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=     78.80        22.82          31.14
     TOTAL RAINFALL   (mm)=     80.80        80.80          80.80
     RUNOFF COEFFICIENT   =      0.98         0.28           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0060      0.0023
                         0.0020     0.0012   |   0.0070      0.0026
                         0.0030     0.0016   |   0.0090      0.0029
                         0.0040     0.0019   |   0.4090      0.0129

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)    0.090      0.007      6.00      31.14
     OUTFLOW: ID= 1 (5300)    0.090      0.002      6.75      29.69

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.78
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0012

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3002) |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   2.122 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  18.227
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3002):   258.84   2.122     7.50    18.23
       + ID2= 2 (5300):     0.09   0.002     6.75    29.69
         ================================================
         ID = 3 (9300):   258.93   2.123     7.50    18.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9298):   330.51   1.875     8.00    14.77
       + ID2= 2 (9300):   258.93   2.123     7.50    18.23
         ================================================
         ID = 3 (8395):   589.44   3.975     7.75    16.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0288) |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.362 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  38.847
     TOTAL RAINFALL   (mm)=  80.800
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     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0290) |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   4.704 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  38.611
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.478

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.362     9.25    38.85
       + ID2= 2 (0290):   269.18   4.704     7.25    38.61
         ================================================
         ID = 3 (8397):   610.01   7.793     8.00    38.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0296) |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   4.643 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  36.515
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.452

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0292) |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   7.336 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  29.254
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.362

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0294) |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.004 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  21.217
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.263

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   7.336     8.00    29.25
       + ID2= 2 (0294):   274.15   3.004     7.00    21.22
         ================================================
         ID = 3 (8398):  1012.64  10.132     8.00    27.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2961.0) ------>
               Distance      Elevation       Manning
                  0.00         243.98        0.0400
                 42.59         243.18        0.0400
                 85.17         241.81        0.0400
                120.66         240.50        0.0400
                156.15         239.56        0.0400
                198.74         236.15        0.0400
                237.78         234.01        0.0400
                241.33         233.82        0.0400
                248.77         233.12    0.0400 /0.0400  Main Channel
                249.87         232.32        0.0400      Main Channel
                250.37         231.80        0.0400      Main Channel
                250.87         232.23        0.0400      Main Channel
                251.97         233.10    0.0400 /0.0400  Main Channel
                255.37         233.22        0.0400
                259.07         233.87        0.0400
                262.62         234.12        0.0400
                266.17         234.23        0.0400
                283.91         234.73        0.0400
                337.15         241.75        0.0400
                351.34         244.00        0.0400

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.43   232.23    .510E+03       0.1          0.53       81.07
      0.87   232.67    .213E+04       0.7          0.83       51.49
      1.30   233.10    .501E+04       2.2          1.10       38.75
      1.98   233.78    .242E+05      12.6          1.34       31.93
      2.66   234.46    .738E+05      42.1          1.46       29.21
      3.34   235.14    .177E+06     127.9          1.84       23.13
      4.02   235.82    .314E+06     281.4          2.29       18.61
      4.70   236.50    .481E+06     509.4          2.71       15.73
      5.38   237.18    .672E+06     815.6          3.11       13.73
      6.06   237.86    .886E+06    1200.7          3.46       12.30
      6.74   238.54    .112E+07    1669.4          3.80       11.23
      7.42   239.22    .139E+07    2226.9          4.11       10.38
      8.10   239.90    .168E+07    2808.4          4.28        9.95
      8.78   240.58    .202E+07    3470.4          4.40        9.68
      9.46   241.26    .240E+07    4331.7          4.61        9.24
     10.14   241.94    .283E+07    5335.2          4.83        8.84
     10.82   242.62    .330E+07    6482.6          5.03        8.48
     11.50   243.30    .381E+07    7764.1          5.21        8.18
     12.18   243.98    .439E+07    9101.2          5.31        8.04

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8398) 1012.64    10.13    8.00  27.08      1.82      1.27
     OUTFLOW: ID= 1 (6296) 1012.64     9.86    8.50  27.08      1.80      1.26


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--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   4.643     7.50    36.52
       + ID2= 2 (6296):  1012.64   9.865     8.50    27.08
         ================================================
         ID = 3 (8396):  1306.29  14.310     8.25    29.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8396):  1306.29  14.310     8.25    29.20
      + ID2= 2 (8397):   610.01   7.793     8.00    38.74
        ================================================
        ID = 3 (8394):  1916.30  22.076     8.00    32.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8392) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8394):  1916.30  22.076     8.00    32.24
      + ID2= 2 (8395):   589.44   3.975     7.75    16.29
        ================================================
        ID = 3 (8392):  2505.74  26.034     8.00    28.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (3021.0) ------>
             Distance      Elevation        Manning
                0.00         228.10         0.0400
               18.47         227.12         0.0400
               36.95         226.12         0.0400
               46.18         225.84         0.0400
               55.42         225.58         0.0400
              272.47         222.88         0.0400
              277.09         222.76         0.0400
              281.71         222.58         0.0400
              288.54         222.18    0.0400 /0.0300  Main Channel
              288.64         221.00         0.0300      Main Channel
              290.94         221.00         0.0300      Main Channel
              291.04         221.00         0.0300      Main Channel
              291.54         222.75    0.0300 /0.0400  Main Channel
              300.18         222.83         0.0400
              304.80         223.04         0.0400
              309.42         223.25         0.0400
              318.65         223.69         0.0400
              360.22         225.57         0.0400
              397.16         227.60         0.0400
              457.20         228.35         0.0400

    <-------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
     0.29   221.29    .228E+04       0.2         0.32     165.63
     0.59   221.59    .465E+04       0.7         0.45     116.15
     0.88   221.88    .713E+04       1.2         0.54      96.87
     1.18   222.18    .971E+04       1.9         0.61      86.20
     1.57   222.57    .175E+05       3.3         0.59      88.86
     1.97   222.97    .427E+05       6.4         0.47     111.39
     2.36   223.36    .115E+06      16.1         0.44     119.14
     2.76   223.76    .237E+06      37.1         0.49     106.49
     3.15   224.15    .409E+06      72.9         0.56      93.40
     3.55   224.55    .631E+06     127.0         0.63      82.76
     3.94   224.94    .903E+06     202.4         0.70      74.37
     4.34   225.34    .123E+07     301.8         0.77      67.68
     4.73   225.73    .160E+07     433.5         0.85      61.37
     5.13   226.13    .200E+07     602.2         0.95      55.29
     5.52   226.52    .242E+07     804.7         1.05      50.13
     5.92   226.92    .286E+07    1034.2         1.14      46.11
     6.31   227.31    .332E+07    1290.5         1.22      42.88
     6.71   227.71    .380E+07    1560.9         1.29      40.55
     7.10   228.10    .432E+07    1835.6         1.34      39.19

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    26.03    8.00  28.49      2.55      0.46
    OUTFLOW: ID= 1 (6302) 2505.74    20.56   10.25  28.49      2.44      0.45

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-------------------
| ADD HYD   (8390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0302):   473.90   3.272     8.50    22.02
      + ID2= 2 (6302):  2505.74  20.563    10.25    28.49
        ================================================
        ID = 3 (8390):  2979.64  23.591    10.00    27.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8348) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8386):   788.82  22.089     6.25    41.98
      + ID2= 2 (8390):  2979.64  23.591    10.00    27.46
        ================================================
        ID = 3 (8348):  3768.46  31.911     9.75    30.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0304)  |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.571 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  25.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.315

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0280)  |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   7.151 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  43.109
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0278)  |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   7.318 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.435
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.538

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0276)  |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.67
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     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.373 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  39.356
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.487

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   6.216 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.482
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.439

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8360) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   6.216     7.50    35.48
       + ID2= 2 (0276):    90.89   2.373     6.75    39.36
         ================================================
         ID = 3 (8360):   483.38   8.455     7.00    36.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   7.318     8.00    43.44
       + ID2= 2 (8360):   483.38   8.455     7.00    36.21
         ================================================
         ID = 3 (8358):   968.87  15.469     7.50    39.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2801.0) ------>
               Distance      Elevation       Manning
                  0.00         241.14        0.0500
                 13.32         240.80        0.0500
                 39.95         240.07        0.0500
                 96.54         236.21        0.0500
                113.19         234.15        0.0500
                123.18         232.35        0.0500
                143.15         225.80        0.0500
                149.81         225.62        0.0500
                153.14         225.40        0.0500
                157.30         224.76    0.0500 /0.0300  Main Channel
                159.80         224.26        0.0300      Main Channel
                162.30         224.85        0.0300      Main Channel
                162.55         224.97    0.0300 /0.0500  Main Channel
                167.80         225.05        0.0500
                186.43         229.14        0.0500
                213.06         234.75        0.0500
                236.37         237.09        0.0500
                266.33         237.31        0.0500
                292.96         237.83        0.0500
                329.58         241.50        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   224.76    .263E+04       0.8        0.65      58.31
       1.36   225.62    .278E+05      13.4        1.10      34.54
       2.22   226.48    .855E+05      52.6        1.40      27.09
       3.09   227.35    .157E+06     120.4        1.74      21.78
       3.95   228.21    .242E+06     216.3        2.04      18.64
       4.81   229.07    .340E+06     341.8        2.29      16.56
       5.67   229.93    .450E+06     498.3        2.52      15.06
       6.53   230.79    .574E+06     688.3        2.73      13.90
       7.40   231.66    .711E+06     913.8        2.93      12.97
       8.26   232.52    .861E+06    1173.4        3.11      12.23
       9.12   233.38    .103E+07    1461.3        3.24      11.72
       9.98   234.24    .121E+07    1793.3        3.37      11.26
      10.85   235.11    .142E+07    2141.0        3.45      11.02
      11.71   235.97    .165E+07    2530.4        3.50      10.86
      12.57   236.83    .192E+07    2954.0        3.51      10.81
      13.43   237.69    .226E+07    3160.3        3.18      11.93
      14.29   238.55    .271E+07    3869.4        3.26      11.67
      15.16   239.42    .320E+07    4740.3        3.38      11.24
      16.02   240.28    .373E+07    5688.4        3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    15.47    7.50  39.83      1.41      1.11
     OUTFLOW: ID= 1 (6280)  968.87    15.03    8.25  39.83      1.40      1.11

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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   7.151     7.00    43.11
       + ID2= 2 (6280):   968.87  15.029     8.25    39.83
         ================================================
         ID = 3 (8354):  1268.73  21.461     7.75    40.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.097 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.870
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.518

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   3.621 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  35.162
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.435

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786
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```
     PEAK FLOW       (cms)=   3.140 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  26.119
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2641)  |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.18         4.39
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     342.34        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        59.50
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.41 (ii)   19.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.41         0.37         3.649 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        32.38         64.87
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.40          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.9     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5264) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1760      0.5589
                         0.0600     0.3133   |   1.4770      0.6054
                         0.3410     0.3763   |   1.7190      0.6511
                         0.6340     0.4336   |   2.1190      0.6611
                         0.8800     0.4941   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2641)     17.580      3.649      6.00      64.87
     OUTFLOW: ID= 1 (5264)     17.580      1.290      6.25      64.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.35
                  TIME SHIFT OF PEAK FLOW          (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5828

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (2642)  |   Area    (ha)= 336.37   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.28

     Unit Hyd Qpeak  (cms)=   3.192

     PEAK FLOW       (cms)=   2.915 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.009
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.371

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2642):   336.37   2.915     8.00    30.01
       + ID2= 2 (5264):    17.58   1.290     6.25    64.80
         ================================================
         ID = 3 (9264):   353.95   3.522     6.50    31.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0266):   508.09   3.140     9.00    26.12
       + ID2= 2 (9264):   353.95   3.522     6.50    31.74
         ================================================
         ID = 3 (8380):   862.04   6.310     8.00    28.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2681.0) ------>
               Distance      Elevation       Manning
                   0.00         274.03        0.0500
                  10.55         272.73        0.0500
                  21.10         271.28        0.0500
                  50.12         266.83        0.0500
                  87.04         260.36        0.0500
                  92.32         260.06        0.0500
                  94.95         259.93        0.0500
                 101.00         256.87        0.0500
                 103.00         256.58    0.0500 /0.0350  Main Channel
                 104.00         256.32        0.0350      Main Channel
                 106.00         256.05        0.0350      Main Channel
                 108.00         256.25        0.0350      Main Channel
                 110.78         256.65    0.0350 /0.0500  Main Channel
                 113.42         256.81        0.0500
                 116.06         257.00        0.0500
                 155.62         260.24        0.0500
                 187.27         263.35        0.0500
                 211.01         267.22        0.0500
                 224.20         269.60        0.0500
                 261.13         272.68        0.0500

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
      0.53    256.58    .697E+04        2.1          0.97      55.64
      1.38    257.43    .477E+05       25.9          1.76      30.66
      2.22    258.27    .123E+06       84.3          2.22      24.26
      3.07    259.12    .231E+06      185.4          2.60      20.72
      3.92    259.97    .371E+06      335.8          2.92      18.42
      4.77    260.82    .560E+06      547.6          3.15      17.06
      5.61    261.66    .790E+06      845.6          3.46      15.57
      6.46    262.51    .106E+07     1225.0          3.75      14.37
      7.31    263.36    .136E+07     1693.3          4.02      13.37
      8.16    264.21    .169E+07     2283.2          4.35      12.36
      9.00    265.05    .206E+07     2969.1          4.66      11.54
      9.85    265.90    .245E+07     3754.4          4.96      10.86
     10.70    266.75    .286E+07     4643.0          5.24      10.28
     11.55    267.60    .331E+07     5636.1          5.50       9.78
     12.39    268.44    .378E+07     6746.2          5.76       9.34
     13.24    269.29    .428E+07     7972.2          6.01       8.96
     14.09    270.14    .482E+07     9218.9          6.18       8.71
     14.94    270.99    .539E+07    10550.5          6.32       8.52
     15.78    271.83    .601E+07    12024.7          6.46       8.33

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8380)  862.04     6.31    8.00  28.43      0.68      1.05
     OUTFLOW: ID= 1 (6268)  862.04     6.08    9.25  28.43      0.67      1.04

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-------------------
| ADD HYD   (8382) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):   215.76   3.621     7.00    35.16
        + ID2= 2 (6268):   862.04   6.081     9.25    28.43
          ================================================
          ID = 3 (8382):  1077.80   9.038     8.25    29.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2701.0) ------>
               Distance      Elevation       Manning
                   0.00         245.98        0.0500
                   8.14         245.66        0.0500
                  16.28         245.16        0.0500
                  20.35         244.84        0.0500
                  38.66         242.98        0.0500
                  48.83         240.65        0.0500
                  63.07         235.91        0.0500
                  65.11         235.18        0.0500
                  68.43         234.34    0.0500 /0.0300  Main Channel
                  68.68         233.95        0.0300      Main Channel
                  69.18         233.89        0.0300      Main Channel
                  69.68         233.95        0.0300      Main Channel
                  71.21         234.48    0.0300 /0.0500  Main Channel
                  81.38         236.44        0.0500
                  95.63         236.66        0.0500
                 120.04         237.00        0.0500
                 148.53         241.77        0.0500
                 158.70         242.34        0.0500
                 187.18         244.03        0.0500
                 201.42         244.36        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.45   234.34    .217E+04       0.7          0.99      52.83
       0.98   234.87    .966E+04       4.6          1.49      35.20
       1.50   235.39    .250E+05      13.7          1.73      30.41
       2.03   235.92    .475E+05      29.5          1.95      26.87
       2.56   236.45    .772E+05      52.5          2.14      24.50
       3.09   236.98    .142E+06      82.4          1.83      28.73
       3.61   237.50    .246E+06     158.1          2.03      25.91
       4.14   238.03    .357E+06     262.0          2.31      22.73
       4.67   238.56    .477E+06     392.1          2.59      20.27
       5.20   239.09    .604E+06     547.8          2.86      18.38
       5.72   239.61    .739E+06     729.2          3.11      16.90
       6.25   240.14    .882E+06     936.5          3.34      15.70
       6.78   240.67    .103E+07    1169.7          3.57      14.72
       7.31   241.20    .119E+07    1425.9          3.77      13.94
       7.83   241.72    .136E+07    1710.4          3.96      13.26
       8.36   242.25    .154E+07    1967.9          4.02      13.07
       8.89   242.78    .174E+07    2264.9          4.09      12.83
       9.42   243.31    .196E+07    2589.3          4.15      12.65
       9.94   243.83    .221E+07    2953.5          4.22      12.46

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8382) 1077.80     9.04    8.25  29.77      1.24      1.60
     OUTFLOW: ID= 1 (6270) 1077.80     8.87    9.00  29.77      1.23      1.59


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-------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0270):   243.61   4.097     7.25    41.87
        + ID2= 2 (6270):  1077.80   8.870     9.00    29.77
          ================================================
          ID = 3 (8384):  1321.41  12.553     8.50    32.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0262) |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   4.094

     PEAK FLOW       (cms)=   5.213 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  43.196
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.535

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   2.269 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  39.727
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.492

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   1.403 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.295
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.350

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   2.406 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  20.083
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (2561.0) ------>
               Distance      Elevation       Manning
                   0.00         276.07        0.0400
                  11.68         273.71        0.0400
                  23.36         271.35        0.0400
                  29.19         270.30        0.0400
                  35.03         269.44        0.0400
                  55.47         267.90        0.0400
                  78.82         266.24        0.0400
                  90.50         265.63        0.0400
                 102.18         265.40        0.0400
                 105.10         264.95    0.0400 /0.0350  Main Channel
                 108.02         264.39        0.0350      Main Channel
                 110.94         264.72        0.0350      Main Channel
                 113.86         265.19    0.0350 /0.0400  Main Channel
                 116.78         265.49        0.0400
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            143.05        268.24        0.0400
            172.25        270.53        0.0400
            207.28        271.95        0.0400
            233.55        273.72        0.0400
            256.91        274.98        0.0400
            289.02        275.97        0.0400

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90       62.51
       1.14   265.53    .307E+05      13.5         1.49       37.92
       1.72   266.11    .951E+05      48.6         1.73       32.62
       2.30   266.69    .191E+06     117.8         2.09       27.03
       2.88   267.27    .314E+06     225.2         2.43       23.24
       3.46   267.85    .464E+06     375.5         2.74       20.59
       4.04   268.43    .641E+06     573.2         3.03       18.62
       4.62   269.01    .846E+06     821.9         3.29       17.15
       5.20   269.59    .108E+07    1135.0         3.56       15.87
       5.78   270.17    .134E+07    1525.1         3.86       14.64
       6.36   270.75    .162E+07    1971.1         4.12       13.71
       6.94   271.33    .194E+07    2474.0         4.33       13.04
       7.52   271.91    .228E+07    3065.0         4.55       12.42
       8.10   272.49    .266E+07    3773.4         4.80       11.75
       8.68   273.07    .306E+07    4566.3         5.05       11.17
       9.26   273.65    .348E+07    5443.7         5.30       10.66
       9.84   274.23    .393E+07    6389.6         5.51       10.25
      10.42   274.81    .440E+07    7426.2         5.72        9.88
      11.00   275.39    .490E+07    8490.1         5.86        9.63

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     2.41    8.00  20.08      0.58      0.92
     OUTFLOW: ID= 1 (6256)  403.00     2.26    9.75  20.08      0.58      0.91


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--------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):   145.79   1.403     8.00    28.30
       + ID2= 2 (6256):   403.00   2.263     9.75    20.08
         ================================================
         ID = 3 (8370):   548.79   3.538     9.00    22.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   1.797 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  30.845
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   3.349 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  20.153
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.249

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
--------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   1.592 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.873
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8364) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0246):   759.61   3.349    10.00    20.15
       + ID2= 2 (0248):   146.04   1.592     7.25    25.87
         ================================================
         ID = 3 (8364):   905.65   4.741     8.25    21.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6250) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (2501.0) ------>
               Distance      Elevation       Manning
                  0.00         269.96        0.0500
                  8.56         268.55        0.0500
                 17.13         266.91        0.0500
                 21.41         266.13        0.0500
                 40.68         263.15        0.0500
                 62.09         260.75        0.0500
                 85.64         258.02        0.0500
                 88.20         257.69        0.0500
                 93.20         257.05    0.0500 /0.0350  Main Channel
                 93.45         256.88        0.0350      Main Channel
                 94.20         256.56        0.0350      Main Channel
                 94.95         256.83        0.0350      Main Channel
                 95.20         257.08    0.0350 /0.0500  Main Channel
                100.62         257.45        0.0500
                115.61         258.57        0.0500
                139.16         260.43        0.0500
                152.01         261.95        0.0500
                171.27         264.63        0.0500
                188.40         267.90        0.0500
                211.95         274.18        0.0500

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.49   257.05    .205E+04       0.4         0.68       89.65
       1.17   257.73    .248E+05       5.7         0.85       72.16
       1.85   258.41    .841E+05      25.2         1.10       55.60
       2.53   259.09    .180E+06      66.5         1.36       45.14
       3.21   259.77    .312E+06     135.7         1.60       38.36
       3.89   260.45    .481E+06     238.3         1.82       33.61
       4.57   261.13    .681E+06     383.5         2.07       29.60
       5.25   261.81    .911E+06     568.9         2.29       26.70
       5.93   262.49    .117E+07     800.5         2.51       24.36
       6.61   263.17    .146E+07    1079.0         2.72       22.49
       7.28   263.84    .177E+07    1413.4         2.94       20.85
       7.96   264.52    .210E+07    1797.0         3.14       19.50
       8.64   265.20    .246E+07    2241.6         3.35       18.28
       9.32   265.88    .283E+07    2739.9         3.55       17.25
      10.00   266.56    .323E+07    3295.7         3.75       16.34
      10.68   267.24    .364E+07    3908.9         3.94       15.54
      11.36   267.92    .408E+07    4578.5         4.12       14.84
      12.04   268.60    .453E+07    5320.1         4.32       14.18
      12.72   269.28    .499E+07    6109.1         4.50       13.61

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```

```
     INFLOW : ID= 2 (8364)  905.65     4.74    8.25  21.08      1.04      0.81
     OUTFLOW: ID= 1 (6250)  905.65     4.43   10.25  21.08      1.00      0.80


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------------------
| ADD HYD   (8366) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0250):   192.88   1.797     8.00    30.85
       + ID2= 2 (6250):   905.65   4.429    10.25    21.08
         ================================================
         ID = 3 (8366):  1098.53   6.064     9.75    22.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8366):  1098.53   6.064     9.75    22.79
       + ID2= 2 (8370):   548.79   3.538     9.00    22.26
         ================================================
         ID = 3 (8368):  1647.32   9.574     9.50    22.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| CALIB            |
| STANDHYD  (2521) |   Area    (ha)=  32.51
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.38         8.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     465.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        65.85
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.71 (ii)   20.36 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      6.09         0.75      6.570 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25        6.00
     RUNOFF VOLUME    (mm)=     78.80        35.64       65.85
     TOTAL RAINFALL   (mm)=     80.80        80.80       80.80
     RUNOFF COEFFICIENT   =      0.98         0.44        0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  70.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| RESERVOIR (5252) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.1750      1.0334
                         0.1100     0.5793   |   2.7310      1.1195
                         0.6300     0.6958   |   3.1790      1.2039
                         1.1730     0.8017   |   3.5790      1.2139
                         1.6270     0.9137   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2521)     32.510      6.570      6.00      65.85
     OUTFLOW: ID= 1 (5252)     32.510      2.357      6.25      65.81

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.87
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0638
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------------------
| CALIB            |
| NASHYD    (2522) |   Area    (ha)= 287.47   Curve Number   (CN)= 71.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

     Unit Hyd Qpeak  (cms)=   3.448

     PEAK FLOW       (cms)=   3.209 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  32.098
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.397

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| ADD HYD   (9252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2522):   287.47   3.209     8.00    32.10
       + ID2= 2 (5252):    32.51   2.357     6.25    65.81
         ================================================
         ID = 3 (9252):   319.98   5.006     6.50    35.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (8372) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8368):  1647.32   9.574     9.50    22.62
       + ID2= 2 (9252):   319.98   5.006     6.50    35.52
         ================================================
         ID = 3 (8372):  1967.30  12.819     8.75    24.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ROUTE CHN (6258) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------
                <------ DATA FOR SECTION (2581.0) ------>
                Distance      Elevation       Manning
                   0.00         252.88        0.0500
                  15.47         251.89        0.0500
                  46.41         248.45        0.0500
                  73.48         245.81        0.0500
                  88.95         243.75        0.0500
                 112.15         242.00        0.0500
                 135.35         240.23        0.0500
                 162.42         239.76        0.0500
                 170.97         239.52    0.0500 /0.0350  Main Channel
                 171.58         239.03        0.0350      Main Channel
                 174.02         239.03        0.0350      Main Channel
                 176.46         239.03        0.0350      Main Channel
                 177.07         239.52    0.0350 /0.0500  Main Channel
                 185.63         239.67        0.0500
                 208.83         239.87        0.0500
                 239.77         240.14        0.0500
                 274.57         244.93        0.0500
                 336.45         249.51        0.0500
                 363.52         249.77        0.0500
                 382.85         251.78        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.49   239.52   .135E+05        2.5          0.92       91.32
       1.14   240.17   .175E+06       25.6          0.73      114.22
       1.78   240.81   .532E+06      123.5          1.17       71.85
       2.43   241.46   .932E+06      285.3          1.54       54.48
       3.07   242.10   .138E+07      506.5          1.85       45.25
       3.72   242.75   .186E+07      786.8          2.12       39.42
       4.36   243.39   .239E+07     1127.3          2.37       35.33
       5.01   244.04   .296E+07     1535.8          2.61       32.12
       5.65   244.68   .356E+07     2014.3          2.84       29.48
       6.30   245.33   .420E+07     2535.9          3.03       27.60
```

```
       6.94   245.97    .488E+07    3108.4          3.20      26.16
       7.59   246.62    .561E+07    3740.6          3.35      24.98
       8.23   247.26    .638E+07    4446.7          3.50      23.93
       8.88   247.91    .721E+07    5229.7          3.64      22.98
       9.52   248.55    .809E+07    6094.3          3.78      22.12
      10.17   249.20    .901E+07    7050.4          3.93      21.31
      10.81   249.84    .100E+08    7773.0          3.90      21.46
      11.46   250.49    .111E+08    8998.8          4.07      20.56
      12.10   251.13    .122E+08   10318.2          4.24      19.75

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8372) 1967.30    12.82    8.75  24.71      0.78      0.82
    OUTFLOW: ID= 1 (6258) 1967.30    11.59   11.00  24.71      0.74      0.83


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| ADD HYD   (8374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0258):   181.99   2.269     8.00     39.73
       + ID2= 2 (6258):  1967.30  11.595    11.00     24.71
         ================================================
         ID = 3 (8374):  2149.29  13.417    10.75     25.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2601) |   Area    (ha)=  56.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  48.00
-------------------          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      36.54         19.68
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     612.21         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=     106.66        118.76
              over (min)       15.00         30.00
    Storage Coeff.  (min)=       9.09 (ii)   19.08 (ii)
    Unit Hyd. Tpeak (min)=      15.00         30.00
    Unit Hyd. peak  (cms)=       0.09          0.05
                                                    *TOTALS*
    PEAK FLOW       (cms)=       6.94          3.40          9.236 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.25          6.00
    RUNOFF VOLUME    (mm)=      78.80         51.58         64.65
    TOTAL RAINFALL   (mm)=      80.80         80.80         80.80
    RUNOFF COEFFICIENT   =       0.98          0.64          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5260) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.7610      1.6799
                         0.1900     0.8974   |   4.7220      1.8499
                         1.0890     1.0678   |   5.4970      2.0146
                         2.0290     1.2667   |   5.8970      2.0246
                         2.8140     1.4621   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (2601)     56.220      9.236      6.00      64.65
    OUTFLOW: ID= 1 (5260)     56.220      3.755      6.50      64.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.65
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.6947
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-------------------
| CALIB             |
| NASHYD    (2602) |   Area    (ha)= 420.02   Curve Number   (CN)= 83.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.30

     Unit Hyd Qpeak  (cms)=   3.946

     PEAK FLOW       (cms)=   5.527 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  44.978
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.557

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9260) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2602):   420.02   5.527     8.00     44.98
       + ID2= 2 (5260):    56.22   3.755     6.50     64.63
         ================================================
         ID = 3 (9260):   476.24   8.388     6.50     47.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8374):  2149.29  13.417    10.75     25.99
       + ID2= 2 (9260):   476.24   8.388     6.50     47.30
         ================================================
         ID = 3 (8376):  2625.53  18.706    10.00     29.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8378) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0262):   341.31   5.213     7.75     43.20
       + ID2= 2 (8376):  2625.53  18.706    10.00     29.85
         ================================================
         ID = 3 (8378):  2966.84  23.072     9.50     31.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8378):  2966.84  23.072     9.50     31.39
       + ID2= 2 (8384):  1321.41  12.553     8.50     32.00
         ================================================
         ID = 3 (8362):  4288.25  35.379     9.00     31.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6272) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (2721.0) ------>
              Distance      Elevation       Manning
                 0.00         231.01        0.0450
                23.01         223.65        0.0450
                34.51         222.46        0.0450
                51.77         222.11        0.0450
                69.02         221.87        0.0450
               161.06         221.92        0.0450
               166.81         221.91        0.0450
               172.56         221.89        0.0450
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                180.57        221.40    0.0450 /0.0300  Main Channel
                181.57        220.60        0.0300      Main Channel
                184.07        220.16        0.0300      Main Channel
                195.57        221.85    0.0300 /0.0450  Main Channel
                201.32        221.82        0.0450
                207.07        221.77        0.0450
                212.83        221.72        0.0450
                253.09        222.52        0.0450
                408.40        222.65        0.0450
                460.17        223.20        0.0450
                517.69        224.84        0.0450
                569.46        232.57        0.0450

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.41   220.57    .189E+04        0.5        0.49      60.18
       0.83   220.99    .697E+04        3.2        0.82      35.79
       1.24   221.40    .145E+05        8.8        1.07      27.45
       1.84   222.00    .643E+05       29.3        0.81      36.61
       2.44   222.60    .282E+06      132.9         0.83      35.41
       3.04   223.20    .707E+06      413.7         1.04      28.50
       3.64   223.80    .118E+07      876.8         1.31      22.46
       4.24   224.40    .168E+07     1494.8         1.57      18.75
       4.84   225.00    .221E+07     2264.1         1.82      16.23
       5.44   225.60    .274E+07     3196.3         2.06      14.29
       6.04   226.20    .328E+07     4258.6         2.30      12.84
       6.65   226.81    .383E+07     5444.7         2.52      11.72
       7.25   227.41    .438E+07     6749.7         2.73      10.82
       7.85   228.01    .494E+07     8169.4         2.93      10.08
       8.45   228.61    .551E+07     9700.7         3.12       9.46
       9.05   229.21    .608E+07    11340.8         3.30       8.94
       9.65   229.81    .666E+07    13087.4         3.48       8.48
      10.25   230.41    .724E+07    14938.5         3.65       8.08
      10.85   231.01    .783E+07    16892.4         3.82       7.73

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8362) 4288.25    35.38    9.00  31.58      1.88      0.81
     OUTFLOW: ID= 1 (6272) 4288.25    34.89    9.75  31.58      1.87      0.81


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-------------------
| CALIB           |
| STANDHYD  (2721) |   Area    (ha)=   2.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  19.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08         1.13
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     121.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       108.34
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       3.44 (ii)   13.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.25          0.370 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      78.80        44.17         50.75
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.55          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5272) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1480      0.0589
                         0.0070     0.0284   |   0.1850      0.0669
                         0.0430     0.0331   |   0.2160      0.0746
                         0.0800     0.0419   |   0.6160      0.0846
                         0.1100     0.0497   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2721)      2.210      0.370      6.00      50.75
     OUTFLOW: ID= 1 (5272)      2.210      0.116      6.25      50.29

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.33
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0521

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-------------------
| CALIB           |
| NASHYD    (2722) |   Area    (ha)= 155.17   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   2.471 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  35.785
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.443

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2722):   155.17   2.471     7.50    35.78
       + ID2= 2 (5272):     2.21   0.116     6.25    50.29
         ================================================
         ID = 3 (9272):   157.38   2.538     7.25    35.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6272):  4288.25  34.890     9.75    31.58
       + ID2= 2 (9272):   157.38   2.538     7.25    35.99
         ================================================
         ID = 3 (8356):  4445.63  36.774     9.50    31.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8354):  1268.73  21.461     7.75    40.61
       + ID2= 2 (8356):  4445.63  36.774     9.50    31.73
         ================================================
         ID = 3 (8352):  5714.36  55.922     8.75    33.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3041.0) ------>
               Distance      Elevation       Manning
                  0.00         232.08        0.0500
                 19.00         231.87        0.0500
                 38.00         231.33        0.0500
                 66.51         230.44        0.0500
                104.51         228.25        0.0500
                118.76         225.17        0.0500
```

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                128.26        219.86        0.0500
                175.77        219.17        0.0500
                185.27        218.90    0.0500 /0.0300  Main Channel
                185.52        218.65        0.0300      Main Channel
                190.02        218.37        0.0300      Main Channel
                194.52        218.60        0.0300      Main Channel
                194.77        218.85    0.0300 /0.0500  Main Channel
                204.27        219.60        0.0500
                299.28        220.91        0.0500
                327.78        222.36        0.0500
                375.28        225.71        0.0500
                403.79        229.37        0.0500
                432.29        230.43        0.0500
                470.29        232.00        0.0500

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.48   218.85    .121E+05       1.2          0.36     173.94
        1.17   219.54    .839E+05       9.8          0.44     142.60
        1.86   220.23    .323E+06      41.0          0.47     131.43
        2.56   220.93    .708E+06     109.5          0.58     107.67
        3.25   221.62    .118E+07     224.3          0.71      87.36
        3.94   222.31    .168E+07     376.5          0.84      74.48
        4.63   223.00    .222E+07     567.9          0.96      65.26
        5.32   223.69    .279E+07     794.7          1.07      58.58
        6.02   224.39    .339E+07    1056.2          1.17      53.52
        6.71   225.08    .402E+07    1352.4          1.26      49.52
        7.40   225.77    .468E+07    1677.3          1.34      46.46
        8.09   226.46    .536E+07    2050.0          1.43      43.58
        8.79   227.16    .607E+07    2457.9          1.52      41.14
        9.48   227.85    .680E+07    2901.0          1.60      39.05
       10.17   228.54    .755E+07    3352.7          1.66      37.53
       10.86   229.23    .834E+07    3812.5          1.71      36.48
       11.55   229.92    .919E+07    4241.8          1.73      36.13
       12.25   230.62    .101E+08    4697.0          1.74      35.93
       12.94   231.31    .111E+08    5186.3          1.74      35.83

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)     (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8352) 5714.36    55.92    8.75  33.70      2.02      0.49
     OUTFLOW: ID= 1 (6304) 5714.36    45.65   11.25  33.70      1.91      0.48


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| ADD HYD   (8350) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   292.37   1.571    10.25    25.48
       + ID2= 2 (6304):  5714.36  45.646    11.25    33.70
         ================================================
         ID = 3 (8350):  6006.73  47.194    11.25    33.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46  31.911     9.75    30.50
       + ID2= 2 (8350):  6006.73  47.194    11.25    33.30
         ================================================
         ID = 3 (8346):  9775.19  77.662    10.50    32.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   0.538    13.75    18.51
       + ID2= 2 (8346):  9775.19  77.662    10.50    32.22
         ================================================
         ID = 3 (8344): 10059.16  78.140    10.50    31.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******    370.0451
                         41.0590    56.7403   |  *******    863.4386
                         48.1390    86.3439   |  *******    ********
                         56.6340    *******   |  *******    ********
                         67.9600    *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8344)   ********     78.140     10.50      31.83
     OUTFLOW: ID= 1 (5509)   ********     50.474     15.50      31.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.59
                TIME SHIFT OF PEAK FLOW         (min)=300.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 96.5216

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-------------------
| CALIB            |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.428 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  35.702
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   8.597 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  40.876
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (3321.0) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.0380
                25.85         227.20        0.0380
                96.94         226.44        0.0380
               168.03         227.38        0.0380
               219.73         225.62        0.0380
               342.52         221.57        0.0380
               368.37         221.42        0.0380
               374.83         221.23        0.0380
               379.79         220.98    0.0380 /0.0300  Main Channel
               380.29         220.47        0.0300      Main Channel
               381.29         220.47        0.0300      Main Channel
               382.79         220.47        0.0300      Main Channel
               383.29         220.98    0.0300 /0.0380  Main Channel
               394.22         221.22        0.0380
               400.68         221.33        0.0380
               407.14         221.44        0.0380
               491.16         225.70        0.0380
               568.71         227.55        0.0380
               607.49         230.14        0.0380
               639.80         234.08        0.0380

      <---------------------- TRAVEL TIME TABLE ---------------------->
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DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.51	220.98	.554E+04	0.9	0.56	107.27
1.20	221.67	.885E+05	12.1	0.49	122.32
1.88	222.35	.309E+06	64.7	0.76	79.70
2.57	223.04	.615E+06	165.4	0.97	61.99
3.25	223.72	.101E+07	322.1	1.16	52.06
3.94	224.41	.148E+07	542.9	1.33	45.51
4.62	225.09	.204E+07	835.4	1.48	40.77
5.31	225.78	.269E+07	1202.8	1.62	37.27
5.99	226.46	.344E+07	1618.0	1.70	35.46
6.68	227.15	.447E+07	1932.0	1.56	38.56
7.36	227.83	.580E+07	2763.9	1.72	34.96
8.05	228.52	.718E+07	3861.9	1.95	30.97
8.73	229.20	.859E+07	5115.4	2.16	27.98
9.42	229.89	.100E+08	6519.2	2.35	25.64
10.10	230.57	.115E+08	8092.3	2.55	23.69
10.79	231.26	.130E+08	9821.5	2.73	22.05
11.47	231.94	.145E+08	11690.0	2.92	20.68
12.16	232.63	.160E+08	13694.9	3.09	19.52
12.84	233.31	.176E+08	15833.9	3.26	18.52

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0330)	468.30	8.60	7.25	40.88	0.98	0.51
OUTFLOW:	ID= 1 (6332)	468.30	6.50	9.50	40.88	0.85	0.53

ADD HYD (8322)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0332):	393.44	3.428	9.50	35.70
	+ ID2= 2 (6332):	468.30	6.501	9.50	40.88
	ID = 3 (8322):	861.74	9.928	9.50	38.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0328)	ID= 1 DT=15.0 min	Area (ha)= 492.92	Curve Number (CN)= 77.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 1.91

Unit Hyd Qpeak (cms)= 4.411

PEAK FLOW	(cms)=	5.314 (i)
TIME TO PEAK	(hrs)=	8.750
RUNOFF VOLUME	(mm)=	37.735
TOTAL RAINFALL	(mm)=	80.800
RUNOFF COEFFICIENT	=	0.467

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0326)	ID= 1 DT=15.0 min	Area (ha)= 678.91	Curve Number (CN)= 80.0	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 1.95

Unit Hyd Qpeak (cms)= 5.941

PEAK FLOW	(cms)=	7.858 (i)
TIME TO PEAK	(hrs)=	8.750
RUNOFF VOLUME	(mm)=	41.091
TOTAL RAINFALL	(mm)=	80.800
RUNOFF COEFFICIENT	=	0.509

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (3181)	ID= 1 DT=15.0 min	Area (ha)= 357.30	Total Imp(%)= 56.00	Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	200.09	157.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	1543.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	103.56
over (min)		15.00	30.00
Storage Coeff. (min)	=	15.83 (ii)	26.38 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.07	0.04

		TOTALS
PEAK FLOW	(cms)=	37.286 (iii)
TIME TO PEAK	(hrs)=	6.00
RUNOFF VOLUME	(mm)=	54.72
TOTAL RAINFALL	(mm)=	80.80
RUNOFF COEFFICIENT	=	0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5318) | IN= 2---> OUT= 1 | DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	22.8580	8.7280
	0.8190	2.5190	27.5380	9.6853
	4.2860	5.8947	32.5800	10.8345
	11.0600	6.7336	32.9800	10.8445
	16.3830	7.4416	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (3181)	357.300	37.286	6.00	54.72
OUTFLOW:	ID= 1 (5318)	357.300	19.449	6.50	54.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.16
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 8.1721

CALIB STANDHYD (3182)	ID= 1 DT=15.0 min	Area (ha)= 126.13	Total Imp(%)= 21.00	Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.49	99.64
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	916.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	106.66	62.18
over (min)		15.00	30.00
Storage Coeff. (min)	=	11.58 (ii)	24.52 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	9.365 (iii)
TIME TO PEAK	(hrs)=	6.25
RUNOFF VOLUME	(mm)=	41.27
TOTAL RAINFALL	(mm)=	80.80
RUNOFF COEFFICIENT	=	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8334)

```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3182):   126.13   9.365     6.25    41.27
       + ID2= 2 (5318):   357.30  19.449     6.50    54.72
         ================================================
         ID = 3 (8334):   483.43  25.889     6.50    51.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3201.0) ------>
              Distance      Elevation       Manning
                  0.00         249.00        0.0380
                 22.92         245.86        0.0380
                 45.83         244.87        0.0380
                 91.66         243.11        0.0380
                126.03         239.53        0.0380
                160.41         237.17        0.0380
                166.14         237.06        0.0380
                177.59         237.13        0.0380
                183.32         237.20        0.0380
                189.05         236.70    0.0380 /0.0350  Main Channel
                193.05         235.89        0.0350      Main Channel
                197.05         236.64    0.0350 /0.0380  Main Channel
                200.51         236.74        0.0380
                206.24         237.03        0.0380
                246.34         238.82        0.0380
                263.53         243.87        0.0380
                389.56         247.64        0.0380
                452.58         247.74        0.0380
                498.41         248.60        0.0380
                567.16         249.84        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.37  236.26    .270E+04        0.4        0.58     107.96
       0.75  236.64    .108E+05        2.6        0.92      68.01
       1.48  237.37    .877E+05       27.4        1.17      53.35
       2.20  238.09    .277E+06      122.1        1.65      37.83
       2.93  238.82    .540E+06      299.7        2.08      30.01
       3.66  239.55    .857E+06      587.8        2.57      24.29
       4.39  240.28    .120E+07      977.8        3.04      20.52
       5.11  241.00    .158E+07     1458.1        3.46      18.02
       5.84  241.73    .198E+07     2028.6        3.84      16.23
       6.57  242.46    .240E+07     2690.5        4.19      14.86
       7.29  243.18    .285E+07     3431.8        4.50      13.84
       8.02  243.91    .335E+07     4149.1        4.64      13.44
       8.75  244.64    .393E+07     4746.6        4.51      13.80
       9.47  245.36    .463E+07     5618.6        4.53      13.75
      10.20  246.09    .545E+07     6781.8        4.66      13.39
      10.93  246.82    .635E+07     8274.5        4.87      12.79
      11.66  247.55    .733E+07     9988.0        5.10      12.23
      12.38  248.27    .853E+07    11422.0        5.01      12.45
      13.11  249.00    .989E+07    13749.7        5.20      11.98

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8334)  483.43    25.89    6.50  51.21      1.43      1.15
    OUTFLOW: ID= 1 (6320)  483.43    15.77    7.25  51.21      1.14      1.03


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--------------------
| CALIB            |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   2.267 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  41.592
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.515

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------
                                  IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          87.38         106.80
     Dep. Storage     (mm)=           2.00           5.00
     Average Slope     (%)=           0.50           0.50
     Length            (m)=        1137.78          40.00
     Mannings n           =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=         106.66         114.75
               over (min)           15.00          30.00
     Storage Coeff.  (min)=         13.19 (ii)     23.31 (ii)
     Unit Hyd. Tpeak (min)=         15.00          30.00
     Unit Hyd. peak  (cms)=          0.08           0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=          7.07          16.31        19.423 (iii)
     TIME TO PEAK    (hrs)=          6.00           6.25          6.25
     RUNOFF VOLUME    (mm)=         78.80          48.51         53.36
     TOTAL RAINFALL   (mm)=         80.80          80.80         80.80
     RUNOFF COEFFICIENT   =          0.98           0.60          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   7.4940      4.4477
                          0.2490     1.8139   |   9.8910      4.7762
                          1.2830     3.1517   |  12.4550      5.0763
                          3.7490     3.7610   |  12.8550      5.0863
                          5.0040     4.0198   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180     19.423      6.25      53.36
     OUTFLOW: ID= 1 (5320)    194.180      9.793      6.75      53.35

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.42
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.8101

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--------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56    2.267     6.75    41.59
       + ID2= 2 (5320):   194.18    9.793     6.75    53.35
         ================================================
         ID = 3 (9320):   278.74  12.061     6.75    49.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43  15.768     7.25    51.21
       + ID2= 2 (9320):   278.74  12.061     6.75    49.78
         ================================================
         ID = 3 (8332):   762.17  26.447     7.00    50.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   3.743 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  37.965
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.470

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.72         12.74
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     532.04         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     106.66        129.49
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.36 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.13          2.45          6.767 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80         46.65          61.44
     TOTAL RAINFALL   (mm)=      80.80         80.80          80.80
     RUNOFF COEFFICIENT   =       0.98          0.58           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.8400      1.3064
                          0.1440     0.7144   |   3.5660      1.4269
                          0.8230     0.8540   |   4.1520      1.5451
                          1.5320     0.9987   |   4.5520      1.5551
                          2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460      6.767      6.00      61.44
     OUTFLOW: ID= 1 (5314)     42.460      2.599      6.50      61.41

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.40
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.2622

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--------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3142):   122.75   3.743     6.50    37.96
       + ID2= 2 (5314):    42.46   2.599     6.50    61.41
         ================================================
         ID = 3 (9314):   165.21   6.342     6.50    43.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (3161.0) ------>
                Distance      Elevation       Manning
                    0.00         248.54        0.0350
                   27.93         248.34        0.0350
                   41.89         246.61        0.0350
                   62.83         243.09        0.0350
                  132.65         239.00        0.0350
                  188.50         236.74        0.0350
                  195.48         236.54        0.0350
                  202.46         236.32        0.0350
                  205.48         236.14    0.0350 /0.0310  Main Channel
                  205.98         235.61        0.0310      Main Channel
                  207.98         235.25        0.0310      Main Channel
                  209.98         235.53        0.0310      Main Channel
                  210.48         236.00    0.0310 /0.0350  Main Channel
                  216.42         236.73        0.0350
                  258.31         239.09        0.0350
                  328.12         239.84        0.0350
                  439.83         241.47        0.0350
                  530.58         242.08        0.0350
                  586.43         242.93        0.0350
                  691.16         248.00        0.0350

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.37   235.62    .215E+04        0.7        0.77      53.88
       0.75   236.00    .634E+04        3.5        1.36      30.45
       1.46   236.71    .297E+05       19.3        1.62      25.66
       2.16   237.41    .103E+06       75.8        1.84      22.60
       2.87   238.12    .229E+06      202.8        2.21      18.79
       3.57   238.82    .407E+06      423.3        2.59      16.03
       4.28   239.53    .654E+06      727.7        2.77      14.97
       4.99   240.24    .103E+07     1242.0        3.01      13.76
       5.69   240.94    .151E+07     2002.3        3.31      12.54
       6.40   241.65    .210E+07     2987.9        3.55      11.70
       7.10   242.35    .286E+07     4302.8        3.75      11.07
       7.81   243.06    .374E+07     6165.3        4.10      10.11
       8.51   243.76    .468E+07     8642.4        4.60       9.03
       9.22   244.47    .565E+07    11496.3        5.06       8.20
       9.93   245.18    .666E+07    14714.1        5.50       7.54
      10.63   245.88    .770E+07    18290.3        5.91       7.02
      11.34   246.59    .877E+07    22221.9        6.30       6.58
      12.04   247.29    .988E+07    26464.4        6.67       6.22
      12.75   248.00    .110E+08    31061.3        7.01       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     6.34    6.50  43.99      0.88      1.40
     OUTFLOW: ID= 1 (6316)  165.21     5.40    7.00  43.99      0.84      1.39

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   4.741 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  44.391
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.549

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.44         13.18
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     487.31         40.00
```

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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66       121.78
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.93 (ii)   17.81 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.17         2.40         5.799 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      78.80        51.96         63.77
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.64          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.3160     0.9307
                         0.0930     0.5020   |   2.9060     1.0021
                         0.5400     0.6637   |   3.5360     1.0731
                         1.1940     0.7495   |   3.9360     1.0831
                         1.6920     0.8359   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3161)     35.620      5.799      6.00      63.77
     OUTFLOW: ID= 1 (5316)     35.620      2.765      6.50      63.73

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.68
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0135

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-------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   4.741     7.00    44.39
       + ID2= 2 (5316):    35.62   2.765     6.50    63.73
         ================================================
         ID = 3 (9316):   232.34   7.252     6.50    47.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   5.401     7.00    43.99
       + ID2= 2 (9316):   232.34   7.252     6.50    47.36
         ================================================
         ID = 3 (8338):   397.55  12.089     6.75    45.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   5.575 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  40.979
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.507

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   4.194 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  24.698
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0310) |   Area    (ha)= 138.28   Curve Number   (CN)= 65.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.76

     Unit Hyd Qpeak  (cms)=   3.102

     PEAK FLOW       (cms)=   2.144 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  26.616
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0308):   529.30   4.194     8.25    24.70
       + ID2= 2 (0310):   138.28   2.144     7.00    26.62
         ================================================
         ID = 3 (8342):   667.58   6.044     7.75    25.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3121.0) ------>
              Distance      Elevation       Manning
                  0.00         265.94        0.0360
                 38.07         265.43        0.0360
                 59.82         263.98        0.0360
                103.32         254.59        0.0360
                157.70         252.16        0.0360
                217.52         250.45        0.0360
                233.84         247.69        0.0360
                234.71         247.27        0.0360
                239.71         246.38        0.0360
                244.71         246.12    0.0360 /0.0330  Main Channel
                247.71         245.17        0.0330      Main Channel
                249.71         245.19        0.0330      Main Channel
                251.71         245.64    0.0330 /0.0360  Main Channel
                259.71         246.67        0.0360
                282.78         247.12        0.0360
                315.41         251.60        0.0360
                424.17         256.13        0.0360
                478.55         257.04        0.0360
                516.62         259.37        0.0360
                538.37         266.00        0.0360

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.47   245.64    .111E+04        3.1         1.78       6.07
      1.54   246.71    .103E+05       53.9         3.39       3.19
      2.61   247.78    .414E+05      281.3         4.40       2.45
      3.68   248.85    .839E+05      749.1         5.79       1.87
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       4.74   249.91    .136E+06    1463.2          6.97       1.55
       5.81   250.98    .201E+06    2354.8          7.61       1.42
       6.88   252.05    .295E+06    3533.0          7.76       1.39
       7.95   253.12    .427E+06    5303.9          8.05       1.34
       9.02   254.19    .594E+06    7856.5          8.58       1.26
      10.09   255.26    .792E+06   11449.2          9.37       1.15
      11.15   256.32    .101E+07   15862.4         10.15       1.06
      12.22   257.39    .127E+07   21074.5         10.75       1.01
      13.29   258.46    .155E+07   28184.1         11.78       0.92
      14.36   259.53    .185E+07   36386.2         12.77       0.85
      15.43   260.60    .215E+07   46110.6         13.89       0.78
      16.50   261.67    .246E+07   56822.5         14.95       0.72
      17.56   262.73    .278E+07   68498.1         15.97       0.68
      18.63   263.80    .310E+07   81118.8         16.94       0.64
      19.70   264.87    .344E+07   93603.2         17.66       0.61

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8342)  667.58     6.04    7.75  25.10      0.53      1.83
    OUTFLOW: ID= 1 (6312)  667.58     6.04    8.00  25.10      0.53      1.83


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--------------------
| ADD HYD   (8340) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):   359.44   5.575     8.00    40.98
       + ID2= 2 (6312):   667.58   6.040     8.00    25.10
         ================================================
         ID = 3 (8340):  1027.02  11.615     8.00    30.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8336) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8338):   397.55  12.089     6.75    45.96
       + ID2= 2 (8340):  1027.02  11.615     8.00    30.65
         ================================================
         ID = 3 (8336):  1424.57  22.809     7.00    34.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8330) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8332):   762.17  26.447     7.00    50.69
       + ID2= 2 (8336):  1424.57  22.809     7.00    34.92
         ================================================
         ID = 3 (8330):  2186.74  49.256     7.00    40.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3241.0) ------>
             Distance      Elevation       Manning
                0.00         234.38        0.0360
               33.57         232.48        0.0360
               67.14         230.14        0.0360
               83.93         228.80        0.0360
              134.29         227.62        0.0360
              209.82         225.10        0.0360
              218.21         224.86        0.0360
              226.61         224.47        0.0360
              234.00         223.86    0.0360 /0.0300  Main Channel
              234.10         223.66        0.0300      Main Channel
              235.00         223.66        0.0300      Main Channel
              235.90         223.66        0.0300      Main Channel
              236.00         223.86    0.0300 /0.0360  Main Channel
              243.39         224.92        0.0360
              251.78         224.89        0.0360
              335.71         225.64        0.0360
              562.32         226.53        0.0360
              637.85         228.36        0.0360
              705.00         229.80        0.0360
              830.89         234.00        0.0360

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   223.86    .145E+04        0.2        0.43     147.27
       0.73   224.39    .159E+05        2.8        0.68      93.11
       1.27   224.93    .561E+05       11.0        0.75      85.19
       1.80   225.46    .217E+06       45.6        0.80      79.20
       2.33   225.99    .566E+06      134.4        0.91      70.20
       2.87   226.53    .122E+07      338.1        1.06      59.97
       3.40   227.06    .206E+07      744.3        1.38      46.16
       3.94   227.60    .298E+07     1295.9        1.66      38.38
       4.47   228.13    .399E+07     1979.9        1.90      33.59
       5.00   228.66    .509E+07     2807.5        2.11      30.21
       5.54   229.20    .627E+07     3815.1        2.32      27.41
       6.07   229.73    .753E+07     4984.1        2.53      25.17
       6.60   230.26    .884E+07     6346.3        2.74      23.20
       7.14   230.80    .102E+08     7861.2        2.95      21.61
       7.67   231.33    .116E+08     9526.4        3.14      20.29
       8.21   231.87    .131E+08    11342.2        3.32      19.18
       8.74   232.40    .146E+08    13309.6        3.49      18.22
       9.27   232.93    .161E+08    15414.0        3.66      17.41
       9.81   233.47    .177E+08    17671.0        3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8330) 2186.74    49.26    7.00  40.42      1.82      0.81
    OUTFLOW: ID= 1 (6324) 2186.74    34.01    8.25  40.42      1.62      0.78


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--------------------
| CALIB            |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   7.177 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  39.693
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.491

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.06          7.40
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      299.56         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      106.66        116.68
               over (min)        15.00         30.00
     Storage Coeff.  (min)=        5.92 (ii)   15.98 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.57          1.34       1.474 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25        6.00
     RUNOFF VOLUME    (mm)=       78.80         48.76       53.27
     TOTAL RAINFALL   (mm)=       80.80         80.80       80.80
     RUNOFF COEFFICIENT   =        0.98          0.60        0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.2    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5324)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.9000	0.3505
			0.0460	0.1645	1.1310	0.4008
			0.2610	0.1903	1.3160	0.4499
			0.4860	0.2456	1.7160	0.4599
			0.6740	0.2932	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3241)	13.460	1.474	6.00	53.27
OUTFLOW: ID= 1 (5324)	13.460	0.755	6.50	53.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 51.20
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.3172

ADD HYD (9324)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3242):	602.18	7.177	8.50	39.69
	+ ID2= 2 (5324):	13.46	0.755	6.50	53.20
	ID = 3 (9324):	615.64	7.405	8.25	39.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8328)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6324):	2186.74	34.008	8.25	40.42
	+ ID2= 2 (9324):	615.64	7.405	8.25	39.99
	ID = 3 (8328):	2802.38	41.412	8.25	40.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0322)	ID= 1 DT=15.0 min
Area (ha)= 513.13	Curve Number (CN)= 80.0	
Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
U.H. Tp(hrs)= 1.75		

Unit Hyd Qpeak (cms)= 5.020

PEAK FLOW (cms)= 6.502 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 41.063
TOTAL RAINFALL (mm)= 80.800
RUNOFF COEFFICIENT = 0.508

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8326)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0322):	513.13	6.502	8.25	41.06
	+ ID2= 2 (8328):	2802.38	41.412	8.25	40.32
	ID = 3 (8326):	3315.51	47.915	8.25	40.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8324)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0326):	678.91	7.858	8.75	41.09
	+ ID2= 2 (8326):	3315.51	47.915	8.25	40.44
	ID = 3 (8324):	3994.42	55.719	8.25	40.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6328)	IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3281.0) ------>

Distance	Elevation	Manning	
0.00	228.00	0.0380	
18.58	224.97	0.0380	
78.98	223.52	0.0380	
125.44	223.28	0.0380	
171.90	221.71	0.0380	
213.72	219.65	0.0380	
218.36	219.40	0.0380	
223.01	219.19	0.0380	
225.95	219.14	0.0380 /0.0320	Main Channel
226.45	218.14	0.0320	Main Channel
236.95	218.14	0.0320	Main Channel
245.85	218.14	0.0320	Main Channel
245.95	219.14	0.0320 /0.0380	Main Channel
246.24	219.16	0.0380	
250.88	219.24	0.0380	
255.53	219.39	0.0380	
325.22	221.47	0.0380	
367.03	223.14	0.0380	
404.20	225.17	0.0380	
459.95	228.04	0.0380	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	218.64	.373E+05	3.2	0.33	192.37
1.00	219.14	.752E+05	10.1	0.51	124.71
1.52	219.66	.149E+06	22.2	0.57	112.06
2.04	220.18	.279E+06	43.4	0.59	107.06
2.56	220.70	.464E+06	77.0	0.63	100.52
3.08	221.22	.705E+06	125.7	0.68	93.56
3.61	221.75	.100E+07	192.7	0.73	86.62
4.13	222.27	.135E+07	278.1	0.79	80.92
4.65	222.79	.176E+07	385.9	0.84	75.86
5.17	223.31	.222E+07	514.9	0.89	71.82
5.69	223.83	.280E+07	662.7	0.90	70.40
6.21	224.35	.345E+07	867.7	0.96	66.35
6.73	224.87	.417E+07	1107.0	1.01	62.81
7.25	225.39	.494E+07	1400.0	1.08	58.80
7.78	225.92	.573E+07	1732.2	1.15	55.17
8.30	226.44	.655E+07	2099.9	1.22	52.02
8.82	226.96	.740E+07	2502.8	1.29	49.29
9.34	227.48	.828E+07	2940.9	1.36	46.90
9.86	228.00	.918E+07	3414.3	1.42	44.79

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8324)	3994.42	55.72	8.25	40.55	2.23	0.61
OUTFLOW: ID= 1 (6328)	3994.42	44.20	10.25	40.55	2.05	0.59

<---- hydrograph ---->

ADD HYD (8320)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0328):	492.92	5.314	8.75	37.73
	+ ID2= 2 (6328):	3994.42	44.199	10.25	40.55
	ID = 3 (8320):	4487.34	49.239	10.25	40.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (8318) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.34  49.239    10.25    40.24
       + ID2= 2 (8322):   861.74   9.928     9.50    38.51
         ================================================
         ID = 3 (8318):  5349.08  59.076    10.00    39.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8316) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.16  50.474    15.50    31.83
       + ID2= 2 (8318):  5349.08  59.076    10.00    39.96
         ================================================
         ID = 3 (8316): 15408.24 101.108    10.75    34.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8312) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   1.336     6.75    21.77
       + ID2= 2 (8316): 15408.24 101.108    10.75    34.66
         ================================================
         ID = 3 (8312): 16028.34 102.161    10.75    34.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8308) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.91  34.971     6.25    43.48
       + ID2= 2 (8312): 16028.34 102.161    10.75    34.16
         ================================================
         ID = 3 (8308): 16627.25 104.824    10.50    34.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  *******     74.0090
                       66.5450    18.5023   |  *******    ********
                       98.5430    37.0045   |  *******    ********

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********    104.824     10.50      34.49
    OUTFLOW: ID= 1 (5510)   ********     99.025     12.75      34.49

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.47
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 37.5767

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-------------------
| ADD HYD   (8240) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   3.992    22.25    32.86
       + ID2= 2 (5510): 16627.25  99.025    12.75    34.49
         ================================================
         ID = 3 (8240): 19412.25 102.393    13.00    34.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8238) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.19  51.747    11.75    22.14
       + ID2= 2 (8240): 19412.25 102.393    13.00    34.26
         ================================================
         ID = 3 (8238): 28936.44 153.484    12.25    30.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3427) |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     112.23       137.17
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1289.44        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        61.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.21 (ii)   27.23 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      18.17        10.17         24.571 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      78.80        32.79          47.97
     TOTAL RAINFALL   (mm)=      80.80        80.80          80.80
     RUNOFF COEFFICIENT   =       0.98         0.41           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  12.4700      5.4211
                        0.8500     3.0375   |  16.6800      6.4838
                        4.8400     3.5126   |  20.9500      7.4161
                        9.0000     4.5390   |  24.3900      8.3284

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3427)    249.400     24.571      6.00      47.97
    OUTFLOW: ID= 1 (9425)    249.400     11.138      6.50      47.97

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.33
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.1501

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   3.6600     12.0067
                        1.2080    11.1244   |   4.4200     12.4001
                        2.0570    11.3002   |   5.2300     12.7452
                        2.7240    11.3602   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9425)    249.400     11.138      6.50      47.97
    OUTFLOW: ID= 1 (5342)    249.400      0.805     13.00      47.96

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.23
                TIME SHIFT OF PEAK FLOW         (min)=390.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  7.4126

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--------------------
| CALIB            |
| NASHYD    (3422) |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   3.373 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  19.910
     TOTAL RAINFALL   (mm)=  80.800
     RUNOFF COEFFICIENT   =   0.246

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3422):   755.17   3.373    10.00    19.91
       + ID2= 2 (5342):   249.40   0.805    13.00    47.96
         ================================================
         ID = 3 (9342):  1004.57   4.155    10.25    26.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8238): 28936.44 153.484    12.25    30.27
       + ID2= 2 (9342):  1004.57   4.155    10.25    26.87
         ================================================
         ID = 3 (8236): 29941.01 157.430    12.25    30.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8232):   285.79  10.880     6.00    39.88
       + ID2= 2 (8236): 29941.01 157.430    12.25    30.16
         ================================================
         ID = 3 (8234): 30226.80 158.183    12.00    30.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.43       128.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1122.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        21.37
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      13.08 (ii)   32.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.34         4.52        12.203 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      78.80        20.97         34.85
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.26          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.51        94.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1017.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     106.66        23.06
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      12.33 (ii)   31.56 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      10.50         3.66        12.014 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50          6.00
     RUNOFF VOLUME    (mm)=      78.80        21.68         38.24
     TOTAL RAINFALL   (mm)=      80.80        80.80         80.80
     RUNOFF COEFFICIENT   =       0.98         0.27          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   2.6700      6.1252
                         0.3000     1.6125    |   3.3150      7.0314
                         0.8100     3.0036    |   3.8990      7.9700
                         1.4170     4.2559    |   4.2990      7.9800
                         1.8540     5.0526    |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150     12.014      6.00      38.24
     OUTFLOW: ID= 1 (5344)    155.150      1.273      8.25      38.23

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.60
               TIME SHIFT OF PEAK FLOW         (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.9619

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--------------------
| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3442):   188.84  12.203     6.00    34.85
       + ID2= 2 (5344):   155.15   1.273     8.25    38.23
         ================================================
         ID = 3 (9344):   343.99  12.515     6.00    36.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8234): 30226.80 158.183    12.00    30.25
       + ID2= 2 (9344):   343.99  12.515     6.00    36.37
         ================================================
         ID = 3 (8230): 30570.79 159.679    12.00    30.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8226):  1952.06  14.006     8.50    19.56
       + ID2= 2 (8230): 30570.79 159.679    12.00    30.32
         ================================================
         ID = 3 (8228): 32522.85 168.993    12.00    29.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):  1015.22   5.609     8.00    15.27
       + ID2= 2 (8228): 32522.85 168.993    12.00    29.68
         ================================================
         ID = 3 (8190): 33538.07 172.690    12.00    29.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  ****************************
  ** SIMULATION NUMBER:   6 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\amanlucu\AppD
|                  |              ata\Local\Temp\
|                  |              ab70bd54-a452-450c-b03c-83cdc4826a98\fa8df533
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                0.50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                0.75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

--------------------
| CALIB            |
| NASHYD    (0356) |   Area    (ha)=1015.22   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=  12.651

     PEAK FLOW       (cms)=   6.685 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  18.151
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| NASHYD    (0352) |   Area    (ha)= 381.43   Curve Number   (CN)= 54.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   7.980

     PEAK FLOW       (cms)=   4.770 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.930
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.259

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| NASHYD    (0350) |   Area    (ha)= 366.84   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   5.831

     PEAK FLOW       (cms)=   3.076 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  19.261
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| NASHYD    (0348) |   Area    (ha)= 590.18   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   5.267

     PEAK FLOW       (cms)=   3.191 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  19.364
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.219

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ROUTE CHN (6350) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3501.0) ------>
              Distance      Elevation       Manning
                 0.00         287.00        0.0500
                23.66         283.72        0.0500
                70.98         280.94        0.0500
               112.38         280.23        0.0500
               171.52         276.80        0.0500
               260.24         274.46        0.0500
               266.16         274.26        0.0500
               272.07         274.12        0.0500
               276.49         274.12    0.0500 /0.0300  Main Channel
               276.99         273.82        0.0300      Main Channel
               277.99         273.82        0.0300      Main Channel
               279.49         273.82        0.0300      Main Channel
               280.49         274.27    0.0300 /0.0500  Main Channel
               283.90         274.27        0.0500
               289.81         274.57        0.0500
               325.30         275.75        0.0500
               396.28         278.98        0.0500
               449.51         280.97        0.0500
               496.83         283.90        0.0500
               585.54         287.92        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
      0.30    274.12    .273E+04         0.9          0.99       49.81
      0.98    274.80    .583E+05        20.8          1.05       46.71
      1.66    275.48    .203E+06        95.2          1.38       35.53
      2.33    276.15    .438E+06       256.0          1.73       28.50
      3.01    276.83    .755E+06       524.8          2.05       23.97
      3.69    277.51    .114E+07       935.8          2.43       20.26
      4.37    278.19    .157E+07      1472.0          2.76       17.82
      5.05    278.87    .206E+07      2140.7          3.06       16.06
      5.72    279.54    .261E+07      2938.6          3.33       14.79
      6.40    280.22    .321E+07      3887.6          3.57       13.77
      7.08    280.90    .390E+07      4795.4          3.63       13.56
      7.76    281.58    .468E+07      6196.2          3.91       12.58
      8.43    282.25    .550E+07      7803.9          4.19       11.74
      9.11    282.93    .637E+07      9601.9          4.45       11.05
      9.79    283.61    .728E+07     11594.8          4.70       10.46
```

```
 10.47   284.29    .823E+07   13845.3          4.96       9.91
 11.15   284.97    .922E+07   16293.4          5.21       9.43
 11.82   285.64    .103E+08   18952.0          5.45       9.02
 12.50   286.32    .113E+08   21824.3          5.69       8.65

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0348)  590.18     3.19    9.00  19.36      0.38      0.99
OUTFLOW: ID= 1 (6350)  590.18     3.11   10.25  19.36      0.37      0.99


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--------------------
| ADD HYD   (8220) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0350):   366.84   3.076     7.50    19.26
       + ID2= 2 (6350):   590.18   3.111    10.25    19.36
         ================================================
         ID = 3 (8220):   957.02   5.697     8.75    19.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3461) |   Area    (ha)=  33.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      20.51         13.11
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          0.50
    Length            (m)=     473.43         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=     116.82        115.45
              over (min)       15.00         30.00
    Storage Coeff.  (min)=       7.51 (ii)   17.61 (ii)
    Unit Hyd. Tpeak (min)=      15.00         30.00
    Unit Hyd. peak  (cms)=       0.10          0.05
                                                        *TOTALS*
    PEAK FLOW       (cms)=       3.77          2.26        5.262 (iii)
    TIME TO PEAK    (hrs)=       6.00          6.25         6.00
    RUNOFF VOLUME    (mm)=      86.50         47.16        62.11
    TOTAL RAINFALL   (mm)=      88.50         88.50        88.50
    RUNOFF COEFFICIENT   =       0.98          0.53         0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  69.8    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5346) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0090     0.6158
                          0.2450     0.2524   |   2.6260     0.6610
                          0.6230     0.3644   |   3.2370     0.7019
                          0.9920     0.4690   |   3.6370     0.7119
                          1.2510     0.5428   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3461)     33.620     5.262      6.00      62.11
    OUTFLOW: ID= 1 (5346)     33.620     3.278      6.25      62.10

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.28
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7037

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3462) |   Area    (ha)= 317.31   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   5.625

     PEAK FLOW       (cms)=   5.721 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  36.834
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.416

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3462):   317.31   5.721     7.25    36.83
       + ID2= 2 (5346):    33.62   3.278     6.25    62.10
         ================================================
         ID = 3 (9346):   350.93   7.961     6.50    39.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8222) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8220):   957.02   5.697     8.75    19.32
       + ID2= 2 (9346):   350.93   7.961     6.50    39.25
         ================================================
         ID = 3 (8222):  1307.95  11.838     7.50    24.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6352) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3521.0) ------>
             Distance      Elevation       Manning
                0.00         257.95        0.0500
                7.83         257.34        0.0500
               15.66         256.19        0.0500
               21.53         254.01        0.0500
               41.11         244.06        0.0500
               76.35         241.38        0.0500
              111.58         239.74        0.0500
              113.54         239.61        0.0500
              113.75         239.41    0.0500 /0.0300  Main Channel
              113.85         238.81        0.0300      Main Channel
              115.50         238.81        0.0300      Main Channel
              116.15         238.81        0.0300      Main Channel
              116.25         239.41        0.0300      Main Channel
              117.46         239.52        0.0500
              119.41         239.72        0.0500
              121.37         240.04        0.0500
              131.16         241.84        0.0500
              156.61         247.03        0.0500
              176.19         251.46        0.0500
              193.80         258.79        0.0500

    <--------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
      (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
     0.60    239.41   .224E+04         2.2         1.52       17.12
     1.58    240.39   .216E+05        22.3         1.61       16.16
     2.55    241.36   .804E+05       101.0         1.96       13.27
     3.53    242.34   .173E+06       275.6         2.48       10.46
     4.50    243.31   .293E+06       553.9         2.95        8.80
     5.48    244.29   .438E+06       961.8         3.42        7.60
     6.45    245.26   .599E+06      1534.4         3.99        6.51
     7.43    246.24   .770E+06      2228.4         4.51        5.76
     8.41    247.22   .951E+06      3043.6         4.98        5.21
     9.38    248.19   .114E+07      3982.1         5.43        4.78
    10.36    249.17   .134E+07      5040.1         5.85        4.44
    11.33    250.14   .155E+07      6218.5         6.24        4.16
    12.31    251.12   .177E+07      7518.6         6.61        3.93
    13.29    252.10   .200E+07      8969.0         6.98        3.72
    14.26    253.07   .224E+07     10554.1         7.35        3.53
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 15.24   254.05    .248E+07   12257.1          7.71       3.37
 16.21   255.02    .272E+07   14045.1          8.03       3.23
 17.19   256.00    .298E+07   15954.8          8.34       3.11
 18.16   256.97    .325E+07   17780.4          8.53       3.04

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8222) 1307.95    11.84    7.50  24.67      1.07      1.56
OUTFLOW: ID= 1 (6352) 1307.95    11.78    7.75  24.67      1.06      1.56


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| ADD HYD   (8224) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0352):   381.43   4.770     7.00     22.93
      + ID2= 2 (6352):  1307.95  11.781     7.75     24.67
        ================================================
        ID = 3 (8224):  1689.38  16.320     7.50     24.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6354) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3541.0) ------>
              Distance      Elevation       Manning
                 0.00         253.92        0.0500
                 7.95         251.83        0.0500
                15.89         249.97        0.0500
                19.87         249.05        0.0500
                47.68         242.00        0.0500
                67.55         237.10        0.0500
                83.44         231.11        0.0500
                85.43         230.75        0.0500
                85.66         230.61    0.0500 /0.0300  Main Channel
                85.76         230.01        0.0300      Main Channel
                87.41         230.01        0.0300      Main Channel
                88.06         230.01        0.0300      Main Channel
                88.16         230.61    0.0300 /0.0500  Main Channel
                89.40         230.72        0.0500
                91.39         230.88        0.0500
                93.37         231.03        0.0500
               133.11         233.96        0.0500
               150.99         235.39        0.0500
               172.84         239.03        0.0500
               196.68         250.00        0.0500

    <---------- TRAVEL TIME TABLE ---------->
     DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
      (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
     0.60   230.61    .451E+04       1.5          1.06      49.40
     1.62   231.63    .394E+05      14.6          1.16      45.13
     2.64   232.65    .128E+06      58.8          1.44      36.30
     3.66   233.67    .269E+06     149.7          1.74      30.00
     4.68   234.69    .463E+06     301.5          2.04      25.58
     5.70   235.71    .705E+06     530.5          2.36      22.14
     6.72   236.73    .980E+06     848.4          2.71      19.25
     7.74   237.75    .128E+07    1237.9          3.02      17.29
     8.76   238.77    .162E+07    1706.7          3.30      15.83
     9.78   239.79    .199E+07    2291.9          3.61      14.45
    10.81   240.82    .237E+07    2973.7          3.92      13.30
    11.83   241.84    .278E+07    3742.2          4.21      12.38
    12.85   242.86    .321E+07    4599.1          4.49      11.62
    13.87   243.88    .365E+07    5544.6          4.75      10.98
    14.89   244.90    .412E+07    6579.7          5.00      10.44
    15.91   245.92    .461E+07    7705.9          5.23       9.97
    16.93   246.94    .512E+07    8924.6          5.46       9.55
    17.95   247.96    .564E+07   10237.5          5.68       9.19
    18.97   248.98    .619E+07   11646.2          5.89       8.86

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (8224) 1689.38    16.32    7.50  24.28      1.66      1.16
OUTFLOW: ID= 1 (6354) 1689.38    15.22    8.50  24.28      1.63      1.16


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| CALIB            |
| STANDHYD  (3541) |   Area    (ha)=   8.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.01          2.00
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     231.08         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         16.13
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       4.89 (ii)   27.08 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.76          0.06          1.804 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         15.11         65.08
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.17          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  35.4    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5354) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5360      0.2546
                          0.0270     0.1427   |   0.6730      0.2758
                          0.1550     0.1714   |   0.7830      0.2966
                          0.2890     0.1975   |   1.1830      0.3066
                          0.4010     0.2251   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (3541)      8.010     1.804      6.00      65.08
    OUTFLOW: ID= 1 (5354)      8.010     0.656      6.25      64.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.39
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2856

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (3542) |   Area    (ha)= 254.67   Curve Number   (CN)= 36.7
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.174

     PEAK FLOW       (cms)=   1.219 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  13.282
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3542):   254.67   1.219     8.00     13.28
      + ID2= 2 (5354):     8.01   0.656     6.25     64.92
        ================================================
        ID = 3 (9354):   262.68   1.455     6.50     14.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6354):  1689.38  15.220     8.50    24.28
       + ID2= 2 (9354):   262.68   1.455     6.50    14.86
         ================================================
         ID = 3 (8226):  1952.06  16.522     8.50    23.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3402) |   Area    (ha)= 138.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      63.86        74.97
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     962.05        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        48.50
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.50 (ii)   25.78 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.18         4.51        12.974 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        24.32        41.73
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.27         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3401) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  35.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.24        61.72
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     989.81        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        63.32
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.69 (ii)   24.54 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.39         4.98        16.507 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        27.27        48.00
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.31         0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  47.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5340) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  11.4780      4.3560
                          0.3860     2.0347   |  14.9940      4.9991
                          3.2310     2.5818   |  18.1680      5.6243
                          5.1770     3.1417   |  18.5680      5.6343
                          7.7590     3.6318   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3401)    146.960     16.507      6.00      48.00
     OUTFLOW: ID= 1 (5340)    146.960      6.304      6.50      47.99

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.19
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.3732

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--------------------
| ADD HYD   (8232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3402):   138.83  12.974     6.00    41.73
       + ID2= 2 (5340):   146.96   6.304     6.50    47.99
         ================================================
         ID = 3 (8232):   285.79  14.039     6.00    44.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0410) |   Area    (ha)= 572.01   Curve Number   (CN)= 48.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   6.698

     PEAK FLOW       (cms)=   3.821 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  19.326
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.218

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0408) |   Area    (ha)= 231.62   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   6.198

     PEAK FLOW       (cms)=   3.942 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  25.554
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.289

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0376) |   Area    (ha)= 463.85   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   7.380

     PEAK FLOW       (cms)=   8.365 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  39.991
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.452

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0374) |   Area    (ha)= 545.70   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
```

```
--------------------   U.H. Tp(hrs)=   1.51

     Unit Hyd Qpeak  (cms)=   6.158

     PEAK FLOW       (cms)=   5.223 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  28.198
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.319

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0372) |   Area    (ha)= 110.42   Curve Number   (CN)= 37.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   1.954

     PEAK FLOW       (cms)=   0.691 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  13.367
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.151

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0370) |   Area    (ha)= 191.85   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   4.860

     PEAK FLOW       (cms)=   3.631 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.417
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0366) |   Area    (ha)= 462.62   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.06

     Unit Hyd Qpeak  (cms)=   7.451

     PEAK FLOW       (cms)=   5.968 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.878
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.326

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3641) |   Area    (ha)=   7.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.53         4.32
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     228.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        53.95
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       4.86 (ii)   18.55 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.40         0.34          0.607 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50        23.69          33.74
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.27           0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5364) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5250      0.2044
                          0.0270     0.0959   |   0.6590      0.2337
                          0.1520     0.1110   |   0.7670      0.2624
                          0.2830     0.1432   |   1.1670      0.2724
                          0.3930     0.1710   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3641)     7.850      0.607      6.00      33.74
     OUTFLOW: ID= 1 (5364)     7.850      0.211      6.75      33.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.70
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1272

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3642) |   Area    (ha)= 147.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=   7.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.96       116.46
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     991.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        20.26
               over (min)       15.00        45.00
     Storage Coeff.  (min)=      11.71 (ii)   31.96 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.08         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.69         3.95          4.579 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.50           6.50
     RUNOFF VOLUME    (mm)=      86.50        19.11          23.83
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.22           0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  42.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (9364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3642):    147.42   4.579     6.50    23.83
        + ID2= 2 (5364):      7.85   0.211     6.75    33.63
          ================================================
          ID = 3 (9364):    155.27   4.785     6.50    24.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0366):   462.62   5.968     7.50    28.88
       + ID2= 2 (9364):   155.27   4.785     6.50    24.32
         ================================================
         ID = 3 (8302):   617.89  10.029     6.50    27.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0358) |   Area    (ha)= 429.87   Curve Number   (CN)= 35.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   7.091

     PEAK FLOW       (cms)=   2.367 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  12.436
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.141

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0360) |   Area    (ha)= 138.37   Curve Number   (CN)= 46.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   3.957

     PEAK FLOW       (cms)=   1.703 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.868
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.202

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8306) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   429.87   2.367     7.50    12.44
       + ID2= 2 (0360):   138.37   1.703     6.75    17.87
         ================================================
         ID = 3 (8306):   568.24   3.976     7.00    13.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ROUTE CHN (6362) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (3621.0) ------>
               Distance      Elevation       Manning
                   0.00         261.46        0.0550
                  27.86         254.23        0.0550
                  51.07         251.96        0.0550
                  74.29         250.77        0.0550
                  97.50         249.91        0.0550
                 125.36         249.40        0.0550
                 150.93         247.40        0.0550
                 155.93         247.33    0.0550 /0.0350  Main Channel
                 157.93         246.85        0.0350      Main Channel
                 159.18         246.65        0.0350      Main Channel
                 160.18         246.63        0.0350      Main Channel
                 160.93         246.85        0.0350      Main Channel
                 161.93         247.18    0.0350 /0.0550  Main Channel
                 163.18         248.03        0.0550
                 168.18         248.58        0.0550
                 183.18         250.18        0.0550
                 201.97         252.59        0.0550
                 213.57         256.02        0.0550
                 225.18         260.31        0.0550
                 229.82         261.00        0.0550

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.55    247.18    .556E+04        1.9        1.03       49.95
       1.28    247.91    .336E+05       16.7        1.53       33.61
       2.00    248.63    .913E+05       53.6        1.81       28.40
       2.73    249.36    .185E+06      122.3        2.05       25.18
       3.46    250.09    .344E+06      224.6        2.02       25.52
       4.19    250.82    .574E+06      417.9        2.25       22.91
       4.91    251.54    .855E+06      699.1        2.53       20.38
       5.64    252.27    .118E+07     1075.3        2.82       18.26
       6.37    253.00    .153E+07     1559.9        3.15       16.38
       7.10    253.73    .191E+07     2137.6        3.46       14.89
       7.82    254.45    .231E+07     2815.2        3.77       13.67
       8.55    255.18    .272E+07     3608.5        4.10       12.58
       9.28    255.91    .315E+07     4488.2        4.41       11.69
      10.01    256.64    .358E+07     5458.0        4.71       10.95
      10.73    257.36    .403E+07     6512.4        4.99       10.32
      11.46    258.09    .449E+07     7649.8        5.27        9.78
      12.19    258.82    .496E+07     8869.5        5.53        9.32
      12.92    259.55    .544E+07    10171.2        5.78        8.91
      13.64    260.27    .593E+07    11554.8        6.02        8.55

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8306)  568.24     3.98    7.00  13.76      0.65      1.08
     OUTFLOW: ID= 1 (6362)  568.24     3.52    8.25  13.76      0.63      1.07


-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3621) |   Area    (ha)=  11.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  17.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.34          6.53
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     281.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         57.46
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.50 (ii)    18.85 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.63          0.54          0.966 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         25.45         35.82
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.29          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (5362) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.7940      0.3091
                         0.0400     0.1451    |   0.9970      0.3534
                         0.2300     0.1678    |   1.1610      0.3968
                         0.4280     0.2166    |   1.5610      0.4068
                         0.5940     0.2586    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3621)     11.870      0.966      6.00      35.82
     OUTFLOW: ID= 1 (5362)     11.870      0.349      6.75      35.75
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.08
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2002

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (3622) |   Area    (ha)= 106.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=   9.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.66         81.25
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     844.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         22.94
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.63 (ii)   29.91 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.59          3.49          4.725 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         21.14          27.02
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.24           0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  45.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9362) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3622):   106.91   4.725     6.00    27.02
       + ID2= 2 (5362):    11.87   0.349     6.75    35.75
         ================================================
         ID = 3 (9362):   118.78   4.757     6.00    27.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8304) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6362):   568.24   3.522     8.25    13.76
       + ID2= 2 (9362):   118.78   4.757     6.00    27.89
         ================================================
         ID = 3 (8304):   687.02   5.912     6.25    16.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8302):   617.89  10.029     6.50    27.73
       + ID2= 2 (8304):   687.02   5.912     6.25    16.20
         ================================================
         ID = 3 (8300):  1304.91  15.471     6.50    21.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

```
              <------ DATA FOR SECTION (3681.0) ------>
              Distance      Elevation       Manning
                  0.00         230.00        0.0370
                 18.48         223.26        0.0370
                 36.96         223.05        0.0370
                 64.67         222.94        0.0370
                110.87         222.86        0.0370
                133.96         222.74        0.0370
                147.82         222.65        0.0370
                170.92         222.31        0.0370
                174.79         222.26    0.0370 /0.0300  Main Channel
                174.89         221.86        0.0300      Main Channel
                175.54         221.86        0.0300      Main Channel
                176.19         221.86        0.0300      Main Channel
                176.29         222.26    0.0300 /0.0370  Main Channel
                180.16         222.25        0.0370
                184.78         222.28        0.0370
                189.40         222.31        0.0370
                332.60         222.37        0.0370
                450.00         230.00        0.0370

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.40   222.26    .771E+03       0.3         0.52       41.74
       0.81   222.67    .784E+05      30.3         0.51       43.17
       1.21   223.07    .210E+06     123.2         0.77       28.42
       1.62   223.48    .384E+06     301.0         1.03       21.25
       2.03   223.89    .563E+06     550.2         1.28       17.06
       2.44   224.30    .747E+06     860.7         1.51       14.46
       2.84   224.70    .934E+06    1228.1         1.73       12.68
       3.25   225.11    .113E+07    1649.3         1.92       11.37
       3.66   225.52    .132E+07    2122.3         2.11       10.37
       4.07   225.93    .152E+07    2645.5         2.29        9.58
       4.47   226.33    .172E+07    3217.8         2.45        8.92
       4.88   226.74    .193E+07    3838.3         2.61        8.38
       5.29   227.15    .214E+07    4506.3         2.76        7.92
       5.70   227.56    .236E+07    5221.3         2.91        7.52
       6.10   227.96    .258E+07    5983.0         3.05        7.17
       6.51   228.37    .280E+07    6790.9         3.19        6.87
       6.92   228.78    .303E+07    7645.0         3.32        6.60
       7.33   229.19    .326E+07    8545.1         3.45        6.35
       7.73   229.59    .349E+07    9491.0         3.57        6.13

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8300) 1304.91    15.47    6.50  21.66      0.61      0.52
    OUTFLOW: ID= 1 (6368) 1304.91    12.33    7.50  21.66      0.56      0.52
```

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-------------------
| CALIB           |
| STANDHYD  (3681) |   Area    (ha)=   2.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.33          1.62
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     140.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         51.29
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       3.62 (ii)   17.59 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.14          0.12          0.219 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         22.32          31.94
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.25           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  40.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5368) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1970	0.0767
	0.0100	0.0360	0.2470	0.0877
	0.0570	0.0416	0.2880	0.0984
	0.1060	0.0537	0.6880	0.1084
	0.1470	0.0642	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3681)	2.950	0.219	6.00	31.94
OUTFLOW: ID= 1 (5368)	2.950	0.074	6.75	31.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.71
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0464

CALIB / NASHYD (3682) / ID= 1 DT=15.0 min				
	Area (ha)= 156.53	Curve Number (CN)= 45.9		
	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50		
	U.H. Tp(hrs)= 0.96			

Unit Hyd Qpeak (cms)= 2.778

PEAK FLOW (cms)= 1.334 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 18.013
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.204

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9368) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3682):	156.53	1.334	7.25	18.01
+ ID2= 2 (5368):	2.95	0.074	6.75	31.64
ID = 3 (9368):	159.48	1.392	7.25	18.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8298) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6368):	1304.91	12.329	7.50	21.66
+ ID2= 2 (9368):	159.48	1.392	7.25	18.27
ID = 3 (8298):	1464.39	13.699	7.50	21.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8296) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0370):	191.85	3.631	6.75	29.42
+ ID2= 2 (8298):	1464.39	13.699	7.50	21.29
ID = 3 (8296):	1656.24	17.063	7.25	22.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6372) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3721.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0390	
30.80	219.38	0.0390	
61.61	219.30	0.0390	
77.01	219.27	0.0390	
469.76	219.14	0.0390	
477.46	219.13	0.0390	
485.16	219.10	0.0390	
492.86	219.09	0.0390	
495.56	219.09	0.0390 /0.0310	Main Channel
495.66	218.51	0.0310	Main Channel
500.56	218.51	0.0310	Main Channel
505.46	218.51	0.0310	Main Channel
505.56	219.09	0.0310 /0.0390	Main Channel
508.26	219.09	0.0390	
515.96	219.10	0.0390	
523.67	219.21	0.0390	
562.17	219.32	0.0390	
654.58	219.43	0.0390	
731.59	219.46	0.0390	
762.39	225.00	0.0390	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	218.80	.431E+04	1.7	0.58	43.48
0.58	219.09	.867E+04	5.1	0.89	28.32
0.93	219.44	.200E+06	58.2	0.44	57.35
1.28	219.79	.568E+06	278.6	0.74	33.99
1.62	220.13	.939E+06	630.2	1.01	24.84
1.97	220.48	.131E+07	1090.4	1.25	20.05
2.32	220.83	.169E+07	1647.7	1.47	17.06
2.67	221.18	.206E+07	2294.6	1.68	14.99
3.01	221.52	.244E+07	3025.6	1.87	13.46
3.36	221.87	.282E+07	3836.5	2.05	12.27
3.71	222.22	.321E+07	4723.7	2.22	11.31
4.06	222.57	.359E+07	5684.6	2.39	10.53
4.40	222.91	.398E+07	6716.6	2.55	9.87
4.75	223.26	.437E+07	7817.7	2.70	9.31
5.10	223.61	.476E+07	8986.2	2.85	8.83
5.45	223.96	.515E+07	10220.4	2.99	8.40
5.79	224.30	.555E+07	11519.1	3.13	8.03
6.14	224.65	.594E+07	12880.8	3.27	7.69
6.49	225.00	.634E+07	14304.5	3.40	7.39

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8296)	1656.24	17.06	7.25	22.23	0.66	0.72
OUTFLOW: ID= 1 (6372)	1656.24	15.96	8.25	22.23	0.65	0.74

ADD HYD (8294) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0372):	110.42	0.691	7.25	13.37
+ ID2= 2 (6372):	1656.24	15.964	8.25	22.23
ID = 3 (8294):	1766.66	16.613	8.25	21.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8292) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0374):	545.70	5.223	8.25	28.20
+ ID2= 2 (8294):	1766.66	16.613	8.25	21.68
ID = 3 (8292):	2312.36	21.836	8.25	23.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5505) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW	STORAGE

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  65.1290    345.3754
                        25.4850    24.6697   |  84.9510    456.3890
                        31.1490    98.6787   |  *******    838.7689
                        39.6440    *******   |  *******    838.7789
                        48.1390    *******   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8292)   2312.360     21.836      8.25      23.22
     OUTFLOW: ID= 1 (5505)   2312.360     15.704     11.00      23.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.92
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 15.2089

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| ADD HYD   (8272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):   463.85   8.365     7.25    39.99
       + ID2= 2 (5505):  2312.36  15.704    11.00    23.22
         ================================================
         ID = 3 (8272):  2776.21  21.107    10.00    26.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0396) |   Area    (ha)= 305.21   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   4.811

     PEAK FLOW       (cms)=   4.736 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  34.962
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0394) |   Area    (ha)= 325.45   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.92

     Unit Hyd Qpeak  (cms)=   6.013

     PEAK FLOW       (cms)=   3.577 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  22.323
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0390) |   Area    (ha)= 420.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   6.683

     PEAK FLOW       (cms)=   4.371 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  23.713
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0388) |   Area    (ha)= 220.77   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.99

     Unit Hyd Qpeak  (cms)=   3.819

     PEAK FLOW       (cms)=   2.679 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  25.800
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0386) |   Area    (ha)= 241.27   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   4.562

     PEAK FLOW       (cms)=   3.426 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.018
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):   241.27   3.426     7.00    28.02
       + ID2= 2 (0388):   220.77   2.679     7.25    25.80
         ================================================
         ID = 3 (8286):   462.04   6.100     7.25    26.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0384) |   Area    (ha)= 199.07   Curve Number   (CN)= 44.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.96

     Unit Hyd Qpeak  (cms)=   3.537

     PEAK FLOW       (cms)=   1.596 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  16.955
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0380) |   Area    (ha)= 182.01   Curve Number   (CN)= 40.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.55

     Unit Hyd Qpeak  (cms)=   5.609

     PEAK FLOW       (cms)=   1.939 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  14.644
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0382) |   Area    (ha)= 216.59   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.64
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```
     Unit Hyd Qpeak  (cms)=   5.733

     PEAK FLOW       (cms)=   3.143 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  22.142
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.250

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):   182.01   1.939     6.50    14.64
       + ID2= 2 (0382):   216.59   3.143     6.75    22.14
         ================================================
         ID = 3 (8290):   398.60   5.066     6.75    18.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6384) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3841.0) ------>
               Distance      Elevation       Manning
                   0.00         294.40        0.0380
                  10.59         291.93        0.0380
                  21.17         289.19        0.0380
                  26.46         287.99        0.0380
                  31.76         286.79        0.0380
                  71.45         279.97        0.0380
                  74.10         279.79        0.0380
                  76.74         279.71        0.0380
                  78.99         279.64    0.0380 /0.0300  Main Channel
                  79.14         279.30        0.0300      Main Channel
                  79.39         279.30        0.0300      Main Channel
                  79.64         279.30        0.0300      Main Channel
                  79.79         279.64    0.0300 /0.0380  Main Channel
                  89.98         279.78        0.0380
                 119.09         281.86        0.0380
                 145.55         282.87        0.0380
                 198.48         284.85        0.0380
                 211.71         286.31        0.0380
                 230.23         287.59        0.0380
                 261.99         294.00        0.0380

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.34   279.64    .715E+03       0.2         0.85      63.42
       1.10   280.40    .507E+05      21.9         1.40      38.54
       1.85   281.15    .141E+06      91.8         2.10      25.69
       2.61   281.91    .269E+06     218.9         2.63      20.46
       3.36   282.66    .445E+06     407.1         2.96      18.23
       4.12   283.42    .681E+06     698.3         3.31      16.26
       4.87   284.17    .977E+06    1111.8         3.68      14.65
       5.63   284.93    .133E+07    1674.3         4.06      13.27
       6.39   285.69    .173E+07    2457.8         4.59      11.73
       7.14   286.44    .215E+07    3378.8         5.07      10.63
       7.90   287.20    .261E+07    4418.4         5.47       9.85
       8.65   287.95    .310E+07    5676.3         5.92       9.11
       9.41   288.71    .361E+07    7150.5         6.40       8.42
      10.17   289.47    .414E+07    8783.1         6.86       7.86
      10.92   290.22    .469E+07   10575.1         7.30       7.38
      11.68   290.98    .525E+07   12520.4         7.72       6.98
      12.43   291.73    .582E+07   14619.0         8.12       6.64
      13.19   292.49    .642E+07   16863.2         8.50       6.34
      13.94   293.24    .703E+07   19259.8         8.86       6.08

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8290)  398.60     5.07    6.75  18.72      0.51      0.93
     OUTFLOW: ID= 1 (6384)  398.60     3.99    7.75  18.72      0.47      0.91


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| ADD HYD   (8288) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0384):   199.07   1.596     7.25    16.95
       + ID2= 2 (6384):   398.60   3.985     7.75    18.72
         ================================================
         ID = 3 (8288):   597.67   5.554     7.75    18.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8284) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8286):   462.04   6.100     7.25    26.96
       + ID2= 2 (8288):   597.67   5.554     7.75    18.13
         ================================================
         ID = 3 (8284):  1059.71  11.532     7.50    21.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8280) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):   420.00   4.371     7.50    23.71
       + ID2= 2 (8284):  1059.71  11.532     7.50    21.98
         ================================================
         ID = 3 (8280):  1479.71  15.903     7.50    22.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0392) |   Area    (ha)= 167.22   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.74

     Unit Hyd Qpeak  (cms)=   3.837

     PEAK FLOW       (cms)=   2.840 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  28.690
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.324

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0378) |   Area    (ha)= 606.72   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   8.771

     PEAK FLOW       (cms)=   5.877 (i)
     TIME TO PEAK    (hrs)=   7.750
     RUNOFF VOLUME    (mm)=  23.743
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0378):   606.72   5.877     7.75    23.74
       + ID2= 2 (0392):   167.22   2.840     7.00    28.69
         ================================================
         ID = 3 (8282):   773.94   8.554     7.25    24.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8278) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8280):  1479.71  15.903     7.50    22.47
       + ID2= 2 (8282):   773.94   8.554     7.25    24.81
         ================================================
         ID = 3 (8278):  2253.65  24.428     7.50    23.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3941.0) ------>
             Distance      Elevation       Manning
                 0.00         283.00        0.0380
                13.48         282.87        0.0380
                53.92         280.08        0.0380
                74.13         276.62        0.0380
                97.72         265.45        0.0380
               114.57         256.93        0.0380
               131.42         253.04        0.0380
               134.79         252.58        0.0380
               138.53         251.74    0.0380 /0.0300  Main Channel
               139.03         251.20        0.0300      Main Channel
               141.53         251.20        0.0300      Main Channel
               144.03         251.20        0.0300      Main Channel
               144.53         251.74    0.0300 /0.0380  Main Channel
               148.27         252.69        0.0380
               151.64         252.97        0.0380
               185.34         255.08        0.0380
               219.03         257.54        0.0380
               262.84         259.43        0.0380
               310.02         262.80        0.0380
               333.60         283.00        0.0380

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54    251.74    .827E+04       4.5         1.51       30.71
       2.19    253.39    .758E+05      73.2         2.69       17.27
       3.83    255.03    .282E+06     331.8         3.27       14.17
       5.48    256.68    .633E+06     917.3         4.03       11.51
       7.12    258.32    .112E+07    1889.5         4.69        9.90
       8.77    259.97    .179E+07    3410.2         5.31        8.73
      10.41    261.61    .259E+07    5627.6         6.05        7.66
      12.06    263.26    .351E+07    8605.1         6.83        6.79
      13.70    264.90    .447E+07   12544.9         7.81        5.94
      15.35    266.55    .546E+07   17101.4         8.71        5.32
      16.99    268.19    .648E+07   22251.7         9.56        4.85
      18.64    269.84    .752E+07   27979.0        10.36        4.48
      20.28    271.48    .858E+07   34269.0        11.11        4.17
      21.93    273.13    .967E+07   41110.8        11.83        3.92
      23.57    274.77    .108E+08   48495.9        12.51        3.71
      25.22    276.42    .119E+08   56418.1        13.17        3.52
      26.86    278.06    .131E+08   64410.6        13.69        3.39
      28.51    279.71    .143E+08   73002.1        14.18        3.27
      30.15    281.35    .156E+08   81379.3        14.50        3.20

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8278) 2253.65    24.43    7.50  23.28      1.02      1.73
    OUTFLOW: ID= 1 (6394) 2253.65    23.85    8.00  23.28      1.00      1.72


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--------------------
| ADD HYD   (8276) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0394):   325.45   3.577     7.25    22.32
       + ID2= 2 (6394):  2253.65  23.853     8.00    23.28
         ================================================
         ID = 3 (8276):  2579.10  27.252     8.00    23.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (3961.0) ------>
             Distance      Elevation       Manning
                 0.00         263.00        0.0410
                11.75         257.14        0.0410
                23.50         253.97        0.0410
                41.13         247.83        0.0410
                76.38         232.09        0.0410
               135.13         229.07        0.0410
               149.82         228.97        0.0410
               152.75         228.96    0.0410 /0.0300  Main Channel
               154.19         228.73        0.0300      Main Channel
               154.69         228.20        0.0300      Main Channel
               155.69         228.20        0.0300      Main Channel
               156.69         228.20        0.0300      Main Channel
               157.19         228.73        0.0300      Main Channel
               158.63         228.95    0.0300 /0.0410  Main Channel
               161.57         228.96        0.0410
               164.51         229.71        0.0410
               196.82         241.70        0.0410
               223.26         249.21        0.0410
               246.76         255.13        0.0410
               290.82         263.51        0.0410

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.75    228.95    .780E+04       2.2         0.98       58.06
       2.54    230.74    .277E+06     145.1         1.78       31.76
       4.33    232.53    .786E+06     609.1         2.63       21.50
       6.13    234.33    .140E+07    1481.5         3.59       15.77
       7.92    236.12    .207E+07    2677.3         4.39       12.90
       9.71    237.91    .280E+07    4184.8         5.09       11.14
      11.50    239.70    .357E+07    6001.4         5.71        9.93
      13.29    241.49    .441E+07    8129.1         6.27        9.03
      15.09    243.29    .530E+07   10549.4         6.77        8.37
      16.88    245.08    .625E+07   13300.6         7.24        7.83
      18.67    246.87    .726E+07   16396.2         7.68        7.38
      20.46    248.66    .834E+07   19809.8         8.07        7.02
      22.26    250.46    .949E+07   23532.5         8.43        6.72
      24.05    252.25    .107E+08   27641.2         8.77        6.46
      25.84    254.04    .120E+08   32155.2         9.10        6.22
      27.63    255.83    .134E+08   36901.0         9.37        6.05
      29.42    257.62    .149E+08   42147.7         9.64        5.88
      31.22    259.42    .164E+08   48149.1         9.97        5.68
      33.01    261.21    .181E+08   54644.8        10.29        5.51

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8276) 2579.10    27.25    8.00  23.16      1.06      1.06
    OUTFLOW: ID= 1 (6396) 2579.10    24.64    9.00  23.16      1.03      1.05


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--------------------
| ADD HYD   (8274) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):   305.21   4.736     7.50    34.96
       + ID2= 2 (6396):  2579.10  24.639     9.00    23.16
         ================================================
         ID = 3 (8274):  2884.31  28.747     8.75    24.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8270) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8272):  2776.21  21.107    10.00    26.02
       + ID2= 2 (8274):  2884.31  28.747     8.75    24.40
         ================================================
         ID = 3 (8270):  5660.52  48.960     9.25    25.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (5506) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |  60.8810    135.6832
                        31.1490    24.6697   |  96.2770    900.4431
                        36.8120    37.0045   |  96.6770    900.4531
                        45.3070    86.3439   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8270)   5660.520     48.960      9.25      25.20
     OUTFLOW: ID= 1 (5506)   5660.520     35.985     12.25      25.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.50
                  TIME SHIFT OF PEAK FLOW         (min)=180.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 35.2177

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--------------------
| CALIB            |
| NASHYD    (0406) |   Area    (ha)= 142.65   Curve Number   (CN)= 66.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   4.135

     PEAK FLOW       (cms)=   3.269 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  31.802
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.359

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0404) |   Area    (ha)= 246.46   Curve Number   (CN)= 47.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   4.280

     PEAK FLOW       (cms)=   2.141 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  18.650
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0402) |   Area    (ha)= 244.00   Curve Number   (CN)= 61.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   3.879

     PEAK FLOW       (cms)=   3.028 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  28.095
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0400) |   Area    (ha)=  93.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   3.630

     PEAK FLOW       (cms)=   1.763 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.182
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0398) |   Area    (ha)= 328.19   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   6.759

     PEAK FLOW       (cms)=   4.178 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  23.611
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.267

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8268) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0398):   328.19   4.178     7.00    23.61
       + ID2= 2 (0400):    93.97   1.763     6.50    21.18
         ================================================
         ID = 3 (8268):   422.16   5.776     6.75    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6402) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (4021.0) ------>
               Distance      Elevation       Manning
                   0.00         238.50        0.0360
                  11.50         238.00        0.0360
                  23.00         237.93        0.0360
                  34.49         236.39        0.0360
                  63.24         233.98        0.0360
                  97.73         228.15        0.0360
                 123.60         227.08        0.0360
                 126.48         226.61        0.0360
                 127.60         226.47    0.0360 /0.0330  Main Channel
                 127.85         225.25        0.0330      Main Channel
                 129.35         225.25        0.0330      Main Channel
                 130.85         225.25        0.0330      Main Channel
                 131.10         226.47    0.0330 /0.0360  Main Channel
                 132.22         226.59        0.0360
                 143.72         227.42        0.0360
                 169.59         227.88        0.0360
                 192.59         231.19        0.0360
                 218.46         233.02        0.0360
                 241.45         235.50        0.0360
                 284.57         236.43        0.0360

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)       (min)
       0.41   225.66    .391E+04         1.7         1.36       38.31
       0.81   226.06    .804E+04         5.0         1.93       27.02
       1.22   226.47    .124E+05         9.1         2.30       22.61
       1.84   227.09    .308E+05        23.3         2.36       22.03
       2.46   227.71    .904E+05        62.0         2.14       24.31
       3.09   228.34    .223E+06       188.3         2.63       19.75
       3.71   228.96    .379E+06       410.2         3.38       15.39
       4.33   229.58    .550E+06       711.5         4.04       12.89
       4.95   230.20    .737E+06      1091.3         4.62       11.25
       5.58   230.83    .939E+06      1550.6         5.15       10.10
       6.20   231.45    .116E+07      2072.4         5.59        9.31
       6.82   232.07    .140E+07      2659.2         5.93        8.77
       7.44   232.69    .167E+07      3345.8         6.27        8.30
       8.07   233.32    .195E+07      4159.0         6.64        7.83
       8.69   233.94    .226E+07      5100.8         7.03        7.39
       9.31   234.56    .259E+07      6081.3         7.32        7.11
       9.93   235.18    .295E+07      7183.1         7.60        6.84
      10.56   235.81    .334E+07      8145.2         7.62        6.83
      11.18   236.43    .379E+07      9116.0         7.51        6.92
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                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8268)  422.16     5.78    6.75  23.07      0.89      1.99
     OUTFLOW: ID= 1 (6402)  422.16     5.53    7.25  23.07      0.87      1.97


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--------------------
| ADD HYD   (8266) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):   244.00   3.028     7.50    28.09
        + ID2= 2 (6402):   422.16   5.530     7.25    23.07
          ================================================
          ID = 3 (8266):   666.16   8.550     7.25    24.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0404):   246.46   2.141     7.25    18.65
        + ID2= 2 (8266):   666.16   8.550     7.25    24.91
          ================================================
          ID = 3 (8264):   912.62  10.690     7.25    23.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0406):   142.65   3.269     6.50    31.80
        + ID2= 2 (8264):   912.62  10.690     7.25    23.22
          ================================================
          ID = 3 (8262):  1055.27  13.662     7.00    24.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5506):  5660.52  35.985    12.25    25.20
        + ID2= 2 (8262):  1055.27  13.662     7.00    24.38
          ================================================
          ID = 3 (8260):  6715.79  41.454    10.50    25.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8258) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0408):   231.62   3.942     6.75    25.55
        + ID2= 2 (8260):  6715.79  41.454    10.50    25.07
          ================================================
          ID = 3 (8258):  6947.41  42.951    10.00    25.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0410):   572.01   3.821     8.00    19.33
        + ID2= 2 (8258):  6947.41  42.951    10.00    25.08
          ================================================
          ID = 3 (8256):  7519.42  46.379    10.00    24.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (5507) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  90.6140     67.8416
                          39.6440    12.3348   |  *******    160.3529
                          48.1390    18.5023   |  *******    160.3629
                          67.9600    37.0045   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (8256)   7519.421     46.379     10.00      24.65
     OUTFLOW: ID= 1 (5507)   7519.421     44.136     12.25      24.65

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.16
               TIME SHIFT OF PEAK FLOW         (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 15.6050

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--------------------
| CALIB            |
| NASHYD    (0420) |   Area    (ha)= 175.82   Curve Number   (CN)= 53.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.81

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   2.139 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  22.269
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4141) |   Area    (ha)= 156.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      81.49         75.23
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1022.15         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        113.88
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.92 (ii)    22.08 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      8.51         11.61         16.080 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=     86.50         45.04          53.75
     TOTAL RAINFALL   (mm)=     88.50         88.50          88.50
     RUNOFF COEFFICIENT   =      0.98          0.51           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4144) |   Area    (ha)=   2.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.63          1.47
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     118.32         40.00
     Mannings n           =      0.013         0.250
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```
     Max.Eff.Inten.(mm/hr)=     116.82       104.16
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      3.27 (ii)   13.79 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.31      0.378 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.00       6.00
     RUNOFF VOLUME    (mm)=     86.50        52.21      55.63
     TOTAL RAINFALL   (mm)=     88.50        88.50      88.50
     RUNOFF COEFFICIENT   =      0.98         0.59       0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9429) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1000      0.0386
                          0.0100     0.0195   |   0.1400      0.0480
                          0.0400     0.0218   |   0.1700      0.0569
                          0.0700     0.0312   |   0.2000      0.0655

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4144)     2.100      0.378      6.00       55.63
     OUTFLOW: ID= 1 (9429)     2.100      0.137      6.25       55.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.24
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0482

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--------------------
| ADD HYD   (9424) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4141):   156.72  16.080     6.00    53.75
       + ID2= 2 (9429):     2.10   0.137     6.25    55.40
         ================================================
         ID = 3 (9424):   158.82  16.156     6.00    53.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5414) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   4.7060      4.4896
                          0.1870     1.6651   |   5.4940      5.4773
                          2.0210     2.0447   |   6.0800      6.4738
                          2.9590     2.4658   |   6.4800      6.4838
                          3.7490     3.5575   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9424)    158.820     16.156      6.00      53.77
     OUTFLOW: ID= 1 (5414)    158.820      4.611      7.00      53.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.54
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.4037

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4142) |   Area    (ha)=  29.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.15        13.99
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     440.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       113.88
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.20 (ii)   17.35 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.82         2.39      3.395 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25       6.00
     RUNOFF VOLUME    (mm)=     86.50        45.04      53.75
     TOTAL RAINFALL   (mm)=     88.50        88.50      88.50
     RUNOFF COEFFICIENT   =      0.98         0.51       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4142):    29.14   3.395     6.00    53.75
       + ID2= 2 (5414):   158.82   4.611     7.00    53.75
         ================================================
         ID = 3 (8254):   187.96   6.322     6.25    53.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (4121) |   Area    (ha)= 202.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      90.90        111.10
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=    1160.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82         69.18
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     12.87 (ii)    25.26 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.08          0.04
                                                       *TOTALS*
     PEAK FLOW       (cms)=      8.13          9.66      14.194 (iii)
     TIME TO PEAK    (hrs)=      6.00          6.25       6.00
     RUNOFF VOLUME    (mm)=     86.50         30.03      39.07
     TOTAL RAINFALL   (mm)=     88.50         88.50      88.50
     RUNOFF COEFFICIENT   =      0.98          0.34       0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5412) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.5000      1.0500
                          0.3860     0.5085   |   7.9000      1.1500
                          1.8460     0.6103   |   9.3000      1.2500
                          3.5050     0.7566   |   9.7000      1.2600
                          4.7890     0.8929   |   0.0000      0.0000
```

```
                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4121)    202.000     14.194      6.00      39.07
     OUTFLOW: ID= 1 (5412)    202.000     14.040      6.25      39.07

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.92
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4071

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (4122)  |   Area    (ha)=  36.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  63.00   Dir. Conn.(%)=  22.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.12         13.58
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     494.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        118.89
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       7.71 (ii)   17.70 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.37          2.40          3.920 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25           6.00
     RUNOFF VOLUME    (mm)=      86.50         37.17          48.02
     TOTAL RAINFALL   (mm)=      88.50         88.50          88.50
     RUNOFF COEFFICIENT   =       0.98          0.42           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  51.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9412) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4122):    36.70   3.920     6.00     48.02
       + ID2= 2 (5412):   202.00  14.040     6.25     39.07
         ================================================
         ID = 3 (9412):   238.70  17.080     6.25     40.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8252) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8254):   187.96   6.322     6.25     53.75
       + ID2= 2 (9412):   238.70  17.080     6.25     40.44
         ================================================
         ID = 3 (8252):   426.66  23.401     6.25     46.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6416) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (4161.0) ------>
               Distance      Elevation       Manning
                   0.00         270.07        0.0340
                  20.67         267.91        0.0340
                  62.01         264.33        0.0340
                 113.69         259.75        0.0340
                 165.37         253.30        0.0340
                 227.38         246.29        0.0340
                 232.55         246.03        0.0340
                 237.72         246.16        0.0340
                 241.39         246.02    0.0340 /0.0300  Main Channel
                 241.64         245.75        0.0300      Main Channel
                 242.89         245.75        0.0300      Main Channel
                 244.14         245.75        0.0300      Main Channel
                 244.39         246.02    0.0300 /0.0340  Main Channel
                 248.06         246.20        0.0340
                 253.22         246.28        0.0340
                 258.39         246.63        0.0340
                 346.25         252.57        0.0340
                 413.43         257.77        0.0340
                 465.11         261.78        0.0340
                 511.62         270.00        0.0340

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
          (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
         0.27   246.02    .295E+04         0.6          0.75        88.26
         1.53   247.28    .168E+06        69.7          1.65        40.13
         2.79   248.54    .490E+06       299.5          2.42        27.28
         4.06   249.81    .962E+06       740.1          3.05        21.67
         5.32   251.07    .158E+07      1440.0          3.61        18.33
         6.58   252.33    .235E+07      2443.8          4.12        16.06
         7.84   253.59    .327E+07      3811.2          4.63        14.30
         9.10   254.85    .432E+07      5565.1          5.11        12.94
        10.37   256.12    .550E+07      7721.3          5.57        11.88
        11.63   257.38    .682E+07     10309.9          6.00        11.02
        12.89   258.64    .827E+07     13360.6          6.42        10.31
        14.15   259.90    .985E+07     16884.5          6.81         9.72
        15.42   261.17    .116E+08     20818.4          7.14         9.26
        16.68   262.43    .134E+08     25510.4          7.53         8.78
        17.94   263.69    .154E+08     30958.0          7.97         8.30
        19.20   264.95    .175E+08     36988.3          8.38         7.89
        20.46   266.21    .197E+08     43617.1          8.78         7.53
        21.73   267.48    .220E+08     50868.1          9.17         7.22
        22.99   268.74    .244E+08     58854.0          9.56         6.92

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8252)  426.66    23.40    6.25  46.31      0.69      0.91
     OUTFLOW: ID= 1 (6416)  426.66    10.26    7.25  46.31      0.45      0.81

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-------------------
| CALIB             |
| NASHYD    (4164)  |   Area    (ha)=  89.30   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   2.699 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  42.586
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9427) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   4.4700      2.5000
                         0.9000     1.0000   |   5.9800      3.0000
                         1.7300     1.5000   |   7.5000      3.5000
                         3.2200     2.0000   |   8.7400      4.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4164)    89.300      2.699      7.50      42.59
     OUTFLOW: ID= 1 (9427)    89.300      1.642      9.00      42.58

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.86
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4512

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-------------------
| RESERVOIR (5416) |
| IN= 2---> OUT= 1 |
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```
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.5980      0.7565
                         0.0330     0.3532   |   1.8570      0.8137
                         0.7450     0.4481   |   2.0990      0.8707
                         1.0270     0.5154   |   2.4990      0.8807
                         1.3050     0.6350   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9427)     89.300      1.642      9.00      42.58
     OUTFLOW: ID= 1 (5416)     89.300      1.452     10.25      42.55

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 88.39
                   TIME SHIFT OF PEAK FLOW         (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6961

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD    (4162) |   Area    (ha)= 349.99   Curve Number   (CN)= 61.3
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.29

     Unit Hyd Qpeak  (cms)=   4.646

     PEAK FLOW       (cms)=   3.831 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  28.391
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.321

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9416) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4162):   349.99   3.831     8.00    28.39
       + ID2= 2 (5416):    89.30   1.452    10.25    42.55
         ================================================
         ID = 3 (9416):   439.29   4.785     9.00    31.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6416):   426.66  10.255     7.25    46.31
       + ID2= 2 (9416):   439.29   4.785     9.00    31.27
         ================================================
         ID = 3 (8250):   865.95  13.991     7.25    38.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0418) |   Area    (ha)= 174.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   2.825

     PEAK FLOW       (cms)=   2.392 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  30.508
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4184) |   Area    (ha)=   8.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  10.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.61         6.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     240.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        90.20
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.01 (ii)   16.16 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.85          0.896 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25           6.25
     RUNOFF VOLUME    (mm)=      86.50        45.40          49.51
     TOTAL RAINFALL   (mm)=      88.50        88.50          88.50
     RUNOFF COEFFICIENT   =       0.98         0.51           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  73.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (9428) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4300      0.1618
                         0.0300     0.0818   |   0.5800      0.2012
                         0.1700     0.0912   |   0.7300      0.2384
                         0.3100     0.1306   |   0.8500      0.2747

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4184)     8.700      0.896      6.25      49.51
     OUTFLOW: ID= 1 (9428)     8.700      0.462      6.50      49.43

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.61
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1729

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-------------------
| ADD HYD   (9423) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0418):   174.09   2.392     7.50    30.51
       + ID2= 2 (9428):     8.70   0.462     6.50    49.43
         ================================================
         ID = 3 (9423):   182.79   2.757     7.00    31.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8250):   865.95  13.991     7.25    38.68
       + ID2= 2 (9423):   182.79   2.757     7.00    31.41
         ================================================
         ID = 3 (8248):  1048.74  16.715     7.25    37.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0420):   175.82   2.139     7.00    22.27
       + ID2= 2 (8248):  1048.74  16.715     7.25    37.41
         ================================================
         ID = 3 (8246):  1224.56  18.829     7.25    35.24
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8244)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (5507):		7519.42	44.136	12.25	24.65
+ ID2= 2 (8246):		1224.56	18.829	7.25	35.24
ID = 3 (8244):		8743.98	55.553	10.00	26.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (4227)	Area (ha)=	66.80		
ID= 1 DT=15.0 min	Total Imp(%)=	29.00	Dir. Conn.(%)=	15.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	19.37	47.43	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	667.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		116.82	48.34	
over (min)		15.00	30.00	
Storage Coeff. (min)=		9.23 (ii)	23.54 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.09	0.04	
				TOTALS
PEAK FLOW	(cms)=	2.81	2.98	4.664 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	26.83	35.78
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.30	0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 54.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (9426)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	3.3400	1.2303	
	0.2300	0.6171	4.4700	1.5350	
	1.3000	0.6860	5.6100	1.8228	
	2.4100	0.9909	6.5300	2.1041	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4227)		66.800	4.664	6.00	35.78
OUTFLOW: ID= 1 (9426)		66.800	2.228	6.50	35.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 47.76
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.9590

RESERVOIR (5422)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	4.3110	2.6782	
	0.2180	1.7874	5.4130	2.9186	
	1.2490	1.9110	6.3010	3.1540	
	2.3250	2.1760	6.7010	3.1640	
	3.2250	2.4038	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9426)	66.800	2.228	6.50	35.77
OUTFLOW: ID= 1 (5422)	66.800	0.179	14.25	35.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.04
TIME SHIFT OF PEAK FLOW (min)=465.00
MAXIMUM STORAGE USED (ha.m.)= 1.4693

CALIB				
NASHYD (4222)	Area (ha)=	713.41	Curve Number (CN)=	54.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.95		

Unit Hyd Qpeak (cms)= 6.252

PEAK FLOW (cms)= 4.565 (i)
TIME TO PEAK (hrs)= 9.000
RUNOFF VOLUME (mm)= 23.163
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.262

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9422)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (4222):		713.41	4.565	9.00	23.16
+ ID2= 2 (5422):		66.80	0.179	14.25	35.74
ID = 3 (9422):		780.21	4.726	9.00	24.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8242)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8244):		8743.98	55.553	10.00	26.13
+ ID2= 2 (9422):		780.21	4.726	9.00	24.24
ID = 3 (8242):		9524.19	60.208	10.00	25.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (5508)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	*******	197.3574	
	76.4550	30.8371	*******	394.7148	
	*******	61.6742	*******	394.7248	
	*******	*******	0.0000	0.0000	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (8242)		9524.190	60.208	10.00	25.98
OUTFLOW: ID= 1 (5508)		9524.190	57.965	11.50	25.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.27
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 23.3852

CALIB				
NASHYD (0336)	Area (ha)=	2785.00	Curve Number (CN)=	72.0
ID= 1 DT=15.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	15.39		

Unit Hyd Qpeak (cms)= 3.090

PEAK FLOW (cms)= 4.639 (i)
TIME TO PEAK (hrs)= 22.250
RUNOFF VOLUME (mm)= 38.196
TOTAL RAINFALL (mm)= 88.500

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     RUNOFF COEFFICIENT   =   0.432

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3382) |   Area    (ha)= 433.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     168.98       264.31
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1699.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        76.01
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      16.18 (ii)   28.11 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      19.82        24.00        35.026 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        37.86         47.59
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.43          0.54

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3381) |   Area    (ha)= 165.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.78        77.84
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1050.78        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        99.70
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.12 (ii)   22.83 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      11.50        10.33        18.166 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        41.86         53.92
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.47          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5338) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   9.5300      3.8529
                         0.6370     1.6350   |  12.1350      4.2725
                         2.7300     2.1009   |  14.3850      4.6808
                         5.1010     2.7445   |  14.7850      4.6908
                         7.0460     3.2936   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3381)    165.620     18.166      6.00      53.92
     OUTFLOW: ID= 1 (5338)    165.620      8.509      6.50      53.91

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.84
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.6821

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| ADD HYD   (8310) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3382):   433.29  35.026     6.00    47.59
       + ID2= 2 (5338):   165.62   8.509     6.50    53.91
         ==========================================================
         ID = 3 (8310):   598.91  40.821     6.25    49.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (3342) |   Area    (ha)= 586.87   Curve Number   (CN)= 56.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   8.20

     Unit Hyd Qpeak  (cms)=   1.221

     PEAK FLOW       (cms)=   1.170 (i)
     TIME TO PEAK    (hrs)=  15.250
     RUNOFF VOLUME    (mm)=  24.620
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3341) |   Area    (ha)=  33.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.95        16.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     470.67        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        76.76
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       7.49 (ii)   19.38 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.06         1.78          3.192 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        31.52         43.06
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.36          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  51.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5334) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6690      0.4664
                         0.0400     0.1927   |   0.8520      0.5318
                         0.1900     0.2643   |   1.0360      0.5973
                         0.3830     0.3576   |   1.4360      0.6073
                         0.4460     0.3863   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
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                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3341)     33.230      3.192      6.00      43.06
     OUTFLOW: ID= 1 (5334)     33.230      1.677      6.50      43.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.52
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6222

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| ADD HYD   (8314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3342):   586.87   1.170    15.25    24.62
       + ID2= 2 (5334):    33.23   1.677     6.50    43.03
         ================================================
         ID = 3 (8314):   620.10   2.040     6.50    25.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0306) |   Area    (ha)= 283.97   Curve Number   (CN)= 52.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   6.44

     Unit Hyd Qpeak  (cms)=   0.753

     PEAK FLOW       (cms)=   0.637 (i)
     TIME TO PEAK    (hrs)=  13.750
     RUNOFF VOLUME    (mm)=  21.914
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.248

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0282) |   Area    (ha)= 449.38   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.47

     Unit Hyd Qpeak  (cms)=   5.226

     PEAK FLOW       (cms)=   6.939 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  43.497
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.491

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0284) |   Area    (ha)=  78.93   Curve Number   (CN)= 84.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.57

     Unit Hyd Qpeak  (cms)=   2.344

     PEAK FLOW       (cms)=   3.150 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  51.645
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.584

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8388) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0282):   449.38   6.939     8.00    43.50
       + ID2= 2 (0284):    78.93   3.150     6.50    51.65
         ================================================
         ID = 3 (8388):   528.31   9.369     7.25    44.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (6286) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

               <------ DATA FOR SECTION (2861.0) ------>
               Distance      Elevation       Manning
                  0.00         233.00        0.0450
                 20.58         228.51        0.0450
                 41.17         227.74        0.0450
                 51.46         227.41        0.0450
                 97.77         225.96        0.0450
                149.23         223.94        0.0450
                200.69         220.84        0.0450
                226.42         220.66        0.0450
                238.85         220.22        0.0450
                241.35         220.01    0.0450 /0.0350  Main Channel
                241.85         219.70        0.0350      Main Channel
                245.85         219.72        0.0350      Main Channel
                246.35         220.06        0.0350      Main Channel
                248.85         220.23        0.0350      Main Channel
                303.60         221.64        0.0350      Main Channel
                380.79         224.98        0.0450
                432.25         229.54        0.0450
                457.98         233.33        0.0450
                483.71         234.27        0.0450
                509.44         233.81        0.0450

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.31    220.01    .382E+04        0.8         0.57      82.89
      1.06    220.76    .525E+05       12.1         0.66      72.51
      1.81    221.51    .240E+06       88.6         1.05      45.21
      2.56    222.26    .510E+06      261.7         1.46      32.47
      3.31    223.01    .843E+06      533.8         1.81      26.34
      4.06    223.76    .124E+07      913.6         2.10      22.64
      4.81    224.51    .171E+07     1399.0         2.34      20.33
      5.56    225.26    .225E+07     2051.0         2.60      18.27
      6.31    226.01    .285E+07     2907.0         2.91      16.35
      7.06    226.76    .352E+07     3902.5         3.16      15.04
      7.82    227.52    .426E+07     5069.9         3.39      14.01
      8.57    228.27    .507E+07     6433.0         3.62      13.13
      9.32    229.02    .593E+07     8069.2         3.89      12.24
     10.07    229.77    .681E+07     9926.7         4.16      11.44
     10.82    230.52    .772E+07    11962.8         4.42      10.75
     11.57    231.27    .864E+07    14167.1         4.68      10.17
     12.32    232.02    .959E+07    16537.1         4.92       9.66
     13.07    232.77    .105E+08    19070.7         5.16       9.22
     13.82    233.52    .115E+08    21790.4         5.39       8.82

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8388)  528.31     9.37    7.25  44.71      0.88      0.63
     OUTFLOW: ID= 1 (6286)  528.31     7.94    9.00  44.71      0.78      0.62


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-------------------
| CALIB             |
| STANDHYD  (2861) |   Area    (ha)=  54.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  19.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.69         30.17
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          0.50
     Length            (m)=     604.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     116.82        125.98
               over (min)       15.00         30.00
     Storage Coeff.  (min)=       8.70 (ii)   18.45 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.09          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.97          5.60          6.750 (iii)
     TIME TO PEAK    (hrs)=       6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50         55.31         61.24
     TOTAL RAINFALL   (mm)=      88.50         88.50         88.50
     RUNOFF COEFFICIENT   =       0.98          0.62          0.69
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5286) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6700      1.4285
                          0.1860     0.6703   |   4.6080      1.6332
                          1.0630     0.7754   |   5.3640      1.8336
                          1.9790     1.0010   |   5.7640      1.8436
                          2.7460     1.1950   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2861)     54.860     6.750      6.00      61.24
     OUTFLOW: ID= 1 (5286)     54.860     3.503      6.50      61.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.89
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.4052

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2862) |   Area    (ha)= 205.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  10.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.24       160.41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1170.90        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        89.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.93 (ii)   24.14 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.16        18.61        20.856 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        49.65         53.33
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.56          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (9286) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2862):   205.65  20.856     6.25    53.33
       + ID2= 2 (5286):    54.86   3.503     6.50    61.22
         ================================================
         ID = 3 (9286):   260.51  23.616     6.25    54.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8386) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6286):   528.31   7.939     9.00    44.71
       + ID2= 2 (9286):   260.51  23.616     6.25    54.99
         ================================================
         ID = 3 (8386):   788.82  25.756     6.25    48.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0302) |   Area     (ha)= 473.90   Curve Number   (CN)= 58.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.66

     Unit Hyd Qpeak  (cms)=   4.874

     PEAK FLOW       (cms)=   3.864 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  25.946
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0298) |   Area     (ha)= 330.51   Curve Number   (CN)= 45.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.26

     Unit Hyd Qpeak  (cms)=   4.461

     PEAK FLOW       (cms)=   2.236 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  17.571
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.199

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3001) |   Area     (ha)=   0.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.04         0.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=      24.49        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        62.09
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       1.27 (ii)   14.22 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.01          0.010 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.00          6.00
     RUNOFF VOLUME    (mm)=      86.50        26.79         35.64
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.30          0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5300) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0060      0.0023
```

```
                        0.0020     0.0012   |   0.0070      0.0026
                        0.0030     0.0016   |   0.0090      0.0029
                        0.0040     0.0019   |   0.4090      0.0129

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3001)      0.090      0.010      6.00      35.64
     OUTFLOW: ID= 1 (5300)      0.090      0.002      6.50      34.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.46
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0014

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (3002)  |   Area    (ha)= 258.84   Curve Number   (CN)= 51.8
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   4.290

     PEAK FLOW       (cms)=   2.520 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  21.586
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.244

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3002):   258.84   2.520     7.50    21.59
       + ID2= 2 (5300):     0.09   0.002     6.50    34.12
         ================================================
         ID = 3 (9300):   258.93   2.522     7.50    21.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (9298):   330.51   2.236     8.00    17.57
       + ID2= 2 (9300):   258.93   2.522     7.50    21.59
         ================================================
         ID = 3 (8395):   589.44   4.729     7.75    19.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0288)  |   Area    (ha)= 340.83   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.21

     Unit Hyd Qpeak  (cms)=   2.629

     PEAK FLOW       (cms)=   3.883 (i)
     TIME TO PEAK    (hrs)=   9.250
     RUNOFF VOLUME    (mm)=  44.801
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.506

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0290)  |   Area    (ha)= 269.18   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   4.279

     PEAK FLOW       (cms)=   5.447 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  44.529
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.503

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8397) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0288):   340.83   3.883     9.25    44.80
       + ID2= 2 (0290):   269.18   5.447     7.25    44.53
         ================================================
         ID = 3 (8397):   610.01   9.010     8.00    44.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0296)  |   Area    (ha)= 293.65   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.13

     Unit Hyd Qpeak  (cms)=   4.437

     PEAK FLOW       (cms)=   5.388 (i)
     TIME TO PEAK    (hrs)=   7.500
     RUNOFF VOLUME    (mm)=  42.226
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.477

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0292)  |   Area    (ha)= 738.49   Curve Number   (CN)= 68.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   8.289

     PEAK FLOW       (cms)=   8.591 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  34.153
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0294)  |   Area    (ha)= 274.15   Curve Number   (CN)= 57.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   5.367

     PEAK FLOW       (cms)=   3.559 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  25.026
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.283

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (8398) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0292):   738.49   8.591     8.00    34.15
       + ID2= 2 (0294):   274.15   3.559     7.00    25.03
         ================================================
         ID = 3 (8398):  1012.64  11.892     8.00    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6296) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (2961.0) ------>
              Distance      Elevation       Manning
                 0.00         243.98        0.0400
                42.59         243.18        0.0400
                85.17         241.81        0.0400
               120.66         240.50        0.0400
               156.15         239.56        0.0400
               198.74         236.15        0.0400
               237.78         234.01        0.0400
               241.33         233.82        0.0400
               248.77         233.12    0.0400 /0.0400  Main Channel
               249.87         232.32        0.0400      Main Channel
               250.37         231.80        0.0400      Main Channel
               250.87         232.23        0.0400      Main Channel
               251.97         233.10    0.0400 /0.0400  Main Channel
               255.37         233.22        0.0400
               259.07         233.87        0.0400
               262.62         234.12        0.0400
               266.17         234.23        0.0400
               283.91         234.73        0.0400
               337.15         241.75        0.0400
               351.34         244.00        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43   232.23    .510E+03       0.1         0.53      81.07
      0.87   232.67    .213E+04       0.7         0.83      51.49
      1.30   233.10    .501E+04       2.2         1.10      38.75
      1.98   233.78    .242E+05      12.6         1.34      31.93
      2.66   234.46    .738E+05      42.1         1.46      29.21
      3.34   235.14    .177E+06     127.9         1.84      23.13
      4.02   235.82    .314E+06     281.4         2.29      18.61
      4.70   236.50    .481E+06     509.4         2.71      15.73
      5.38   237.18    .672E+06     815.6         3.11      13.73
      6.06   237.86    .886E+06    1200.7         3.46      12.30
      6.74   238.54    .112E+07    1669.4         3.80      11.23
      7.42   239.22    .139E+07    2226.9         4.11      10.38
      8.10   239.90    .168E+07    2808.4         4.28       9.95
      8.78   240.58    .202E+07    3470.4         4.40       9.68
      9.46   241.26    .240E+07    4331.7         4.61       9.24
     10.14   241.94    .283E+07    5335.2         4.83       8.84
     10.82   242.62    .330E+07    6482.6         5.03       8.48
     11.50   243.30    .381E+07    7764.1         5.21       8.18
     12.18   243.98    .439E+07    9101.2         5.31       8.04

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8398) 1012.64    11.89    8.00  31.68      1.93      1.32
    OUTFLOW: ID= 1 (6296) 1012.64    11.62    8.25  31.68      1.91      1.31


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--------------------
| ADD HYD   (8396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0296):   293.65   5.388     7.50    42.23
       + ID2= 2 (6296):  1012.64  11.616     8.25    31.68
         ================================================
         ID = 3 (8396):  1306.29  16.780     8.00    34.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8394) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8396):  1306.29  16.780     8.00    34.05
       + ID2= 2 (8397):   610.01   9.010     8.00    44.68
         ================================================
         ID = 3 (8394):  1916.30  25.790     8.00    37.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8392) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8394):  1916.30  25.790     8.00    37.44
       + ID2= 2 (8395):   589.44   4.729     7.75    19.34
         ================================================
         ID = 3 (8392):  2505.74  30.497     8.00    33.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3021.0) ------>
              Distance      Elevation       Manning
                 0.00         228.10        0.0400
                18.47         227.12        0.0400
                36.95         226.12        0.0400
                46.18         225.84        0.0400
                55.42         225.58        0.0400
               272.47         222.88        0.0400
               277.09         222.76        0.0400
               281.71         222.58        0.0400
               288.54         222.18    0.0400 /0.0300  Main Channel
               288.64         221.00        0.0300      Main Channel
               290.94         221.00        0.0300      Main Channel
               291.04         221.00        0.0300      Main Channel
               291.54         222.75    0.0300 /0.0400  Main Channel
               300.18         222.83        0.0400
               304.80         223.04        0.0400
               309.42         223.25        0.0400
               318.65         223.69        0.0400
               360.22         225.57        0.0400
               397.16         227.60        0.0400
               457.20         228.35        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.29   221.29    .228E+04       0.2         0.32     165.63
      0.59   221.59    .465E+04       0.7         0.45     116.15
      0.88   221.88    .713E+04       1.2         0.54      96.87
      1.18   222.18    .971E+04       1.9         0.61      86.20
      1.57   222.57    .175E+05       3.3         0.59      88.86
      1.97   222.97    .427E+05       6.4         0.47     111.39
      2.36   223.36    .115E+06      16.1         0.44     119.14
      2.76   223.76    .237E+06      37.1         0.49     106.49
      3.15   224.15    .409E+06      72.9         0.56      93.40
      3.55   224.55    .631E+06     127.0         0.63      82.76
      3.94   224.94    .903E+06     202.4         0.70      74.37
      4.34   225.34    .123E+07     301.8         0.77      67.68
      4.73   225.73    .160E+07     433.5         0.85      61.37
      5.13   226.13    .200E+07     602.2         0.95      55.29
      5.52   226.52    .242E+07     804.7         1.05      50.13
      5.92   226.92    .286E+07    1034.2         1.14      46.11
      6.31   227.31    .332E+07    1290.5         1.22      42.88
      6.71   227.71    .380E+07    1560.9         1.29      40.55
      7.10   228.10    .432E+07    1835.6         1.34      39.19

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8392) 2505.74    30.50    8.00  33.18      2.64      0.47
    OUTFLOW: ID= 1 (6302) 2505.74    24.10   10.25  33.18      2.51      0.46


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| ADD HYD   (8390) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0302):   473.90   3.864     8.50    25.95
       + ID2= 2 (6302):  2505.74  24.104    10.25    33.18
         ================================================
         ID = 3 (8390):  2979.64  27.727    10.00    32.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8348) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8386):   788.82  25.756     6.25    48.11
       + ID2= 2 (8390):  2979.64  27.727    10.00    32.03
         ================================================
         ID = 3 (8348):  3768.46  37.313     9.75    35.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0304) |   Area    (ha)= 292.37   Curve Number   (CN)= 63.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.78

     Unit Hyd Qpeak  (cms)=   1.793

     PEAK FLOW       (cms)=   1.844 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  29.899
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.338

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0280) |   Area    (ha)= 299.86   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   6.009

     PEAK FLOW       (cms)=   8.228 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  49.420
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.558

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0278) |   Area    (ha)= 485.49   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.52

     Unit Hyd Qpeak  (cms)=   5.453

     PEAK FLOW       (cms)=   8.411 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  49.794
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.563

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0276) |   Area    (ha)=  90.89   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.302

     PEAK FLOW       (cms)=   2.744 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  45.323
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.512

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0274) |   Area    (ha)= 392.49   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.08

     Unit Hyd Qpeak  (cms)=   6.182

     PEAK FLOW       (cms)=   7.225 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.085
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.464

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8360) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):   392.49   7.225     7.25    41.09
       + ID2= 2 (0276):    90.89   2.744     6.75    45.32
         ================================================
         ID = 3 (8360):   483.38   9.821     7.00    41.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8358) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0278):   485.49   8.411     8.00    49.79
       + ID2= 2 (8360):   483.38   9.821     7.00    41.88
         ================================================
         ID = 3 (8358):   968.87  17.878     7.50    45.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6280) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

               <------ DATA FOR SECTION (2801.0) ------>
               Distance      Elevation       Manning
                  0.00         241.14        0.0500
                 13.32         240.80        0.0500
                 39.95         240.07        0.0500
                 96.54         236.21        0.0500
                113.19         234.15        0.0500
                123.18         232.35        0.0500
                143.15         225.80        0.0500
                149.81         225.62        0.0500
                153.14         225.40        0.0500
                157.30         224.76    0.0500 /0.0300  Main Channel
                159.80         224.26        0.0300      Main Channel
                162.30         224.85        0.0300      Main Channel
                162.55         224.97    0.0300 /0.0500  Main Channel
                167.80         225.05        0.0500
                186.43         229.14        0.0500
                213.06         234.75        0.0500
                236.37         237.09        0.0500
                266.33         237.31        0.0500
                292.96         237.83        0.0500
                329.58         241.50        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   224.76    .263E+04       0.8         0.65       58.31
      1.36   225.62    .278E+05      13.4         1.10       34.54
      2.22   226.48    .855E+05      52.6         1.40       27.09
      3.09   227.35    .157E+06     120.4         1.74       21.78
      3.95   228.21    .242E+06     216.3         2.04       18.64
      4.81   229.07    .340E+06     341.8         2.29       16.56
      5.67   229.93    .450E+06     498.3         2.52       15.06
      6.53   230.79    .574E+06     688.3         2.73       13.90
      7.40   231.66    .711E+06     913.8         2.93       12.97
      8.26   232.52    .861E+06    1173.4         3.11       12.23
      9.12   233.38    .103E+07    1461.3         3.24       11.72
      9.98   234.24    .121E+07    1793.3         3.37       11.26
     10.85   235.11    .142E+07    2141.0         3.45       11.02
     11.71   235.97    .165E+07    2530.4         3.50       10.86
```

```
      12.57   236.83    .192E+07    2954.0          3.51      10.81
      13.43   237.69    .226E+07    3160.3          3.18      11.93
      14.29   238.55    .271E+07    3869.4          3.26      11.67
      15.16   239.42    .320E+07    4740.3          3.38      11.24
      16.02   240.28    .373E+07    5688.4          3.48      10.92

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8358)  968.87    17.88    7.50  45.85      1.46      1.13
     OUTFLOW: ID= 1 (6280)  968.87    17.31    8.25  45.85      1.45      1.12


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-------------------
| ADD HYD   (8354) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0280):   299.86   8.228     7.00    49.42
       + ID2= 2 (6280):   968.87  17.313     8.25    45.85
         ================================================
         ID = 3 (8354):  1268.73  24.661     7.75    46.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0270) |   Area    (ha)= 243.61   Curve Number   (CN)= 81.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.429

     PEAK FLOW       (cms)=   4.722 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  48.074
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.543

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0268) |   Area    (ha)= 215.76   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.69

     Unit Hyd Qpeak  (cms)=   3.807

     PEAK FLOW       (cms)=   4.211 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  40.714
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.460

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0266) |   Area    (ha)= 508.09   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.63

     Unit Hyd Qpeak  (cms)=   3.786

     PEAK FLOW       (cms)=   3.687 (i)
     TIME TO PEAK    (hrs)=   9.000
     RUNOFF VOLUME    (mm)=  30.617
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.346

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2641) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  70.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)

     Surface Area     (ha)=      13.18         4.39
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     342.34        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        69.21
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.18 (ii)   18.58 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.76         0.44          4.044 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        37.62         71.84
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.43          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  66.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5264) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1760      0.5589
                         0.0600     0.3133   |   1.4770      0.6054
                         0.3410     0.3763   |   1.7190      0.6511
                         0.6340     0.4336   |   2.1190      0.6611
                         0.8800     0.4941   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2641)     17.580      4.044      6.00      71.84
     OUTFLOW: ID= 1 (5264)     17.580      1.572      6.25      71.76

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.87
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6369

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (2642) |   Area    (ha)= 336.37   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.28

     Unit Hyd Qpeak  (cms)=   3.192

     PEAK FLOW       (cms)=   3.410 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  34.996
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9264) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2642):   336.37   3.410     8.00    35.00
       + ID2= 2 (5264):    17.58   1.572     6.25    71.76
         ================================================
         ID = 3 (9264):   353.95   4.149     6.50    36.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8380) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0266):   508.09   3.687     9.00    30.62
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```
       + ID2= 2 (9264):   353.95   4.149     6.50    36.82
         ================================================
         ID = 3 (8380):   862.04   7.383     8.00    33.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6268) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2681.0) ------>
              Distance      Elevation       Manning
                  0.00         274.03        0.0500
                 10.55         272.73        0.0500
                 21.10         271.28        0.0500
                 50.12         266.83        0.0500
                 87.04         260.36        0.0500
                 92.32         260.06        0.0500
                 94.95         259.93        0.0500
                101.00         256.87        0.0500
                103.00         256.58    0.0500 /0.0350  Main Channel
                104.00         256.32        0.0350      Main Channel
                106.00         256.05        0.0350      Main Channel
                108.00         256.25        0.0350      Main Channel
                110.78         256.65    0.0350 /0.0500  Main Channel
                113.42         256.81        0.0500
                116.06         257.00        0.0500
                155.62         260.24        0.0500
                187.27         263.35        0.0500
                211.01         267.22        0.0500
                224.20         269.60        0.0500
                261.13         272.68        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.53   256.58    .697E+04       2.1         0.97      55.64
      1.38   257.43    .477E+05      25.9         1.76      30.66
      2.22   258.27    .123E+06      84.3         2.22      24.26
      3.07   259.12    .231E+06     185.4         2.60      20.72
      3.92   259.97    .371E+06     335.8         2.92      18.42
      4.77   260.82    .560E+06     547.6         3.15      17.06
      5.61   261.66    .790E+06     845.6         3.46      15.57
      6.46   262.51    .106E+07    1225.0         3.75      14.37
      7.31   263.36    .136E+07    1693.3         4.02      13.37
      8.16   264.21    .169E+07    2283.2         4.35      12.36
      9.00   265.05    .206E+07    2969.1         4.66      11.54
      9.85   265.90    .245E+07    3754.4         4.96      10.86
     10.70   266.75    .286E+07    4643.0         5.24      10.28
     11.55   267.60    .331E+07    5636.1         5.50       9.78
     12.39   268.44    .378E+07    6746.2         5.76       9.34
     13.24   269.29    .428E+07    7972.2         6.01       8.96
     14.09   270.14    .482E+07    9218.9         6.18       8.71
     14.94   270.99    .539E+07   10550.5         6.32       8.52
     15.78   271.83    .601E+07   12024.7         6.46       8.33

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8380)  862.04     7.38    8.00  33.16      0.72      1.07
    OUTFLOW: ID= 1 (6268)  862.04     7.13    9.25  33.16      0.71      1.07


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-------------------
| ADD HYD   (8382) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):   215.76   4.211     7.00    40.71
       + ID2= 2 (6268):   862.04   7.127     9.25    33.16
         ================================================
         ID = 3 (8382):  1077.80  10.583     8.25    34.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6270) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2701.0) ------>
              Distance      Elevation       Manning
                  0.00         245.98        0.0500
                  8.14         245.66        0.0500
                 16.28         245.16        0.0500
                 20.35         244.84        0.0500
                 38.66         242.98        0.0500
                 48.83         240.65        0.0500
                 63.07         235.91        0.0500
                 65.11         235.18        0.0500
                 68.43         234.34    0.0500 /0.0300  Main Channel
                 68.68         233.95        0.0300      Main Channel
                 69.18         233.89        0.0300      Main Channel
                 69.68         233.95        0.0300      Main Channel
                 71.21         234.48    0.0300 /0.0500  Main Channel
                 81.38         236.44        0.0500
                 95.63         236.66        0.0500
                120.04         237.00        0.0500
                148.53         241.77        0.0500
                158.70         242.34        0.0500
                187.18         244.03        0.0500
                201.42         244.36        0.0500

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.45   234.34    .217E+04       0.7         0.99      52.83
      0.98   234.87    .966E+04       4.6         1.49      35.20
      1.50   235.39    .250E+05      13.7         1.73      30.41
      2.03   235.92    .475E+05      29.5         1.95      26.87
      2.56   236.45    .772E+05      52.5         2.14      24.50
      3.09   236.98    .142E+06      82.4         1.83      28.73
      3.61   237.50    .246E+06     158.1         2.03      25.91
      4.14   238.03    .357E+06     262.0         2.31      22.73
      4.67   238.56    .477E+06     392.1         2.59      20.27
      5.20   239.09    .604E+06     547.8         2.86      18.38
      5.72   239.61    .739E+06     729.2         3.11      16.90
      6.25   240.14    .882E+06     936.5         3.34      15.70
      6.78   240.67    .103E+07    1169.7         3.57      14.72
      7.31   241.20    .119E+07    1425.9         3.77      13.94
      7.83   241.72    .136E+07    1710.4         3.96      13.26
      8.36   242.25    .154E+07    1967.9         4.02      13.07
      8.89   242.78    .174E+07    2264.9         4.09      12.83
      9.42   243.31    .196E+07    2589.3         4.15      12.65
      9.94   243.83    .221E+07    2953.5         4.22      12.46

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8382) 1077.80    10.58    8.25  34.68      1.32      1.64
    OUTFLOW: ID= 1 (6270) 1077.80    10.39    8.75  34.68      1.31      1.63


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-------------------
| ADD HYD   (8384) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0270):   243.61   4.722     7.25    48.07
       + ID2= 2 (6270):  1077.80  10.387     8.75    34.68
         ================================================
         ID = 3 (8384):  1321.41  14.652     8.50    37.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0262)  |   Area    (ha)= 341.31   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.01

    Unit Hyd Qpeak  (cms)=   4.094

    PEAK FLOW       (cms)=   5.995 (i)
    TIME TO PEAK    (hrs)=   7.500
    RUNOFF VOLUME    (mm)=  49.519
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =   0.560

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
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| NASHYD    (0258) |   Area    (ha)= 181.99   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.18

     Unit Hyd Qpeak  (cms)=   1.881

     PEAK FLOW       (cms)=   2.620 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  45.751
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.517

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD    (0256) |   Area    (ha)= 145.79   Curve Number   (CN)= 67.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.04

     Unit Hyd Qpeak  (cms)=   1.707

     PEAK FLOW       (cms)=   1.643 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  33.068
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.374

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD    (0254) |   Area    (ha)= 403.00   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   4.028

     PEAK FLOW       (cms)=   2.850 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  23.726
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (6256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (2561.0) ------>
              Distance      Elevation       Manning
                  0.00         276.07        0.0400
                 11.68         273.71        0.0400
                 23.36         271.35        0.0400
                 29.19         270.30        0.0400
                 35.03         269.44        0.0400
                 55.47         267.90        0.0400
                 78.82         266.24        0.0400
                 90.50         265.63        0.0400
                102.18         265.40        0.0400
                105.10         264.95    0.0400 /0.0350  Main Channel
                108.02         264.39        0.0350      Main Channel
                110.94         264.72        0.0350      Main Channel
                113.86         265.19    0.0350 /0.0400  Main Channel
                116.78         265.49        0.0400
                143.05         268.24        0.0400
                172.25         270.53        0.0400
                207.28         271.95        0.0400
                233.55         273.72        0.0400
                256.91         274.98        0.0400
                289.02         275.97        0.0400

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.56   264.95    .723E+04       1.9         0.90      62.51
       1.14   265.53    .307E+05      13.5         1.49      37.92
       1.72   266.11    .951E+05      48.6         1.73      32.62
       2.30   266.69    .191E+06     117.8         2.09      27.03
       2.88   267.27    .314E+06     225.2         2.43      23.24
       3.46   267.85    .464E+06     375.5         2.74      20.59
       4.04   268.43    .641E+06     573.2         3.03      18.62
       4.62   269.01    .846E+06     821.9         3.29      17.15
       5.20   269.59    .108E+07    1135.0         3.56      15.87
       5.78   270.17    .134E+07    1525.1         3.86      14.64
       6.36   270.75    .162E+07    1971.1         4.12      13.71
       6.94   271.33    .194E+07    2474.0         4.33      13.04
       7.52   271.91    .228E+07    3065.0         4.55      12.42
       8.10   272.49    .266E+07    3773.4         4.80      11.75
       8.68   273.07    .306E+07    4566.3         5.05      11.17
       9.26   273.65    .348E+07    5443.7         5.30      10.66
       9.84   274.23    .393E+07    6389.6         5.51      10.25
      10.42   274.81    .440E+07    7426.2         5.72       9.88
      11.00   275.39    .490E+07    8490.1         5.86       9.63

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254)  403.00     2.85    8.00  23.73      0.61      0.93
     OUTFLOW: ID= 1 (6256)  403.00     2.68    9.75  23.73      0.60      0.93

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--------------------
| ADD HYD   (8370) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0256):   145.79   1.643     8.00    33.07
       + ID2= 2 (6256):   403.00   2.683     9.75    23.73
         ================================================
         ID = 3 (8370):   548.79   4.183     9.00    26.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD    (0250) |   Area    (ha)= 192.88   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.22

     Unit Hyd Qpeak  (cms)=   1.930

     PEAK FLOW       (cms)=   2.099 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  35.932
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.406

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD    (0246) |   Area    (ha)= 759.61   Curve Number   (CN)= 55.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   1.81

     Unit Hyd Qpeak  (cms)=   5.121

     PEAK FLOW       (cms)=   3.958 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  23.809
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.269

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0248) |   Area    (ha)= 146.04   Curve Number   (CN)= 64.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.30
-------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   2.271

     PEAK FLOW       (cms)=   1.874 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  30.328
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.343
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8364)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0246):	759.61	3.958	10.00	23.81
	+ ID2= 2 (0248):	146.04	1.874	7.25	30.33
	ID = 3 (8364):	905.65	5.601	8.25	24.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6250)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2501.0) ------>

Distance	Elevation	Manning	
0.00	269.96	0.0500	
8.56	268.55	0.0500	
17.13	266.91	0.0500	
21.41	266.13	0.0500	
40.68	263.15	0.0500	
62.09	260.75	0.0500	
85.64	258.02	0.0500	
88.20	257.69	0.0500	
93.20	257.05	0.0500 /0.0350	Main Channel
93.45	256.88	0.0350	Main Channel
94.20	256.56	0.0350	Main Channel
94.95	256.83	0.0350	Main Channel
95.20	257.08	0.0350 /0.0500	Main Channel
100.62	257.45	0.0500	
115.61	258.57	0.0500	
139.16	260.43	0.0500	
152.01	261.95	0.0500	
171.27	264.63	0.0500	
188.40	267.90	0.0500	
211.95	274.18	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	257.05	.205E+04	0.4	0.68	89.65
1.17	257.73	.248E+05	5.7	0.85	72.16
1.85	258.41	.841E+05	25.2	1.10	55.60
2.53	259.09	.180E+06	66.5	1.36	45.14
3.21	259.77	.312E+06	135.7	1.60	38.36
3.89	260.45	.481E+06	238.3	1.82	33.61
4.57	261.13	.681E+06	383.5	2.07	29.60
5.25	261.81	.911E+06	568.9	2.29	26.70
5.93	262.49	.117E+07	800.5	2.51	24.36
6.61	263.17	.146E+07	1079.0	2.72	22.49
7.28	263.84	.177E+07	1413.4	2.94	20.85
7.96	264.52	.210E+07	1797.0	3.14	19.50
8.64	265.20	.246E+07	2241.6	3.35	18.28
9.32	265.88	.283E+07	2739.9	3.55	17.25
10.00	266.56	.323E+07	3295.7	3.75	16.34
10.68	267.24	.364E+07	3908.9	3.94	15.54
11.36	267.92	.408E+07	4578.5	4.12	14.84
12.04	268.60	.453E+07	5320.1	4.32	14.18
12.72	269.28	.499E+07	6109.1	4.50	13.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8364)	905.65	5.60	8.25	24.86	1.15	0.84
OUTFLOW: ID= 1 (6250)	905.65	5.25	10.25	24.86	1.11	0.83

ADD HYD (8366)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0250):	192.88	2.099	8.00	35.93
	+ ID2= 2 (6250):	905.65	5.247	10.25	24.86
	ID = 3 (8366):	1098.53	7.167	9.75	26.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8368)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (8366):	1098.53	7.167	9.75	26.80
	+ ID2= 2 (8370):	548.79	4.183	9.00	26.21
	ID = 3 (8368):	1647.32	11.318	9.50	26.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2521) | Area (ha)= 32.51
ID= 1 DT=15.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 70.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.38	8.13
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	0.50
Length	(m)=	465.55	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	116.82	76.24
over	(min)	15.00	30.00
Storage Coeff.	(min)=	7.44 (ii)	19.36 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.10	0.05

				TOTALS
PEAK FLOW	(cms)=	6.72	0.89	7.297 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	41.23	72.92
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.47	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 70.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5252)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.1750	1.0334
0.1100	0.5793	2.7310	1.1195
0.6300	0.6958	3.1790	1.2039
1.1730	0.8017	3.5790	1.2139
1.6270	0.9137	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2521)	32.510	7.297	6.00	72.92
OUTFLOW: ID= 1 (5252)	32.510	2.887	6.25	72.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.56
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.1594

CALIB
NASHYD (2522) | Area (ha)= 287.47 Curve Number (CN)= 71.5
ID= 1 DT=15.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 1.30
U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 3.448

PEAK FLOW	(cms)=	3.743 (i)	
TIME TO PEAK	(hrs)=	7.750	
RUNOFF VOLUME	(mm)=	37.327	
TOTAL RAINFALL	(mm)=	88.500	
RUNOFF COEFFICIENT	=	0.422	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9252)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2522):	287.47	3.743	7.75	37.33
	+ ID2= 2 (5252):	32.51	2.887	6.25	72.88
	ID = 3 (9252):	319.98	5.902	6.50	40.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8372)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8368):	1647.32	11.318	9.50	26.61
	+ ID2= 2 (9252):	319.98	5.902	6.50	40.94
	ID = 3 (8372):	1967.30	15.109	8.75	28.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6258)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (2581.0) ------>

Distance	Elevation	Manning	
0.00	252.88	0.0500	
15.47	251.89	0.0500	
46.41	248.45	0.0500	
73.48	245.81	0.0500	
88.95	243.75	0.0500	
112.15	242.00	0.0500	
135.35	240.23	0.0500	
162.42	239.76	0.0500	
170.97	239.52	0.0500 /0.0350	Main Channel
171.58	239.03	0.0350	Main Channel
174.02	239.03	0.0350	Main Channel
176.46	239.03	0.0350	Main Channel
177.07	239.52	0.0350 /0.0500	Main Channel
185.63	239.67	0.0500	
208.83	239.87	0.0500	
239.77	240.14	0.0500	
274.57	244.93	0.0500	
336.45	249.51	0.0500	
363.52	249.77	0.0500	
382.85	251.78	0.0500	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	239.52	.135E+05	2.5	0.92	91.32
1.14	240.17	.175E+06	25.6	0.73	114.22
1.78	240.81	.532E+06	123.5	1.17	71.85
2.43	241.46	.932E+06	285.3	1.54	54.48
3.07	242.10	.138E+07	506.5	1.85	45.25
3.72	242.75	.186E+07	786.8	2.12	39.42
4.36	243.39	.239E+07	1127.3	2.37	35.33
5.01	244.04	.296E+07	1535.8	2.61	32.12
5.65	244.68	.356E+07	2014.3	2.84	29.48
6.30	245.33	.420E+07	2535.9	3.03	27.60
6.94	245.97	.488E+07	3108.4	3.20	26.16
7.59	246.62	.561E+07	3740.6	3.35	24.98
8.23	247.26	.638E+07	4446.7	3.50	23.93
8.88	247.91	.721E+07	5229.7	3.64	22.98
9.52	248.55	.809E+07	6094.3	3.78	22.12
10.17	249.20	.901E+07	7050.4	3.93	21.31
10.81	249.84	.100E+08	7773.0	3.90	21.46
11.46	250.49	.111E+08	8998.8	4.07	20.56
12.10	251.13	.122E+08	10318.2	4.24	19.75

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (8372)	1967.30	15.11	8.75	28.94	0.84	0.81
OUTFLOW:	ID= 1 (6258)	1967.30	13.58	11.00	28.94	0.80	0.82

ADD HYD (8374)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0258):	181.99	2.620	8.00	45.75
	+ ID2= 2 (6258):	1967.30	13.577	11.00	28.94
	ID = 3 (8374):	2149.29	15.667	10.75	30.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2601)	Area (ha)= 56.22			
ID= 1 DT=15.0 min	Total Imp(%)= 65.00	Dir. Conn.(%)= 48.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	36.54	19.68	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	612.21	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	116.82	134.20	
over (min)		15.00	30.00	
Storage Coeff. (min)	=	8.77 (ii)	18.28 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	30.00	
Unit Hyd. peak (cms)	=	0.09	0.05	
				TOTALS
PEAK FLOW	(cms)=	7.67	3.92	10.343 (iii)
TIME TO PEAK	(hrs)=	6.00	6.25	6.00
RUNOFF VOLUME	(mm)=	86.50	58.48	71.93
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.66	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5260)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.7610	1.6799
	0.1900	0.8974	4.7220	1.8499
	1.0890	1.0678	5.4970	2.0146
	2.0290	1.2667	5.8970	2.0246
	2.8140	1.4621	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (2601)	56.220	10.343	6.00	71.93
OUTFLOW:	ID= 1 (5260)	56.220	4.470	6.50	71.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.22
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.8379

CALIB				
NASHYD (2602)	Area (ha)= 420.02	Curve Number (CN)= 83.3		
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.30		
	U.H. Tp(hrs)= 1.30			

Unit Hyd Qpeak	(cms)=	3.946
PEAK FLOW	(cms)=	6.339 (i)
TIME TO PEAK	(hrs)=	8.000
RUNOFF VOLUME	(mm)=	51.454
TOTAL RAINFALL	(mm)=	88.500
RUNOFF COEFFICIENT	=	0.581

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9260)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2602):		420.02	6.339	8.00	51.45
+ ID2= 2 (5260):		56.22	4.470	6.50	71.91
ID = 3 (9260):		476.24	9.817	6.50	53.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8376)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8374):		2149.29	15.667	10.75	30.36
+ ID2= 2 (9260):		476.24	9.817	6.50	53.87
ID = 3 (8376):		2625.53	21.681	10.00	34.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8378)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0262):		341.31	5.995	7.50	49.52
+ ID2= 2 (8376):		2625.53	21.681	10.00	34.62
ID = 3 (8378):		2966.84	26.671	9.50	36.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8362)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8378):		2966.84	26.671	9.50	36.34
+ ID2= 2 (8384):		1321.41	14.652	8.50	37.15
ID = 3 (8362):		4288.25	41.006	8.75	36.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6272)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (2721.0) ------>

Distance	Elevation	Manning	
0.00	231.01	0.0450	
23.01	223.65	0.0450	
34.51	222.46	0.0450	
51.77	222.11	0.0450	
69.02	221.87	0.0450	
161.06	221.92	0.0450	
166.81	221.91	0.0450	
172.56	221.89	0.0450	
180.57	221.40	0.0450 /0.0300	Main Channel
181.57	220.60	0.0300	Main Channel
184.07	220.16	0.0300	Main Channel
195.57	221.85	0.0300 /0.0450	Main Channel
201.32	221.82	0.0450	
207.07	221.77	0.0450	
212.83	221.72	0.0450	
253.09	222.52	0.0450	
408.40	222.65	0.0450	
460.17	223.20	0.0450	
517.69	224.84	0.0450	
569.46	232.57	0.0450	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.41	220.57	.189E+04	0.5	0.49	60.18
0.83	220.99	.697E+04	3.2	0.82	35.79
1.24	221.40	.145E+05	8.8	1.07	27.45
1.84	222.00	.643E+05	29.3	0.81	36.61
2.44	222.60	.282E+06	132.9	0.83	35.41
3.04	223.20	.707E+06	413.7	1.04	28.50
3.64	223.80	.118E+07	876.8	1.31	22.46
4.24	224.40	.168E+07	1494.8	1.57	18.75
4.84	225.00	.221E+07	2264.1	1.82	16.23
5.44	225.60	.274E+07	3196.3	2.06	14.29
6.04	226.20	.328E+07	4258.6	2.30	12.84
6.65	226.81	.383E+07	5444.7	2.52	11.72
7.25	227.41	.438E+07	6749.7	2.73	10.82
7.85	228.01	.494E+07	8169.4	2.93	10.08
8.45	228.61	.551E+07	9700.7	3.12	9.46
9.05	229.21	.608E+07	11340.8	3.30	8.94
9.65	229.81	.666E+07	13087.4	3.48	8.48
10.25	230.41	.724E+07	14938.5	3.65	8.08
10.85	231.01	.783E+07	16892.4	3.82	7.73

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (8362)	4288.25	41.01	8.75	36.59	1.91	0.81
OUTFLOW: ID= 1 (6272)	4288.25	40.44	9.75	36.59	1.91	0.81

CALIB	STANDHYD (2721)	ID= 1 DT=15.0 min	Area (ha)= 2.21	Total Imp(%)= 49.00	Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.08	1.13	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	0.50	0.50	
Length	(m)=	121.38	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	116.82	123.79	
over (min)		15.00	15.00	
Storage Coeff. (min)	=	3.32 (ii)	13.14 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	15.00	
Unit Hyd. peak (cms)	=	0.11	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.14	0.29	0.424 (iii)
TIME TO PEAK	(hrs)=	6.00	6.00	6.00
RUNOFF VOLUME	(mm)=	86.50	50.52	57.35
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	0.98	0.57	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (5272)	IN= 2---> OUT= 1	DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1480	0.0589
0.0070	0.0284	0.1850	0.0669
0.0430	0.0331	0.2160	0.0746
0.0800	0.0419	0.6160	0.0846
0.1100	0.0497	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2721)	2.210	0.424	6.00	57.35
OUTFLOW: ID= 1 (5272)	2.210	0.141	6.25	56.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.19
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0577

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-------------------
| CALIB             |
| NASHYD    (2722)  |   Area    (ha)= 155.17   Curve Number   (CN)= 75.3
|ID= 1 DT=15.0 min  |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   2.870 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  41.420
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.468

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (9272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2722):   155.17   2.870     7.25    41.42
       + ID2= 2 (5272):     2.21   0.141     6.25    56.89
         ================================================
         ID = 3 (9272):   157.38   2.949     7.25    41.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8356) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6272):  4288.25  40.441     9.75    36.59
       + ID2= 2 (9272):   157.38   2.949     7.25    41.64
         ================================================
         ID = 3 (8356):  4445.63  42.651     9.50    36.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8354):  1268.73  24.661     7.75    46.69
       + ID2= 2 (8356):  4445.63  42.651     9.50    36.77
         ================================================
         ID = 3 (8352):  5714.36  64.805     8.75    38.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (3041.0) ------>
               Distance      Elevation       Manning
                   0.00         232.08        0.0500
                  19.00         231.87        0.0500
                  38.00         231.33        0.0500
                  66.51         230.44        0.0500
                 104.51         228.25        0.0500
                 118.76         225.17        0.0500
                 128.26         219.86        0.0500
                 175.77         219.17        0.0500
                 185.27         218.90    0.0500 /0.0300  Main Channel
                 185.52         218.65        0.0300      Main Channel
                 190.02         218.37        0.0300      Main Channel
                 194.52         218.60        0.0300      Main Channel
                 194.77         218.85    0.0300 /0.0500  Main Channel
                 204.27         219.60        0.0500
                 299.28         220.91        0.0500
                 327.78         222.36        0.0500
                 375.28         225.71        0.0500
                 403.79         229.37        0.0500
                 432.29         230.43        0.0500
                 470.29         232.00        0.0500

               <---------- TRAVEL TIME TABLE ---------->
                DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
                  (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
                0.48   218.85    .121E+05       1.2          0.36     173.94
                1.17   219.54    .839E+05       9.8          0.44     142.60
                1.86   220.23    .323E+06      41.0          0.47     131.43
                2.56   220.93    .708E+06     109.5          0.58     107.67
                3.25   221.62    .118E+07     224.3          0.71      87.36
                3.94   222.31    .168E+07     376.5          0.84      74.48
                4.63   223.00    .222E+07     567.9          0.96      65.26
                5.32   223.69    .279E+07     794.7          1.07      58.58
                6.02   224.39    .339E+07    1056.2          1.17      53.52
                6.71   225.08    .402E+07    1352.4          1.26      49.52
                7.40   225.77    .468E+07    1677.3          1.34      46.46
                8.09   226.46    .536E+07    2050.0          1.43      43.58
                8.79   227.16    .607E+07    2457.9          1.52      41.14
                9.48   227.85    .680E+07    2901.0          1.60      39.05
               10.17   228.54    .755E+07    3352.7          1.66      37.53
               10.86   229.23    .834E+07    3812.5          1.71      36.48
               11.55   229.92    .919E+07    4241.8          1.73      36.13
               12.25   230.62    .101E+08    4697.0          1.74      35.93
               12.94   231.31    .111E+08    5186.3          1.74      35.83

                                          <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
               INFLOW : ID= 2 (8352) 5714.36    64.81    8.75  38.97      2.10      0.51
               OUTFLOW: ID= 1 (6304) 5714.36    53.19   11.00  38.97      1.98      0.49

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-------------------
| ADD HYD   (8350) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   292.37   1.844    10.25    29.90
       + ID2= 2 (6304):  5714.36  53.186    11.00    38.97
         ================================================
         ID = 3 (8350):  6006.73  55.013    11.00    38.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8348):  3768.46  37.313     9.75    35.39
       + ID2= 2 (8350):  6006.73  55.013    11.00    38.53
         ================================================
         ID = 3 (8346):  9775.19  90.815    10.25    37.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   283.97   0.637    13.75    21.91
       + ID2= 2 (8346):  9775.19  90.815    10.25    37.32
         ================================================
         ID = 3 (8344): 10059.16  91.371    10.25    36.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5509) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  ******     370.0451
                         41.0590    56.7403   |  *******    863.4386
                         48.1390    86.3439   |  *******    ********
                         56.6340    *******   |  *******    ********
                         67.9600    *******   |   0.0000      0.0000

                                      AREA     QPEAK     TPEAK       R.V.
                                       (ha)     (cms)     (hrs)       (mm)
               INFLOW : ID= 2 (8344)  ********     91.371     10.25      36.88
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     OUTFLOW: ID= 1 (5509)   ********     55.685     15.75      36.88

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.94
                   TIME SHIFT OF PEAK FLOW         (min)=330.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=119.2309

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-------------------
| CALIB           |
| NASHYD    (0332) |   Area    (ha)= 393.44   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   2.32

     Unit Hyd Qpeak  (cms)=   2.894

     PEAK FLOW       (cms)=   3.974 (i)
     TIME TO PEAK    (hrs)=   9.500
     RUNOFF VOLUME    (mm)=  41.340
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0330) |   Area    (ha)= 468.30   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.09

     Unit Hyd Qpeak  (cms)=   7.335

     PEAK FLOW       (cms)=   9.926 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=  47.004
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.531

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (6332) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3321.0) ------>
              Distance      Elevation       Manning
                 0.00         234.00        0.0380
                25.85         227.20        0.0380
                96.94         226.44        0.0380
               168.03         227.38        0.0380
               219.73         225.62        0.0380
               342.52         221.57        0.0380
               368.37         221.42        0.0380
               374.83         221.23        0.0380
               379.79         220.98    0.0380 /0.0300  Main Channel
               380.29         220.47        0.0300      Main Channel
               381.29         220.47        0.0300      Main Channel
               382.79         220.47        0.0300      Main Channel
               383.29         220.98    0.0300 /0.0380  Main Channel
               394.22         221.22        0.0380
               400.68         221.33        0.0380
               407.14         221.44        0.0380
               491.16         225.70        0.0380
               568.71         227.55        0.0380
               607.49         230.14        0.0380
               639.80         234.08        0.0380

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.51   220.98    .554E+04        0.9         0.56      107.27
      1.20   221.67    .885E+05       12.1         0.49      122.32
      1.88   222.35    .309E+06       64.7         0.76       79.70
      2.57   223.04    .615E+06      165.4         0.97       61.99
      3.25   223.72    .101E+07      322.1         1.16       52.06
      3.94   224.41    .148E+07      542.9         1.33       45.51
      4.62   225.09    .204E+07      835.4         1.48       40.77
      5.31   225.78    .269E+07     1202.8         1.62       37.27
      5.99   226.46    .344E+07     1618.0         1.70       35.46
      6.68   227.15    .447E+07     1932.0         1.56       38.56
      7.36   227.83    .580E+07     2763.9         1.72       34.96
      8.05   228.52    .718E+07     3861.9         1.95       30.97
      8.73   229.20    .859E+07     5115.4         2.16       27.98
      9.42   229.89    .100E+08     6519.2         2.35       25.64
     10.10   230.57    .115E+08     8092.3         2.55       23.69
     10.79   231.26    .130E+08     9821.5         2.73       22.05
     11.47   231.94    .145E+08    11690.0         2.92       20.68
     12.16   232.63    .160E+08    13694.9         3.09       19.52
     12.84   233.31    .176E+08    15833.9         3.26       18.52

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (0330)  468.30     9.93    7.25  47.00      1.06      0.50
     OUTFLOW: ID= 1 (6332)  468.30     7.46    9.50  47.00      0.91      0.52

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-------------------
| ADD HYD   (8322) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0332):   393.44   3.974     9.50    41.34
      + ID2= 2 (6332):   468.30   7.455     9.50    47.00
        ================================================
        ID = 3 (8322):   861.74  11.429     9.50    44.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0328) |   Area    (ha)= 492.92   Curve Number   (CN)= 77.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.91

     Unit Hyd Qpeak  (cms)=   4.411

     PEAK FLOW       (cms)=   6.150 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  43.578
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.492

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| NASHYD    (0326) |   Area    (ha)= 678.91   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=   1.95

     Unit Hyd Qpeak  (cms)=   5.941

     PEAK FLOW       (cms)=   9.054 (i)
     TIME TO PEAK    (hrs)=   8.750
     RUNOFF VOLUME    (mm)=  47.251
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (3181) |   Area    (ha)= 357.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  32.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     200.09       157.21
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1543.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       118.46
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      15.27 (ii)   25.26 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.07         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      26.82        23.77        42.397 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        49.67         61.46
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
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```
     RUNOFF COEFFICIENT   =       0.98         0.56          0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5318) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  22.8580      8.7280
                          0.8190     2.5190   |  27.5380      9.6853
                          4.2860     5.8947   |  32.5800     10.8345
                         11.0600     6.7336   |  32.9800     10.8445
                         16.3830     7.4416   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3181)    357.300     42.397      6.00      61.46
     OUTFLOW: ID= 1 (5318)    357.300     23.161      6.50      61.45

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.63
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  8.8668

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--------------------
| CALIB            |
| STANDHYD  (3182) |   Area    (ha)= 126.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  12.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.49        99.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     916.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        71.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.17 (ii)   23.37 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.00         9.42        10.959 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.25
     RUNOFF VOLUME    (mm)=      86.50        41.82        47.18
     TOTAL RAINFALL   (mm)=      88.50        88.50        88.50
     RUNOFF COEFFICIENT   =       0.98         0.47         0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (8334) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3182):   126.13  10.959     6.25    47.18
        + ID2= 2 (5318):   357.30  23.161     6.50    61.45
          ================================================
          ID = 3 (8334):   483.43  30.555     6.50    57.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (6320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (3201.0) ------>
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```
                Distance      Elevation       Manning
                   0.00         249.00        0.0380
                  22.92         245.86        0.0380
                  45.83         244.87        0.0380
                  91.66         243.11        0.0380
                 126.03         239.53        0.0380
                 160.41         237.17        0.0380
                 166.14         237.06        0.0380
                 177.59         237.13        0.0380
                 183.32         237.20        0.0380
                 189.05         236.70    0.0380 /0.0350  Main Channel
                 193.05         235.89        0.0350      Main Channel
                 197.05         236.64    0.0350 /0.0380  Main Channel
                 200.51         236.74        0.0380
                 206.24         237.03        0.0380
                 246.34         238.82        0.0380
                 263.53         243.87        0.0380
                 389.56         247.64        0.0380
                 452.58         247.74        0.0380
                 498.41         248.60        0.0380
                 567.16         249.84        0.0380

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37    236.26    .270E+04        0.4         0.58     107.96
       0.75    236.64    .108E+05        2.6         0.92      68.01
       1.48    237.37    .877E+05       27.4         1.17      53.35
       2.20    238.09    .277E+06      122.1         1.65      37.83
       2.93    238.82    .540E+06      299.7         2.08      30.01
       3.66    239.55    .857E+06      587.8         2.57      24.29
       4.39    240.28    .120E+07      977.8         3.04      20.52
       5.11    241.00    .158E+07     1458.1         3.46      18.02
       5.84    241.73    .198E+07     2028.6         3.84      16.23
       6.57    242.46    .240E+07     2690.5         4.19      14.86
       7.29    243.18    .285E+07     3431.8         4.50      13.84
       8.02    243.91    .335E+07     4149.1         4.64      13.44
       8.75    244.64    .393E+07     4746.6         4.51      13.80
       9.47    245.36    .463E+07     5618.6         4.53      13.75
      10.20    246.09    .545E+07     6781.8         4.66      13.39
      10.93    246.82    .635E+07     8274.5         4.87      12.79
      11.66    247.55    .733E+07     9988.0         5.10      12.23
      12.38    248.27    .853E+07    11422.0         5.01      12.45
      13.11    249.00    .989E+07    13749.7         5.20      11.98

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8334)  483.43    30.56    6.50  57.73      1.50      1.18
     OUTFLOW: ID= 1 (6320)  483.43    18.89    7.00  57.73      1.23      1.07


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--------------------
| CALIB            |
| NASHYD    (3202) |   Area    (ha)=  84.56   Curve Number   (CN)= 80.9
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   2.054

     PEAK FLOW       (cms)=   2.614 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  47.762
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.540

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3201) |   Area    (ha)= 194.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  16.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.38       106.80
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=    1137.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       130.27
               over (min)       15.00        30.00
```

```
     Storage Coeff.  (min)=      12.71 (ii)   22.34 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.85        18.92        22.286 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.25
     RUNOFF VOLUME    (mm)=      86.50        55.20         60.21
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.62          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5320) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.4940      4.4477
                         0.2490     1.8139   |   9.8910      4.7762
                         1.2830     3.1517   |  12.4550      5.0763
                         3.7490     3.7610   |  12.8550      5.0863
                         5.0040     4.0198   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3201)    194.180     22.286      6.25      60.21
     OUTFLOW: ID= 1 (5320)    194.180     12.123      6.75      60.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.40
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  5.1456

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-------------------
| ADD HYD   (9320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3202):    84.56   2.614     6.75    47.76
       + ID2= 2 (5320):   194.18  12.123     6.75    60.20
         ==========================================
         ID = 3 (9320):   278.74  14.737     6.75    56.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (8332) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6320):   483.43  18.890     7.00    57.73
       + ID2= 2 (9320):   278.74  14.737     6.75    56.42
         ==========================================
         ID = 3 (8332):   762.17  31.854     6.75    57.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (3142) |   Area    (ha)= 122.75   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
-------------------    U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   3.924

     PEAK FLOW       (cms)=   4.337 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  43.783
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.495

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| STANDHYD  (3141) |   Area    (ha)=  42.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  46.00
-------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.72         12.74
     Dep. Storage     (mm)=        2.00          5.00
     Average Slope     (%)=        0.50          0.50
     Length            (m)=      532.04         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      116.82        147.39
               over (min)        15.00         30.00
     Storage Coeff.  (min)=        8.06 (ii)    17.22 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        5.67          2.84          7.583 (iii)
     TIME TO PEAK    (hrs)=        6.00          6.25          6.00
     RUNOFF VOLUME    (mm)=       86.50         53.18         68.51
     TOTAL RAINFALL   (mm)=       88.50         88.50         88.50
     RUNOFF COEFFICIENT   =        0.98          0.60          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (5314) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.8400      1.3064
                         0.1440     0.7144   |   3.5660      1.4269
                         0.8230     0.8540   |   4.1520      1.5451
                         1.5320     0.9987   |   4.5520      1.5551
                         2.1250     1.1456   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3141)     42.460      7.583      6.00      68.51
     OUTFLOW: ID= 1 (5314)     42.460      3.096      6.50      68.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.83
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3696

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-------------------
| ADD HYD   (9314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3142):   122.75   4.337     6.50    43.78
       + ID2= 2 (5314):    42.46   3.096     6.50    68.48
         ==========================================
         ID = 3 (9314):   165.21   7.433     6.50    50.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (6316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (3161.0) ------>
              Distance      Elevation       Manning
                 0.00         248.54        0.0350
                27.93         248.34        0.0350
                41.89         246.61        0.0350
                62.83         243.09        0.0350
               132.65         239.00        0.0350
               188.50         236.74        0.0350
               195.48         236.54        0.0350
               202.46         236.32        0.0350
               205.48         236.14    0.0350 /0.0310  Main Channel
               205.98         235.61        0.0310      Main Channel
```

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              207.98        235.25        0.0310      Main Channel
              209.98        235.53        0.0310      Main Channel
              210.48        236.00    0.0310 /0.0350  Main Channel
              216.42        236.73        0.0350
              258.31        239.09        0.0350
              328.12        239.84        0.0350
              439.83        241.47        0.0350
              530.58        242.08        0.0350
              586.43        242.93        0.0350
              691.16        248.00        0.0350

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   235.62    .215E+04        0.7         0.77      53.88
       0.75   236.00    .634E+04        3.5         1.36      30.45
       1.46   236.71    .297E+05       19.3         1.62      25.66
       2.16   237.41    .103E+06       75.8         1.84      22.60
       2.87   238.12    .229E+06      202.8         2.21      18.79
       3.57   238.82    .407E+06      423.3         2.59      16.03
       4.28   239.53    .654E+06      727.7         2.77      14.97
       4.99   240.24    .103E+07     1242.0         3.01      13.76
       5.69   240.94    .151E+07     2002.3         3.31      12.54
       6.40   241.65    .210E+07     2987.9         3.55      11.70
       7.10   242.35    .286E+07     4302.8         3.75      11.07
       7.81   243.06    .374E+07     6165.3         4.10      10.11
       8.51   243.76    .468E+07     8642.4         4.60       9.03
       9.22   244.47    .565E+07    11496.3         5.06       8.20
       9.93   245.18    .666E+07    14714.1         5.50       7.54
      10.63   245.88    .770E+07    18290.3         5.91       7.02
      11.34   246.59    .877E+07    22221.9         6.30       6.58
      12.04   247.29    .988E+07    26464.4         6.67       6.22
      12.75   248.00    .110E+08    31061.3         7.01       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (9314)  165.21     7.43    6.50  50.13      0.93      1.42
     OUTFLOW: ID= 1 (6316)  165.21     6.25    7.00  50.13      0.87      1.40


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--------------------
| CALIB            |
| NASHYD    (3162) |   Area    (ha)= 196.72   Curve Number   (CN)= 83.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   0.88

     Unit Hyd Qpeak  (cms)=   3.838

     PEAK FLOW       (cms)=   5.446 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  50.807
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.574

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3161) |   Area    (ha)=  35.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  63.00   Dir. Conn.(%)=  44.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.44        13.18
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         0.50
     Length            (m)=     487.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82       137.54
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.64 (ii)   17.06 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.60         2.76         6.495 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25          6.00
     RUNOFF VOLUME    (mm)=      86.50        58.87         71.03
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.67          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.5    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5316) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3160      0.9307
                          0.0930     0.5020   |   2.9060      1.0021
                          0.5400     0.6637   |   3.5360      1.0731
                          1.1940     0.7495   |   3.9360      1.0831
                          1.6920     0.8359   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3161)     35.620      6.495      6.00       71.03
     OUTFLOW: ID= 1 (5316)     35.620      3.294      6.25       70.99

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.72
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0778

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--------------------
| ADD HYD   (9316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3162):   196.72   5.446     7.00    50.81
       + ID2= 2 (5316):    35.62   3.294     6.25    70.99
         ================================================
         ID = 3 (9316):   232.34   8.400     6.50    53.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8338) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6316):   165.21   6.251     7.00    50.13
       + ID2= 2 (9316):   232.34   8.400     6.50    53.90
         ================================================
         ID = 3 (8338):   397.55  13.922     6.75    52.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0312) |   Area    (ha)= 359.44   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.36

     Unit Hyd Qpeak  (cms)=   4.529

     PEAK FLOW       (cms)=   6.425 (i)
     TIME TO PEAK    (hrs)=   8.000
     RUNOFF VOLUME    (mm)=  47.122
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.532

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0308) |   Area    (ha)= 529.30   Curve Number   (CN)= 62.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.62

     Unit Hyd Qpeak  (cms)=   5.575

     PEAK FLOW       (cms)=   4.939 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  29.006
     TOTAL RAINFALL   (mm)=  88.500
```

RUNOFF COEFFICIENT = 0.328

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0310)	Area (ha)= 138.28	Curve Number (CN)= 65.0	
ID= 1 DT=15.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 0.76		

Unit Hyd Qpeak (cms)= 3.102

PEAK FLOW (cms)= 2.521 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 31.169
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (8342)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	529.30	4.939	8.25	29.01
+ ID2= 2 (0310):	138.28	2.521	7.00	31.17
ID = 3 (8342):	667.58	7.113	7.75	29.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6312)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3121.0) ------>

Distance	Elevation	Manning	
0.00	265.94	0.0360	
38.07	265.43	0.0360	
59.82	263.98	0.0360	
103.32	254.59	0.0360	
157.70	252.16	0.0360	
217.52	250.45	0.0360	
233.84	247.69	0.0360	
234.71	247.27	0.0360	
239.71	246.38	0.0360	
244.71	246.12	0.0360 /0.0330	Main Channel
247.71	245.17	0.0330	Main Channel
249.71	245.19	0.0330	Main Channel
251.71	245.64	0.0330 /0.0360	Main Channel
259.71	246.67	0.0360	
282.78	247.12	0.0360	
315.41	251.60	0.0360	
424.17	256.13	0.0360	
478.55	257.04	0.0360	
516.62	259.37	0.0360	
538.37	266.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	245.64	.111E+04	3.1	1.78	6.07
1.54	246.71	.103E+05	53.9	3.39	3.19
2.61	247.78	.414E+05	281.3	4.40	2.45
3.68	248.85	.839E+05	749.1	5.79	1.87
4.74	249.91	.136E+06	1463.2	6.97	1.55
5.81	250.98	.201E+06	2354.8	7.61	1.42
6.88	252.05	.295E+06	3533.0	7.76	1.39
7.95	253.12	.427E+06	5303.9	8.05	1.34
9.02	254.19	.594E+06	7856.5	8.58	1.26
10.09	255.26	.792E+06	11449.2	9.37	1.15
11.15	256.32	.101E+07	15862.4	10.15	1.06
12.22	257.39	.127E+07	21074.5	10.75	1.01
13.29	258.46	.155E+07	28184.1	11.78	0.92
14.36	259.53	.185E+07	36386.2	12.77	0.85
15.43	260.60	.215E+07	46110.6	13.89	0.78
16.50	261.67	.246E+07	56822.5	14.95	0.72
17.56	262.73	.278E+07	68498.1	15.97	0.68
18.63	263.80	.310E+07	81118.8	16.94	0.64
19.70	264.87	.344E+07	93603.2	17.66	0.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (8342)	667.58	7.11	7.75	29.45	0.56	1.85
OUTFLOW: ID= 1 (6312)	667.58	7.11	7.75	29.45	0.55	1.85

ADD HYD (8340)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0312):	359.44	6.425	8.00	47.12
+ ID2= 2 (6312):	667.58	7.109	7.75	29.45
ID = 3 (8340):	1027.02	13.531	8.00	35.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8336)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8338):	397.55	13.922	6.75	52.33
+ ID2= 2 (8340):	1027.02	13.531	8.00	35.64
ID = 3 (8336):	1424.57	26.391	7.00	40.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8330)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8332):	762.17	31.854	6.75	57.25
+ ID2= 2 (8336):	1424.57	26.391	7.00	40.30
ID = 3 (8330):	2186.74	57.932	6.75	46.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (6324)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (3241.0) ------>

Distance	Elevation	Manning	
0.00	234.38	0.0360	
33.57	232.48	0.0360	
67.14	230.14	0.0360	
83.93	228.80	0.0360	
134.29	227.62	0.0360	
209.82	225.10	0.0360	
218.21	224.86	0.0360	
226.61	224.47	0.0360	
234.00	223.86	0.0360 /0.0300	Main Channel
234.10	223.66	0.0300	Main Channel
235.00	223.66	0.0300	Main Channel
235.90	223.66	0.0300	Main Channel
236.00	223.86	0.0300 /0.0360	Main Channel
243.39	224.92	0.0360	
251.78	224.89	0.0360	
335.71	225.64	0.0360	
562.32	226.53	0.0360	
637.85	228.36	0.0360	
705.00	229.80	0.0360	
830.89	234.00	0.0360	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	223.86	.145E+04	0.2	0.43	147.27
0.73	224.39	.159E+05	2.8	0.68	93.11
1.27	224.93	.561E+05	11.0	0.75	85.19
1.80	225.46	.217E+06	45.6	0.80	79.20
2.33	225.99	.566E+06	134.4	0.91	70.20
2.87	226.53	.122E+07	338.1	1.06	59.97

```
       3.40   227.06    .206E+07     744.3          1.38      46.16
       3.94   227.60    .298E+07    1295.9          1.66      38.38
       4.47   228.13    .399E+07    1979.9          1.90      33.59
       5.00   228.66    .509E+07    2807.5          2.11      30.21
       5.54   229.20    .627E+07    3815.1          2.32      27.41
       6.07   229.73    .753E+07    4984.1          2.53      25.17
       6.60   230.26    .884E+07    6346.3          2.74      23.20
       7.14   230.80    .102E+08    7861.2          2.95      21.61
       7.67   231.33    .116E+08    9526.4          3.14      20.29
       8.21   231.87    .131E+08   11342.2          3.32      19.18
       8.74   232.40    .146E+08   13309.6          3.49      18.22
       9.27   232.93    .161E+08   15414.0          3.66      17.41
       9.81   233.47    .177E+08   17671.0          3.81      16.70

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (8330) 2186.74    57.93    6.75  46.21      1.88      0.82
     OUTFLOW: ID= 1 (6324) 2186.74    39.98    8.25  46.21      1.71      0.79


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--------------------
| CALIB            |
| NASHYD    (3242) |   Area    (ha)= 602.18   Curve Number   (CN)= 78.8
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.80

     Unit Hyd Qpeak  (cms)=   5.708

     PEAK FLOW       (cms)=   8.287 (i)
     TIME TO PEAK    (hrs)=   8.500
     RUNOFF VOLUME    (mm)=  45.725
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.517

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3241) |   Area    (ha)=  13.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  15.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.06         7.40
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=    299.56        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82       132.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.71 (ii)   15.27 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.62         1.55         1.681 (iii)
     TIME TO PEAK    (hrs)=      6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=     86.50        55.46        60.12
     TOTAL RAINFALL   (mm)=     88.50        88.50        88.50
     RUNOFF COEFFICIENT   =      0.98         0.63         0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (5324) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.9000      0.3505
                         0.0460     0.1645    |  1.1310      0.4008
                         0.2610     0.1903    |  1.3160      0.4499
                         0.4860     0.2456    |  1.7160      0.4599
                         0.6740     0.2932    |  0.0000      0.0000


                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3241)     13.460      1.681      6.00       60.12
     OUTFLOW: ID= 1 (5324)     13.460      0.874      6.50       60.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.98
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3464

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| ADD HYD   (9324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3242):   602.18   8.287     8.50     45.72
        + ID2= 2 (5324):    13.46   0.874     6.50     60.05
          ================================================
          ID = 3 (9324):   615.64   8.556     8.25     46.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6324):  2186.74  39.981     8.25     46.21
        + ID2= 2 (9324):   615.64   8.556     8.25     46.04
          ================================================
          ID = 3 (8328):  2802.38  48.537     8.25     46.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0322) |   Area    (ha)= 513.13   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   1.75

     Unit Hyd Qpeak  (cms)=   5.020

     PEAK FLOW       (cms)=   7.498 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  47.219
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.534

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (8326) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0322):   513.13   7.498     8.25     47.22
        + ID2= 2 (8328):  2802.38  48.537     8.25     46.17
          ================================================
          ID = 3 (8326):  3315.51  56.035     8.25     46.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8324) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0326):   678.91   9.054     8.75     47.25
        + ID2= 2 (8326):  3315.51  56.035     8.25     46.33
          ================================================
          ID = 3 (8324):  3994.42  65.037     8.25     46.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (6328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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          <------ DATA FOR SECTION (3281.0) ------>
          Distance      Elevation       Manning
              0.00         228.00        0.0380
             18.58         224.97        0.0380
             78.98         223.52        0.0380
            125.44         223.28        0.0380
            171.90         221.71        0.0380
            213.72         219.65        0.0380
            218.36         219.40        0.0380
            223.01         219.19        0.0380
            225.95         219.14    0.0380 /0.0320  Main Channel
            226.45         218.14        0.0320      Main Channel
            236.95         218.14        0.0320      Main Channel
            245.85         218.14        0.0320      Main Channel
            245.95         219.14    0.0320 /0.0380  Main Channel
            246.24         219.16        0.0380
            250.88         219.24        0.0380
            255.53         219.39        0.0380
            325.22         221.47        0.0380
            367.03         223.14        0.0380
            404.20         225.17        0.0380
            459.95         228.04        0.0380

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.50   218.64    .373E+05       3.2          0.33     192.37
      1.00   219.14    .752E+05      10.1          0.51     124.71
      1.52   219.66    .149E+06      22.2          0.57     112.06
      2.04   220.18    .279E+06      43.4          0.59     107.06
      2.56   220.70    .464E+06      77.0          0.63     100.52
      3.08   221.22    .705E+06     125.7          0.68      93.56
      3.61   221.75    .100E+07     192.7          0.73      86.62
      4.13   222.27    .135E+07     278.1          0.79      80.92
      4.65   222.79    .176E+07     385.9          0.84      75.86
      5.17   223.31    .222E+07     514.9          0.89      71.82
      5.69   223.83    .280E+07     662.7          0.90      70.40
      6.21   224.35    .345E+07     867.7          0.96      66.35
      6.73   224.87    .417E+07    1107.0          1.01      62.81
      7.25   225.39    .494E+07    1400.0          1.08      58.80
      7.78   225.92    .573E+07    1732.2          1.15      55.17
      8.30   226.44    .655E+07    2099.9          1.22      52.02
      8.82   226.96    .740E+07    2502.8          1.29      49.29
      9.34   227.48    .828E+07    2940.9          1.36      46.90
      9.86   228.00    .918E+07    3414.3          1.42      44.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (8324) 3994.42    65.04    8.25  46.49      2.38      0.62
    OUTFLOW: ID= 1 (6328) 3994.42    51.24   10.00  46.49      2.17      0.60


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| ADD HYD   (8320) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8328):   492.92   6.150     8.75    43.58
       + ID2= 2 (6328):  3994.42  51.239    10.00    46.49
         ==========================================
         ID = 3 (8320):  4487.34  57.152    10.00    46.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8318) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8320):  4487.34  57.152    10.00    46.17
       + ID2= 2 (8322):   861.74  11.429     9.50    44.42
         ==========================================
         ID = 3 (8318):  5349.08  68.524    10.00    45.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8316) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5509): 10059.16  55.685    15.75    36.88
       + ID2= 2 (8318):  5349.08  68.524    10.00    45.89
         ==========================================
         ID = 3 (8316): 15408.24 112.978    11.00    40.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8312) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8314):   620.10   2.040     6.50    25.61
       + ID2= 2 (8316): 15408.24 112.978    11.00    40.01
         ==========================================
         ID = 3 (8312): 16028.34 114.211    11.00    39.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8308) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (8310):   598.91  40.821     6.25    49.34
       + ID2= 2 (8312): 16028.34 114.211    11.00    39.45
         ==========================================
         ID = 3 (8308): 16627.25 117.147    10.50    39.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (5510) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  *******     74.0090
                       66.5450    18.5023    |  *******    ********
                       98.5430    37.0045    |  *******    ********

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (8308)   ********    117.147     10.50      39.81
    OUTFLOW: ID= 1 (5510)   ********    107.869     13.25      39.81

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 92.08
               TIME SHIFT OF PEAK FLOW         (min)=165.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 47.8888

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| ADD HYD   (8240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0336):  2785.00   4.639    22.25    38.20
       + ID2= 2 (5510): 16627.25 107.869    13.25    39.81
         ==========================================
         ID = 3 (8240): 19412.25 111.871    13.25    39.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (5508):  9524.19  57.965    11.50    25.97
       + ID2= 2 (8240): 19412.25 111.871    13.25    39.58
         ==========================================
         ID = 3 (8238): 28936.44 168.298    12.50    35.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (3427) |   Area    (ha)= 249.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  33.00
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--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    112.23       137.17
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1289.44        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        71.13
               over (min)      15.00        30.00
     Storage Coeff.  (min)=    13.71 (ii)   25.96 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=    20.19        12.14        27.903 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=    86.50        38.07        54.05
     TOTAL RAINFALL   (mm)=    88.50        88.50        88.50
     RUNOFF COEFFICIENT   =     0.98         0.43         0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (9425) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  12.4700      5.4211
                          0.8500     3.0375   |  16.6800      6.4838
                          4.8400     3.5126   |  20.9500      7.4161
                          9.0000     4.5390   |  24.3900      8.3284

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3427)    249.400     27.903      6.00      54.05
     OUTFLOW: ID= 1 (9425)    249.400     12.869      6.50      54.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.12
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  5.5855

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--------------------
| RESERVOIR (5342) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.6600     12.0067
                          1.2080    11.1244   |   4.4200     12.4001
                          2.0570    11.3002   |   5.2300     12.7452
                          2.7240    11.3602   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9425)    249.400     12.869      6.50      54.05
     OUTFLOW: ID= 1 (5342)    249.400      0.938     12.25      54.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.29
                TIME SHIFT OF PEAK FLOW         (min)=345.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  8.6448

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--------------------
| CALIB            |
| NASHYD    (3422) |   Area    (ha)= 755.17   Curve Number   (CN)= 54.5
|ID= 1 DT=15.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=   2.57

     Unit Hyd Qpeak  (cms)=   5.026

     PEAK FLOW       (cms)=   3.989 (i)
     TIME TO PEAK    (hrs)=  10.000
     RUNOFF VOLUME    (mm)=  23.531
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (9342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3422):   755.17   3.989    10.00    23.53
      + ID2= 2 (5342):   249.40   0.938    12.25    54.04
        ==========================================================
        ID = 3 (9342):  1004.57   4.906    10.25    31.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (8236) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8238): 28936.44 168.298    12.50    35.10
      + ID2= 2 (9342):  1004.57   4.906    10.25    31.11
        ==========================================================
        ID = 3 (8236): 29941.01 172.870    12.50    34.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (8234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8232):   285.79  14.039     6.00    44.95
      + ID2= 2 (8236): 29941.01 172.870    12.50    34.97
        ==========================================================
        ID = 3 (8234): 30226.80 173.540    12.25    35.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (3442) |   Area    (ha)= 188.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     60.43       128.41
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1122.02        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    116.82        25.33
               over (min)      15.00        45.00
     Storage Coeff.  (min)=    12.61 (ii)   31.14 (ii)
     Unit Hyd. Tpeak (min)=    15.00        45.00
     Unit Hyd. peak  (cms)=     0.08         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=    11.48         5.49        13.770 (iii)
     TIME TO PEAK    (hrs)=     6.00         6.50         6.00
     RUNOFF VOLUME    (mm)=    86.50        24.72        39.55
     TOTAL RAINFALL   (mm)=    88.50        88.50        88.50
     RUNOFF COEFFICIENT   =     0.98         0.28         0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3441) |   Area    (ha)= 155.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  29.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     60.51        94.64
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         0.50
     Length            (m)=   1017.02        40.00
```

```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     116.82        44.64
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      11.89 (ii)   26.66 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.65         5.14        14.830 (iii)
     TIME TO PEAK    (hrs)=       6.00         6.25         6.00
     RUNOFF VOLUME    (mm)=      86.50        25.53         43.21
     TOTAL RAINFALL   (mm)=      88.50        88.50         88.50
     RUNOFF COEFFICIENT   =       0.98         0.29          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  53.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (5344) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.6700      6.1252
                          0.3000     1.6125   |   3.3150      7.0314
                          0.8100     3.0036   |   3.8990      7.9700
                          1.4170     4.2559   |   4.2990      7.9800
                          1.8540     5.0526   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (3441)    155.150     14.830      6.00      43.21
     OUTFLOW: ID= 1 (5344)    155.150      1.524      8.00      43.20

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.28
                    TIME SHIFT OF PEAK FLOW         (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.4541

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--------------------
| ADD HYD   (9344) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3442):   188.84  13.770     6.00    39.55
        + ID2= 2 (5344):   155.15   1.524     8.00    43.20
          ================================================
          ID = 3 (9344):   343.99  14.192     6.00    41.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8234): 30226.80 173.540    12.25    35.06
        + ID2= 2 (9344):   343.99  14.192     6.00    41.20
          ================================================
          ID = 3 (8230): 30570.79 175.159    12.00    35.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8228) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8226):  1952.06  16.522     8.50    23.01
        + ID2= 2 (8230): 30570.79 175.159    12.00    35.13
          ================================================
          ID = 3 (8228): 32522.85 186.046    12.00    34.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (8190) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0356):  1015.22   6.685     8.00    18.15
        + ID2= 2 (8228): 32522.85 186.046    12.00    34.41
          ================================================
          ID = 3 (8190): 33538.07 190.507    11.75    33.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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```

Unit-Flow Rate Calculations

Note: Refer to **Table 4-13** to **Table 4-41** in the Town of East Gwillimbury SWMMP for Peak Flow Summary

Note: Hydrologic Model Output Provided in **Appendix F**

	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)
	9244	90.5	9236	14.6	9232	86.7	9216	34	9252	10.1	9242	15.5	9228	43.6	9226	116.5	9220	27.1	9218	42.1
Storm Event	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)
2	3.154	0.035	0.886	0.061	0.662	0.008	1.046	0.031	0.298	0.030	0.393	0.025	0.727	0.017	1.097	0.009	0.547	0.020	0.514	0.012
5	5.319	0.059	1.748	0.120	1.449	0.017	1.777	0.052	0.503	0.050	0.671	0.043	1.476	0.034	1.719	0.015	0.943	0.035	1.223	0.029
10	6.991	0.077	2.137	0.146	1.965	0.023	2.550	0.075	0.665	0.066	0.889	0.057	1.906	0.044	2.200	0.019	1.230	0.045	1.429	0.034
25	9.301	0.103	3.117	0.213	2.602	0.030	3.449	0.101	0.892	0.088	1.197	0.077	2.492	0.057	2.854	0.024	1.613	0.060	1.735	0.041
50	11.148	0.123	3.778	0.259	3.123	0.036	4.084	0.120	1.076	0.107	1.446	0.093	3.011	0.069	3.434	0.029	1.917	0.071	1.990	0.047
100	13.380	0.148	4.297	0.294	3.784	0.044	4.562	0.134	1.273	0.126	1.713	0.111	3.655	0.084	4.024	0.035	2.218	0.082	2.262	0.054

	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)	Comparison Point	Proposed Development Area (ha)
	9210	176.4	8148	54.4	9342	50.4	9422	52.3	9416	20.4	9423	8.7	515	98.4	516	22.6	518	32.3	524	270.4
Storm Event	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)	Over-Control Peak Flow (m^3/s)	Unit Flow ($m^3/s/ha$)
2	1.066	0.006	15.899	0.292	1.136	0.023	1.070	0.020	1.005	0.049	0.574	0.066	3.636	0.037	2.717	0.120	2.650	0.082	2.377	0.009
5	1.778	0.010	23.258	0.428	1.986	0.039	1.829	0.035	1.882	0.092	0.970	0.111	6.916	0.070	5.348	0.237	4.902	0.152	4.256	0.016
10	2.313	0.013	29.922	0.550	2.649	0.053	2.438	0.047	2.523	0.124	1.277	0.147	9.457	0.096	7.456	0.330	6.595	0.204	5.660	0.021
25	3.322	0.019	41.170	0.757	3.570	0.071	3.292	0.063	3.388	0.166	1.702	0.196	12.774	0.130	10.448	0.462	8.888	0.275	7.461	0.028
50	3.875	0.022	47.333	0.870	4.304	0.085	3.986	0.076	4.090	0.200	2.042	0.235	15.406	0.157	12.890	0.570	10.680	0.331	8.783	0.032
100	4.443	0.025	53.690	0.987	5.080	0.101	4.726	0.090	4.758	0.233	2.401	0.276	18.126	0.184	15.442	0.683	12.502	0.387	11.309	0.042

APPENDIX G
Phosphorus Loading Rate Calculations

Existing (Base Case Scenario)

Note: Based on Table 2-3 and Table 2-4 (Estimation of Phosphorus Loadings to Lake Simcoe, Sept 2010)

Subwatershed	Existing Land Use Category (ha)										Total (ha)
	Hay-Pasture	Cropland	Forest	Wetland	Quarry	Turf-Sod	Unpaved Road	Transition	Low Intensity Development	High Intensity Development	
Black River	5822	7734	7919	8756	333	1103	47	2016	2117	1415	37262
East Holland	2796	4282	3903	2498	48	1169	17	1453	1632	6710	24508
Maskinonge	971	2696	558	522	809	0	10	257	182	330	6335
West Holland	4815	12037	5157	2614	6	282	58	1802	1693	2151	30615

Subwatershed	Condensed Existing Land Use Category (ha)						Total (ha)
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional	
Black River	14992	7919	8756	2164	2016	1415	37262
East Holland	8295	3903	2498	1649	1453	6710	24508
Maskinonge	4476	558	522	192	257	330	6335
West Holland	17140	5157	2614	1751	1802	2151	30615

Subwatershed	Base Case Average Annual Total Phosphorus (kg/year)						Total (ha)
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional	
Black River	1936	9	1219	332	687	556	4739
East Holland	2084	16	855	68	560	4425	8008
Maskinonge	582	0	351	16	3	112	1064
West Holland	2834	13	1716	37	2189	528	7317

Subwatershed	Base Case Average Annual Total Phosphorus Loading Rate (kg/ha)					
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional
Black River	0.1291	0.0011	0.1392	0.1534	0.3408	0.3929
East Holland	0.2512	0.0041	0.3423	0.0412	0.3854	0.6595
Maskinonge	0.1300	0.0000	0.6724	0.0833	0.0117	0.3394
West Holland	0.1653	0.0025	0.6565	0.0211	1.2148	0.2455

Future (Growth Scenario)

Note: Based on Table 3-1 and Table 3-2 (Estimation of Phosphorus Loadings to Lake Simcoe, Sept 2010)

Subwatershed	Growth Land Use Category (ha)										Total (ha)
	Hay-Pasture	Cropland	Forest	Wetland	Quarry	Turf-Sod	Unpaved Road	Transition	Low Intensity Development	High Intensity Development	
Black River	5567	7476	7665	8756	333	852	47	1832	2117	2618	37263
East Holland	2173	3071	3080	2494	37	1028	17	1125	1632	9850	24507
Maskinonge	834	2409	531	522	803	0	10	233	182	811	6335
West Holland	4421	11187	4817	2614	3	260	58	1612	1693	3949	30614

Subwatershed	Condensed Growth Case Land Use Category (ha)						Total (ha)
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional	
Black River	14228	7665	8756	2164	1832	2618	37263
East Holland	6309	3080	2494	1649	1125	9850	24507
Maskinonge	4046	531	522	192	233	811	6335
West Holland	15871	4817	2614	1751	1612	3949	30614

Subwatershed	Growth Case Average Annual Total Phosphorus (kg/year)						Total (ha)
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional	
Black River	1865	8	1201	332	685	1902	5993
East Holland	1557	12	873	68	538	9536	12584
Maskinonge	520	0	325	13	3	611	1472
West Holland	2641	12	1707	37	2188	1780	8365

Subwatershed	Growth Case Average Annual Total Phosphorus Loading Rate (kg/ha)					
	Agriculture	Forest	Open Water / Wetland	Rural Development, Estate	Open Space	Low Density Residential, Medium Density Residential, Commercial / Institutional
Black River	0.1311	0.0010	0.1372	0.1534	0.3739	0.7265
East Holland	0.2468	0.0039	0.3500	0.0412	0.4782	0.9681
Maskinonge	0.1285	0.0000	0.6226	0.0677	0.0129	0.7534
West Holland	0.1664	0.0025	0.6530	0.0211	1.3573	0.4507

APPENDIX H
Existing Nditions Phosphorus Loading Calculations

Existing Phosphorus Loading Calculations

Catchment No.	Subwatershed	Hydrologic Soil Group	Land Use Category								Total
			Agriculture (ha)	Forest (ha)	Wetland/Open Water (ha)	Rural Development (ha)	Residential (ha)	Estate (ha)	Commercial (ha)	Institutional (ha)	Open Space (ha)	(kg/year)
Mount Albert												
3	Black River	Type D	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	
		Type B	89.7	1.1	6.5	0.0	57.2	0.0	0.0	0.0	0.0	
		Type C	59.5	0.0	0.0	0.0	29.8	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			19.3	0.0	0.9	0.0	34.2	0.0	0.0	0.0	6.5	60.9
4	Black River	Type B	4.1	8.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	
		Type C	0.6	1.6	2.6	0.0	14.9	0.0	0.0	0.0	0.0	
		Type A	19.1	5.4	5.7	0.0	37.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			3.1	0.0	1.2	0.0	22.2	0.0	0.0	0.0	0.0	26.5
TOTAL												**87.4**
Sharon												
218	East Holland	Type B	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	27.3	27.7	0.0	0.0	7.6	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			9.4	0.1	2.1	0.0	5.0	0.0	0.0	0.0	0.0	16.6
216	East Holland	Type B	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	34.2	2.6	0.0	0.0	27.1	0.0	0.0	0.0	0.0	
		Type A	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			8.8	0.0	1.4	0.0	22.0	0.0	0.0	0.0	0.0	32.2
214	East Holland	Bottomland	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	21.1	11.4	0.0	0.0	24.5	0.0	0.0	0.0	0.0	
		Type B	0.0	0.0	1.6	0.0	89.2	0.0	0.0	0.0	0.0	
		Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			5.3	0.0	3.1	0.0	75.0	0.0	0.0	0.0	0.0	83.5
210	East Holland	Type C	0.0	0.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	14.1
7	Black River	Type C	5.1	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0	
		Type B	0.8	0.0	0.0	0.0	32.9	0.0	0.0	0.0	0.0	
		Type A	30.5	0.0	0.0	0.0	72.1	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			4.7	0.0	0.0	0.0	47.3	0.0	0.0	0.0	0.0	52.0
TOTAL												**198.4**
Queensville												
238	East Holland	Type B	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
236	East Holland	Type D	12.6	18.5	0.0	1.8	0.0	2.3	0.0	0.0	0.0	
		Type B	204.8	147.1	6.9	3.6	0.0	12.9	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			54.6	0.7	2.4	0.2	0.0	0.6	0.0	0.0	0.0	58.5
232	East Holland	Type B	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
216	East Holland	Type B	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
244	East Holland	Type B	69.6	32.9	0.0	0.0	41.9	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			17.5	0.1	0.0	0.0	27.6	0.0	0.0	0.0	0.0	45.2
7	Black River	Type D	5.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

		Type A	20.8	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type B	59.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	48.6	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4
1	Maskinonge River	Bottomland	0.0	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0	
		Type B	208.0	17.1	2.7	2.8	35.4	2.9	0.0	0.0	12.5	
		Type C	170.4	19.8	0.0	0.0	0.0	1.1	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.130	0.000	0.672	0.083	0.339	0.083	0.339	0.339	0.012	
TP (kg/year)			49.2	0.0	13.8	0.2	12.0	0.3	0.0	0.0	0.1	75.7
TOTAL												**198.5**
Holland Landing												
342	West Holland	Type B	57.3	56.4	0.0	28.3	130.6	0.0	0.0	2.0	0.0	
		Type A	0.8	0.7	0.0	0.0	10.6	0.0	0.0	0.0	4.8	
Phosphorus Loading Rate (kg/ha)			0.165	0.003	0.656	0.021	0.245	0.021	0.245	0.245	1.215	
TP (kg/year)			9.6	0.1	0.0	0.6	34.7	0.0	0.0	0.5	5.8	51.3
240	East Holland	Type B	0.0	6.9	0.0	1.1	16.0	0.0	0.0	0.0	0.0	
		Type C	0.0	5.4	2.2	0.0	19.7	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type A	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.1	4.5	0.0	32.1	0.0	0.0	0.0	0.0	36.7
242	East Holland	Type C	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	
		Type A	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	10.2
238	East Holland	Type A	0.0	32.4	0.0	0.0	21.4	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	0.0	5.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	
		Type B	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type D	0.0	16.3	0.0	0.0	10.3	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.3	0.5	0.0	29.3	0.0	0.0	0.0	0.0	30.1

234	East Holland	Bottomland	0.0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	
		Type A	0.0	13.7	15.7	0.0	73.5	0.0	0.0	0.7	0.0	
		Type D	0.0	0.0	33.8	0.6	2.8	0.0	0.0	0.0	0.0	
		Type B	0.0	6.9	0.0	0.0	18.2	0.0	0.0	0.0	2.5	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.1	25.8	0.0	62.3	0.0	0.0	0.5	1.0	89.6
422	West Holland	Type B	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type A	0.0	11.6	3.5	0.0	0.0	0.0	0.0	0.7	32.6	
		Type C	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.165	0.003	0.656	0.021	0.245	0.021	0.245	0.245	1.215	
TP (kg/year)			0.0	0.1	2.3	0.0	0.0	0.0	0.0	0.2	39.6	42.1
232	East Holland	Type A	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	
		Type B	67.4	46.0	9.8	1.7	51.2	0.0	0.0	4.4	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			16.9	0.2	3.4	0.1	36.1	0.0	0.0	2.9	0.0	59.5
230	East Holland	Type B	22.5	0.0	4.7	0.0	26.7	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	22.1	5.4	6.1	1.5	54.0	0.7	0.0	3.8	13.2	
		Type A	0.0	0.0	1.9	0.0	29.4	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			11.2	0.0	9.8	0.1	72.6	0.0	0.0	2.5	5.1	101.3
220	East Holland	Bottomland	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	2.7	9.3	0.0	0.2	22.0	0.0	0.0	0.0	21.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.7	0.0	3.3	0.0	14.5	0.0	0.0	0.0	8.1	26.6
226	East Holland	Bottomland	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	0.0	1.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			0.0	0.0	2.4	0.1	0.0	0.0	0.0	0.0	0.0	2.5
228	East Holland	Bottomland	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	20.0	9.5	2.0	0.8	28.2	0.0	0.0	0.0	9.2	
		Type B	0.0	1.9	1.1	6.4	0.0	0.0	0.0	0.0	2.2	
		Type A	0.0	5.2	0.0	0.0	9.2	0.0	0.0	0.0	0.0	

Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			5.0	0.1	5.5	0.3	24.7	0.0	0.0	0.0	4.4	39.9
TOTAL												**489.9**
Type D Green Lane and Employment Expansion Settlement Area												
418	West Holland	Type B	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.165	0.003	0.656	0.021	0.245	0.021	0.245	0.245	1.215	
TP (kg/year)			2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
416	West Holland	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	5.8	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.165	0.003	0.656	0.021	0.245	0.021	0.245	0.245	1.215	
TP (kg/year)			1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
414	West Holland	Type C	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.165	0.003	0.656	0.021	0.245	0.021	0.245	0.245	1.215	
TP (kg/year)			0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
224	East Holland	Type C	72.2	5.8	0.0	7.0	0.3	0.0	35.3	0.0	5.1	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			18.1	0.0	0.0	0.3	0.2	0.0	23.3	0.0	2.0	43.9
226	East Holland	Type C	75.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0	5.4	
		Type D	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			19.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.1	22.0
220	East Holland	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	5.7	1.4	0.0	4.1	0.0	0.0	0.0	0.0	1.7	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			1.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.7	2.3
222	East Holland	Type C	19.1	11.8	0.0	0.0	3.3	0.0	3.2	0.0	12.5	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			4.8	0.0	0.0	0.0	2.2	0.0	2.1	0.0	4.8	13.9
208	East Holland	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	54.6	14.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			13.7	0.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	14.8
210	East Holland	Bottomland	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	
		Type C	153.4	19.6	0.0	0.0	0.9	0.0	0.0	0.0	0.0	
		Type B	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			41.3	0.1	1.7	0.0	0.6	0.0	0.0	0.0	0.0	43.7
214	East Holland	Type C	2.4	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	
		Type B	74.7	15.4	0.0	12.5	1.6	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			19.4	0.1	0.0	0.5	1.5	0.0	0.0	0.0	0.0	21.5
212	East Holland	Type B	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.251	0.004	0.342	0.041	0.659	0.041	0.659	0.659	0.385	
TP (kg/year)			3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3
6	Black River	Type B	30.7	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
7	Black River	Type B	82.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	
		Type A	19.5	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.001	0.139	0.153	0.393	0.153	0.393	0.393	0.341	
TP (kg/year)			13.2	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.9	18.7
TOTAL												**192.4**

APPENDIX I
Future Conditions Phosphorus Loading Calculations

Future Phosphorus Loading Calculations

Catchment No.	Subwatershed	Hydrologic Soil Group	Land Use Category								Total
			Agriculture (ha)	Forest (ha)	Wetland / Open Water (ha)	Med. Density Residential (ha)	Low Density Residential (ha)	Estate (ha)	Institutional (ha)	Commercial (ha)	Open Space (ha)	(kg/year)
Mount Albert												
3B	Black River	Type C	0.0	0.0	0.0	0.0	62.2	0.0	0.0	0.0	22.6	
		Type B	0.0	0.0	4.9	1.9	84.8	0.0	7.7	0.0	41.0	
		Type D	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	3.4	0.0	4.4	0.0	0.0	0.3	15.1	
		Type A	0.0	0.0	0.8	0.0	21.1	0.0	0.0	3.0	1.2	
Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			0.0	0.0	2.0	1.4	125.3	0.0	5.6	2.5	29.8	166.6
4B	Black River	Type C	2.7	0.0	0.0	0.0	14.5	0.0	0.0	7.1	0.1	
		Type B	0.0	0.0	0.0	0.0	8.2	0.0	2.6	0.3	3.5	
		Type A	6.2	0.0	0.0	0.0	19.1	0.0	2.2	25.1	0.5	
Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			1.2	0.0	0.0	0.0	30.4	0.0	3.5	23.6	1.6	60.3
TOTAL												**226.9**
Sharon												
218	East Holland	Type D	0.0	11.3	0.3	0.0	42.2	0.0	0.0	0.0	0.0	
		Bottomland	0.0	4.9	0.4	0.0	0.0	0.0	0.0	0.0	0.9	
		Type B	0.0	1.9	0.0	0.0	7.5	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.1	0.2	0.0	48.1	0.0	0.0	0.0	0.4	48.8
210	East Holland	Type D	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	10.7
214	East Holland	Type D	0.0	0.0	8.3	0.0	49.7	0.0	0.0	0.0	0.5	
		Type B	0.0	0.0	1.6	0.0	85.6	0.0	0.0	0.0	1.6	
		Type A	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	3.9	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	4.9	0.0	133.9	0.0	0.0	0.0	2.9	141.7
7B	Black River	Type B	0.0	0.0	0.0	0.0	27.8	0.0	0.0	0.0	8.0	
		Type A	0.0	0.0	0.0	0.0	105.6	0.0	1.8	0.0	12.5	
		Type D	0.0	0.0	0.0	0.0	23.2	0.0	0.0	0.0	0.0	

Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			0.0	0.0	0.0	0.0	113.8	0.0	1.3	0.0	7.7	122.8
216	East Holland	Type A	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	
		Type D	0.0	0.0	2.7	0.0	56.5	0.0	0.0	0.0	0.0	
		Type B	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.3	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	1.6	0.0	61.8	0.0	0.0	0.0	0.6	64.1
TOTAL												**388.0**
Queensville												
1M	Maskinonge River	Type B	0.0	0.0	2.7	12.7	150.4	0.0	1.6	67.4	33.8	
		Type C	0.0	0.0	4.7	0.0	0.1	0.0	1.4	139.7	34.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.2	12.5	9.8	
		Bottomland	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.129	0.000	0.623	0.753	0.753	0.068	0.753	0.753	0.013	
TP (kg/year)			0.0	0.0	15.0	9.5	113.4	0.0	2.4	165.4	1.0	306.7
244	East Holland	Type B	0.0	0.0	0.0	0.0	112.7	0.0	0.0	19.7	10.9	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	109.1	0.0	0.0	19.1	5.2	133.4
236	East Holland	Type B	0.0	49.2	3.4	11.1	273.8	13.2	0.0	0.0	24.8	
		Type D	0.0	12.8	0.0	0.0	22.6	1.1	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.2	1.2	10.8	286.9	0.6	0.0	0.0	11.8	311.6
238	East Holland	Type B	0.0	0.0	0.0	0.0	2.0	2.7	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	1.9	0.1	0.0	0.0	0.0	2.0
232	East Holland	Type B	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.6	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.3	1.5
7B	Black River	Type B	0.0	0.0	0.0	0.8	30.2	0.0	0.1	18.4	10.0	
		Type D	0.0	0.0	0.0	0.0	23.4	0.0	0.0	5.1	18.0	
		Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	12.7	
		Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	2.2	

Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			0.0	0.0	0.0	0.6	39.0	0.0	0.1	43.0	16.0	98.7
216	East Holland	Type B	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	3.4
TOTAL												**857.2**
						Holland Landing						
240	East Holland	Type C	0.0	2.6	4.9	0.0	20.4	0.0	0.0	0.0	0.0	
		Type A	0.0	0.0	2.3	0.0	14.2	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.1	13.0	0.0	10.0	0.0	0.0	0.0	0.0	
		Type B	0.0	5.9	0.0	0.0	15.3	0.0	0.0	0.0	0.2	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	7.1	0.0	57.9	0.0	0.0	0.0	0.1	65.2
242		Type C	0.0	2.1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	
	East Holland	Type A	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0
342	West Holland	Type B	1.8	20.3	0.0	0.0	111.0	0.0	2.9	96.4	2.3	
		Type A	0.0	0.5	0.0	0.0	10.6	0.0	0.0	1.0	2.7	
Phosphorus Loading Rate (kg/ha)			0.166	0.002	0.653	0.451	0.451	0.021	0.451	0.451	1.357	
TP (kg/year)			0.3	0.1	0.0	0.0	54.8	0.0	1.3	43.9	6.7	107.1
422	West Holland	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	6.2	
		Type A	0.0	0.0	0.0	0.0	45.2	0.0	0.0	0.0	5.4	
		Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	
Phosphorus Loading Rate (kg/ha)			0.166	0.002	0.653	0.451	0.451	0.021	0.451	0.451	1.357	
TP (kg/year)			0.0	0.0	0.0	0.0	20.4	0.0	0.0	3.5	18.7	42.6
228	East Holland	Type A	0.0	0.0	6.9	0.0	41.0	0.0	0.0	2.8	1.9	
		Type B	0.0	0.2	2.8	0.0	4.7	0.0	0.0	5.2	0.0	
		Type C	0.0	3.7	3.0	0.0	26.8	0.0	0.0	0.0	0.0	
		Type D	0.0	0.0	2.0	0.0	7.7	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0	4.7	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	11.2	0.0	77.7	0.0	0.0	7.7	3.2	99.7
226	East Holland	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	

		Bottomland	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	7.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	5.0	5.0
220	East Holland	Bottomland	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	9.5	
		Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	
		Type D	0.0	0.0	0.0	0.0	39.5	0.0	0.6	0.0	2.2	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	1.0	0.0	38.2	0.0	0.6	0.0	7.1	46.9
230	East Holland	Type D	0.0	0.0	0.0	1.0	66.9	0.0	4.1	0.0	11.2	
		Bottomland	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	25.6	
		Type A	0.0	0.0	2.9	0.0	28.7	0.0	0.0	0.0	0.0	
		Type B	0.0	0.0	0.0	0.1	33.2	0.0	0.9	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	1.0	1.4	124.7	0.0	4.9	0.0	17.6	149.6
232	East Holland	Type B	0.0	27.9	0.0	0.0	140.3	0.0	0.0	0.0	7.5	
		Type A	0.0	2.4	0.0	0.0	5.9	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.1	0.0	0.0	141.6	0.0	0.0	0.0	3.6	145.3
234	East Holland	Type B	0.0	6.1	9.3	0.0	49.3	0.0	0.0	3.4	5.8	
		Type A	0.0	9.4	12.4	0.0	67.0	0.0	0.0	0.0	0.0	
		Type D	0.0	6.0	44.2	0.0	0.0	0.0	0.0	0.0	4.5	
		Bottomland	0.0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	7.9	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.1	37.4	0.0	112.6	0.0	0.0	3.3	8.7	162.0
238	East Holland	Type B	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Type A	0.0	23.8	0.0	0.0	28.8	0.0	0.0	0.0	0.1	
		Type C	0.0	1.5	0.0	0.0	7.4	0.0	0.0	0.0	0.0	
		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	
		Type D	0.0	16.0	0.0	0.0	2.8	0.0	0.0	0.0	0.3	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.2	0.0	0.0	37.7	0.0	0.0	0.0	0.7	38.6
TOTAL												**865.0**
Type D Green Lane and Employment Expansion Settlement Area												
416	West Holland	Type C	0.0	2.6	0.0	0.0	6.3	0.0	0.0	0.0	29.6	
		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	
		Type B	0.0	0.0	0.0	0.0	14.2	0.0	0.0	0.0	21.6	

Phosphorus Loading Rate (kg/ha)			0.166	0.002	0.653	0.451	0.451	0.021	0.451	0.451	1.357	
TP (kg/year)			0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	90.0	99.2
418	West Holland	Type B	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	
		Type C	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.166	0.002	0.653	0.451	0.451	0.021	0.451	0.451	1.357	
TP (kg/year)			0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	3.9
414	West Holland	Type C	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.166	0.002	0.653	0.451	0.451	0.021	0.451	0.451	1.357	
TP (kg/year)			0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.9
224	East Holland	Type C	0.0	0.0	0.0	0.0	9.2	0.0	0.0	77.1	0.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	8.9	0.0	0.0	76.1	0.0	85.0
222	East Holland	Type C	0.0	0.0	0.0	0.0	3.2	0.0	0.0	39.6	0.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	3.1	0.0	0.0	38.7	0.0	41.8
208	East Holland	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	0.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2	0.0	
		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.2	0.0	54.2
226	East Holland	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	108.0	0.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	114.0	0.0	114.0
210	East Holland	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	0.0	
		Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	
		Bottomland	0.0	0.0	5.1	0.0	0.0	0.0	0.0	10.0	0.0	
		Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	1.8	0.0	0.0	0.0	0.0	181.6	0.0	183.4
220	East Holland	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	

		Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	0.0	12.9
214	East Holland	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	
		Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.9	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.1	0.0	90.1
6	Black River	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0	
Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5	0.0	23.5
7	Black River	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.8	0.0	
		Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.0	0.0	
Phosphorus Loading Rate (kg/ha)			0.131	0.001	0.137	0.727	0.727	0.153	0.727	0.727	0.374	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.6	0.0	98.6
212	East Holland	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	
Phosphorus Loading Rate (kg/ha)			0.247	0.004	0.350	0.968	0.968	0.041	0.968	0.968	0.478	
TP (kg/year)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	4.2
TOTAL												**811.9**

APPENDIX J
Water Balance Calculations

EXISTING WATER BALANCE

Ravenshoe Precipitation (mm): 901.2

Agriculture

Catchment No.	Soil Type	Hydrologic Soil Group	Area (ha)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)
Mount Albert									
3B	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	89.7	539.0	48369.9	362.2	289.8	26,003.1	72.4
	Type C	C	59.5	543.0	32306.5	358.2	214.9	12,787.7	143.3
4B	Bondhead Sandy Loam	B	4.1	539.0	2209.9	362.2	253.5	1,039.5	108.7
	Type C	C	0.6	543.0	325.8	358.2	179.1	107.5	179.1
	Type A	A	19.1	525.0	10027.5	376.2	263.3	5,029.8	112.9
Total			173.0						
Total Impervious Area									
Sharon									
218	Bondhead Loam	B	10.2	539.0	5497.8	362.2	217.3	2,216.7	144.9
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	C	27.3	543.0	14,823.9	358.2	143.3	3,911.5	214.9
216	Bondhead Loam	B	0.8	539.0	409.6	362.2	289.8	220.2	72.4
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	C	34.2	543.0	18,570.6	358.2	214.9	7,350.3	143.3
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	C	21.1	543.0	11,457.3	358.2	214.9	4,534.8	143.3
	Percy Fine Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Schomberg Silt Loam	C	5.1	543.0	2,769.3	358.2	214.9	1,096.1	143.3
	Percy Fine Sandy Loam	B	0.8	539.0	431.2	362.2	289.8	231.8	72.4
	Brighton Sandy Loam	A	30.5	525.0	16,012.5	376.2	301.0	9,179.3	75.2
Total			130.0						
Total Impervious Area									
Queensville									
238	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Simcoe Silt Loam	D	12.6	539.0	6,769.8	362.2	108.7	1,364.8	253.5
	Type B	B	204.8	539.0	110,387.2	362.2	217.3	44,507.1	144.9
232	Bondhead Loam	B	1.8	539.0	981.0	362.2	289.8	527.4	72.4
216	Bondhead Sandy Loam	B	3.7	539.0	1,994.3	362.2	289.8	1,072.1	72.4
244	Bondhead Sandy Loam	B	69.6	539.0	37,487.6	362.2	289.8	20,152.8	72.4
7B	Muck	D	5.8	539.0	3,104.6	362.2	181.1	1,043.1	181.1
	Brighton Sandy Loam	A	20.8	525.0	10,925.3	376.2	301.0	6,263.0	75.2
	Type B	B	59.5	539.0	32,070.5	362.2	289.8	17,240.7	72.4
	Type C	C	48.6	543.0	26,389.8	358.2	214.9	10,445.1	143.3
1M	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	208.0	539.0	112,114.2	362.2	289.8	60,271.2	72.4
	Type C	C	170.4	543.0	92,541.3	358.2	214.9	36,628.0	143.3
Total			805.5						
Total Impervious Area									
Holland Landing									
342	Tecumseth Sandy Loam	B	57.3	539.0	30,895.5	362.2	289.8	16,609.0	72.4
	Type A	A	0.8	525.0	420.0	376.2	301.0	240.8	75.2
240	Tecumseth Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Granby Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
242	Granby Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Wauseon Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
234	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
422	Tecumseth Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pontypool Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam - Steep P	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	B	67.4	539.0	36,334.0	362.2	289.8	19,532.7	72.4
230	Bondhead Loam	B	22.5	539.0	12,149.1	362.2	289.8	6,531.2	72.4
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	C	22.1	543.0	12,016.6	358.2	214.9	4,756.2	143.3
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	2.7	543.0	1,439.0	358.2	214.9	569.5	143.3
226	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	20.0	543.0	10,838.3	358.2	214.9	4,289.8	143.3
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			192.8						
Total Impervious Area									
Type D Green Lane and Employment Expansion Settlement Area									
418	Type B	B	5.9	539.0	3,169.3	362.2	253.5	1,490.8	108.7
	Type C	C	11.8	543.0	6,423.7	358.2	179.1	2,118.6	179.1
416	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	5.8	543.0	3,127.7	358.2	143.3	825.3	214.9
414	Schomberg Clay Loam	C	2.1	543.0	1,124.0	358.2	179.1	370.7	179.1
228	Schomberg Clay Loam	C	1.3	543.0	716.8	358.2	214.9	283.7	143.3
224	Type C	C	72.2	543.0	39,204.6	358.2	179.1	12,931.0	179.1
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Schomberg Clay Loam	C	75.0	543.0	40,730.4	358.2	214.9	16,121.1	143.3
	Muck	D	4.1	539.0	2,231.5	362.2	181.1	749.8	181.1
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam	C	5.7	543.0	3,101.6	358.2	179.1	1,023.0	179.1
222	Type C	C	19.1	543.0	10,371.3	358.2	214.9	4,105.0	143.3
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	54.6	543.0	29,647.8	358.2	214.9	11,734.6	143.3
210	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	153.4	543.0	83,296.2	358.2	214.9	32,968.7	143.3
	Percy Fine Sandy Loam	B	10.9	539.0	5,875.1	362.2	289.8	3,158.4	72.4
214	Schomberg Silt Loam	C	2.4	543.0	1,303.2	358.2	214.9	515.8	143.3
	Type B	B	74.7	539.0	40,268.7	362.2	181.1	13,530.0	181.1
212	Percy Fine Sandy Loam	B	13.2	539.0	7,114.8	362.2	253.5	3,346.7	108.7
6B	Type B	B	30.7	539.0	16,536.5	362.2	289.8	8,889.8	72.4
7B	Type B	B	82.9	539.0	44,683.1	362.2	289.8	24,021.1	72.4
	Brighton Sandy Loam	A	19.5	525.0	10,216.5	376.2	301.0	5,656.7	75.2
Total Area			645.3						
Total Impervious Area									

Forest; Wetland/Open Water

Catchment No.	Soil Type	Forest Area (ha)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)	Wetland/Open Water Area (ha)
Mount Albert									
3B	Muck	5.7	549.0	3,134.8	352.2	211.3	1,206.6	140.9	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	1.1	548.0	624.7	353.2	317.9	362.4	35.3	6.5
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4B	Bondhead Sandy Loam	8.0	548.0	4,356.6	353.2	262.6	2,246.4	70.6	0.0
	Type C	1.6	550.0	880.0	351.2	210.7	337.2	140.5	2.6
	Type A	5.4	546.0	2,948.4	355.2	284.2	1,534.5	71.0	5.7
Total		21.8							14.8
Total Impervious Area									
Sharon									
218	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1
	Schomberg Silt Loam	27.7	550.0	15,235.0	351.2	175.6	4,864.1	175.6	0.0
216	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
	Schomberg Silt Loam	2.6	550.0	1,408.0	351.2	245.8	629.4	105.4	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6
	Schomberg Silt Loam	11.4	550.0	6,286.5	351.2	245.8	2,810.0	105.4	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		41.7							19.5
Total Impervious Area									
Queensville									
238	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Simcoe Silt Loam	18.5	549.0	10,162.0	352.2	140.9	2,607.7	211.3	0.0
	Type B	147.1	548.0	80,583.4	353.2	247.2	36,356.6	106.0	6.9
232	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Bondhead Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Bondhead Sandy Loam	32.9	548.0	18,051.1	353.2	317.9	10,471.0	35.3	0.0
7B	Muck	4.8	549.0	2,618.7	352.2	211.3	1,008.0	140.9	0.0
	Brighton Sandy Loam	7.8	546.0	4,269.7	355.2	319.7	2,499.9	35.5	0.0
	Type B	3.2	548.0	1,726.2	353.2	317.9	1,001.3	35.3	0.0
	Type C	3.5	550.0	1,936.0	351.2	245.8	865.4	105.4	0.0
1M	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
	Type B	17.1	548.0	9,370.8	353.2	317.9	5,435.7	35.3	2.7
	Type C	19.8	550.0	10,901.0	351.2	245.8	4,872.5	105.4	0.0
Total		254.7							27.4
Total Impervious Area									
Holland Landing									
342	Tecumseth Sandy Loam	56.4	548.0	30,907.2	353.2	317.9	17,928.4	35.3	0.0
	Type A	0.7	546.0	382.2	355.2	319.7	223.8	35.5	0.0
240	Tecumseth Sandy Loam	6.9	548.0	3,764.8	353.2	317.9	2,183.8	35.3	0.0
	Granby Sandy Loam	5.4	550.0	2,986.5	351.2	245.8	1,334.9	105.4	2.2
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
242	Granby Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Brighton Sandy Loam	32.4	546.0	17,690.4	355.2	319.7	10,357.6	35.5	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	Wauseon Sandy Loam	5.0	550.0	2,733.5	351.2	245.8	1,221.8	105.4	0.0
	Bondhead Loam	8.5	548.0	4,669.0	353.2	317.9	2,708.3	35.3	0.0
	Type D	16.3	549.0	8,921.3	352.2	211.3	3,434.0	140.9	0.0
234	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
	Brighton Sandy Loam	13.7	546.0	7,480.2	355.2	319.7	4,379.6	35.5	15.7
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.8
	Bondhead Loam	6.9	548.0	3,781.2	353.2	317.9	2,193.4	35.3	0.0
422	Tecumseth Sandy Loam	14.4	548.0	7,913.1	353.2	282.6	4,080.2	70.6	0.0
	Pontypool Sandy Loam	11.6	546.0	6,344.5	355.2	284.2	3,301.9	71.0	3.5
	Schomberg Clay Loam - Steep P	2.5	550.0	1,347.5	351.2	210.7	516.3	140.5	0.0
232	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	46.0	548.0	25,208.0	353.2	317.9	14,622.5	35.3	9.8
230	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9
	Schomberg Silt Loam	5.4	550.0	2,959.0	351.2	245.8	1,322.6	105.4	6.1
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6
	Type C	9.3	550.0	5,120.5	351.2	245.8	2,288.8	105.4	0.0
226	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1
	Type C	1.2	550.0	671.0	351.2	245.8	289.9	105.4	0.0
228	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9
	Type C	9.5	550.0	5,247.0	351.2	245.8	2,345.3	105.4	2.0
	Type B	1.9	548.0	1,030.2	353.2	317.9	597.6	35.3	1.1
	Type A	5.2	546.0	2,811.9	355.2	319.7	1,646.4	35.5	0.0
Total		269.1							164.6
Total Impervious Area									
Type D Green Lane and Employment Expansion Settlement Area									
418	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
416	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	10.6	550.0	5,852.0	351.2	175.6	1,868.4	175.6	0.0
414	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
224	Type C	5.8	550.0	3,173.5	351.2	210.7	1,215.9	140.5	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Schomberg Clay Loam	16.5	550.0	9,075.0	351.2	245.8	4,056.4	105.4	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam	1.4	550.0	742.5	351.2	210.7	284.5	140.5	0.0
222	Type C	11.8	550.0	6,490.0	351.2	245.8	2,900.9	105.4	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	14.0	550.0	7,692.9	351.2	245.8	3,438.6	105.4	0.0
210	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
	Type C	19.6	550.0	10,802.0	351.2	245.8	4,826.3	105.4	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	15.4	548.0	8,439.2	353.2	317.9	4,895.4	35.3	0.0
212	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6B	Type B	10.0	548.0	5,480.0	353.2	317.9	3,178.8	35.3	0.0
7B	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Area		105.1							5.1
Total Impervious Area									

Rural Development

Catchment No.	Soil Type	Area (ha)	Average Impervious (65%)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)
Mount Albert									
3B	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4B	Bondhead Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		0.0							
Total Impervious Area									
Sharon									
218	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		0.0							
Total Impervious Area			0.0						
Queensville									
238	Bondhead Loam	4.7	3.1	525.0	869.1	376.2	225.7	373.7	150.5
236	Simcoe Silt Loam	1.8	1.2	525.0	325.2	376.2	112.9	69.9	263.3
	Type B	3.6	2.4	525.0	665.2	376.2	225.7	286.0	150.5
232	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Bondhead Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Bondhead Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1M	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	2.8	1.8	525.0	518.2	376.2	301.0	297.0	75.2
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		12.9							
Total Impervious Area			8.4						
Holland Landing									
342	Tecumseth Sandy Loam	28.3	18.4	525.0	5,205.6	376.2	301.0	2,984.2	75.2
	Type A	0.0	0.0	515.0	0.0	386.2		0.0	
240	Tecumseth Sandy Loam	1.1	0.7	525.0	200.3	376.2	301.0	114.8	75.2
	Granby Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
242	Granby Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Wauseon Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
234	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Muck	0.6	0.4	525.0	115.8	376.2	188.1	41.5	188.1
	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
422	Tecumseth Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pontypool Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam - Steep P	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bondhead Loam	1.7	1.1	525.0	306.9	376.2	301.0	175.9	75.2
230	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	1.5	1.0	536.0	261.4	365.2	219.1	115.0	146.1
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.2	0.1	536.0	31.1	365.2	219.1	12.7	146.1
226	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	1.3	0.9	536.0	247.6	365.2	219.1	101.2	146.1
228	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.8	0.5	536.0	148.2	365.2	219.1	60.6	146.1
	Type B	6.4	4.2	525.0	1,183.4	376.2	301.0	678.4	75.2
	Type A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		41.9							
Total Impervious Area			27.3						
Type D Green Lane and Employment Expansion Settlement Area									
418	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
416	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
414	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
224	Type C	7.0	4.6	536.0	1,313.2	365.2	182.6	447.4	182.6
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam	4.1	2.7	536.0	772.9	365.2	182.6	263.3	182.6
222	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Schomberg Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	12.5	8.1	525.0	2,296.9	376.2	301.0	1,316.7	75.2
212	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6B	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	17.2	11.2	515.0	3,100.3	386.2	309.0	1,859.9	77.2
Total Area		40.8							
Total Impervious Area			26.5						

Residential

Catchment No.	Soil Type	Area (ha)	Average Impervious (30%)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)
Mount Albert									
3B	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	57.2	17.2	525.0	21,028.4	376.2	301.0	12,054.7	75.2
	Type C	29.8	9.0	536.0	11,196.0	365.2	219.1	4,577.0	146.1
4B	Bondhead Sandy Loam	4.7	1.4	525.0	1,727.3	376.2	263.3	866.4	112.9
	Type C	14.9	4.5	536.0	5,590.5	365.2	182.6	1,904.5	182.6
	Type A	37.0	11.1	515.0	13,327.7	386.2	270.3	6,996.1	115.9
Total		143.6							
Total Impervious Area			43.1						
Sharon									
218	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	7.6	2.3	536.0	2,851.5	365.2	146.1	777.1	219.1
216	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	27.1	8.1	536.0	10,167.9	365.2	219.1	4,156.7	146.1
	Brighton Sandy Loam	6.2	1.9	515.0	2,235.1	386.2	309.0	1,340.9	77.2
214	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	24.5	7.4	536.0	9,192.4	365.2	219.1	3,757.9	146.1
	Percy Fine Sandy Loam	89.2	26.8	525.0	32,781.0	376.2	301.0	18,791.9	75.2
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Schomberg Silt Loam	21.4	6.4	536.0	8,029.3	365.2	146.1	2,188.3	219.1
7B	Schomberg Silt Loam	15.3	4.6	536.0	5,740.6	365.2	219.1	2,346.8	146.1
	Percy Fine Sandy Loam	32.9	9.9	525.0	12,090.8	376.2	301.0	6,931.1	75.2
	Brighton Sandy Loam	72.1	21.6	515.0	26,008.5	386.2	309.0	15,601.9	77.2
Total		296.3							
Total Impervious Area			88.9						
Queensville									
238	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
236	Simcoe Silt Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Bondhead Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Bondhead Sandy Loam	41.9	12.6	525.0	15,398.3	376.2	301.0	8,827.2	75.2
7B	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1M	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	35.4	10.6	525.0	13,009.5	376.2	301.0	7,457.8	75.2
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		77.3							
Total Impervious Area			23.2						
Holland Landing									
342	Tecumseth Sandy Loam	130.6	39.2	525.0	47,966.5	376.2	301.0	27,513.8	75.2
	Type A	10.6	3.2	515.0	3,835.7	386.2	309.0	2,301.1	77.2
240	Tecumseth Sandy Loam	16.0	4.8	525.0	5,872.7	376.2	301.0	3,366.5	75.2
	Granby Sandy Loam	19.7	5.9	536.0	7,383.9	365.2	219.1	3,016.6	146.1
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	13.0	3.9	515.0	4,682.9	386.2	309.0	2,809.4	77.2
242	Granby Sandy Loam	2.4	0.7	536.0	889.2	365.2	219.1	363.5	146.1
	Brighton Sandy Loam	13.1	3.9	515.0	4,722.8	386.2	309.0	2,833.2	77.2
236	Brighton Sandy Loam	21.4	6.4	515.0	7,703.9	386.2	309.0	4,621.7	77.2
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Wauseon Sandy Loam	12.8	3.8	536.0	4,802.6	365.2	219.1	1,963.3	146.1
	Bondhead Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	10.3	3.1	525.0	3,785.3	376.2	188.1	1,356.2	188.1
234	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	73.5	19.1	515.0	28,016.0	386.2	309.0	16,607.4	77.2
	Muck	2.8	0.8	525.0	1,010.8	376.2	188.1	362.1	188.1
	Bondhead Loam	18.2	5.5	525.0	6,688.5	376.2	301.0	3,834.2	75.2
422	Tecumseth Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pontypool Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam - Steep P	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Brighton Sandy Loam	3.6	1.1	515.0	1,287.0	386.2	309.0	772.1	77.2
	Bondhead Loam	51.2	15.3	525.0	18,797.6	376.2	301.0	10,775.9	75.2
230	Bondhead Loam	26.7	8.0	525.0	9,797.6	376.2	301.0	5,616.5	75.2
	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Silt Loam	54.0	16.2	536.0	20,264.6	365.2	219.1	8,284.3	146.1
	Brighton Sandy Loam	29.4	8.8	515.0	10,598.7	386.2	309.0	6,358.4	77.2
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	22.0	6.6	536.0	8,265.7	365.2	219.1	3,379.0	146.1
226	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	28.2	8.5	536.0	10,580.6	365.2	219.1	4,325.4	146.1
	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	9.2	2.8	515.0	3,320.2	386.2	309.0	1,991.9	77.2
Total		588.5							
Total Impervious Area			167.6						
Type D Green Lane and Employment Expansion Settlement Area									
418	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
416	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
414	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
224	Type C	0.3	0.1	536.0	105.1	365.2	182.6	35.8	182.6
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Schomberg Clay Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
222	Type C	3.3	1.0	536.0	1,238.2	365.2	219.1	506.2	146.1
	Muck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	1.6	0.5	536.0	604.1	365.2	219.1	246.9	146.1
210	Bottomland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	0.9	0.3	536.0	330.2	365.2	219.1	135.0	146.1
	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Schomberg Silt Loam	0.8	0.2	536.0	281.4	365.2	292.2	153.4	73.0
	Type B	1.6	0.5	525.0	584.3	376.2	301.0	335.0	75.2
212	Percy Fine Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6B	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Type B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Brighton Sandy Loam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Area		8.4							
Total Impervious Area			2.5						

EXISTING WATER BALANCE

Ravenshoe Precipitation (mm)	901.2																															
			Estate								Commercial								Institutional								Open Space					
Catchment No.	Soil Type	Hydrologic Soil Group	Area (ha)	Average Impervious (15%)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)	Area (ha)	Average Impervious (75%)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)	Area (ha)	Average Impervious (75%)	E.T. (mm)	E.T. * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Runoff (mm)	Area (ha)	E.T. (mm)	ET * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area
Mount Albert																																
3B	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0	0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	543	10371.3	356.2	179.1	3420.81
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
4B	Bondhead Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Total			0.0								0.0								0.0								19.1					
Total Impervious Area																																
Sharon																																
218	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
216	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
214	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Percy Fine Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
210	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
7B	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Percy Fine Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Total			0.0								0.0								0.0													
Total Impervious Area																																
Queensville																																
238	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
236	Simcoe Silt Loam	D	2.3	0.3	525.0	1,036.3	376.2	112.9	222.6	263.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type B	B	12.9	1.9	525.0	5,747.7	376.2	225.7	2,471.2	150.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
232	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
216	Bondhead Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
244	Bondhead Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
7B	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
1M	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type B	B	2.9	0.4	525.0	1,292.3	376.2	301.0	740.8	75.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	539	6721.33	362.2	289.76	3613.3072
	Type C	C	1.1	0.2	536.0	501.2	365.2	219.1	204.9	146.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Total			19.2								0.0								0.0								12.5					
Total Impervious Area				2.9																												
Holland Landing																																
342	Tecumseth Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.5	525.0	259.9	376.2	301.0	149.0	75.2	0.0	0	0	0	0	0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	531	2548.8	370.2	296.16	1421.568
240	Tecumseth Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Granby Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
242	Granby Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
238	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Wauseon Sandy Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
234	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	515.0	90.1	386.2	309.0	54.1	77.2	0.0	0	0	0	0	0
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	539	1347.5	362.2	253.54	633.85
422	Tecumseth Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Pontypool Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	515.0	90.1	386.2	270.3	47.3	115.9	32.6	531	17289.36	370.2	259.14	8437.5984
	Schomberg Clay Loam - Steep P	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
232	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	3.3	525.0	572.3	376.2	301.0	328.0	75.2	0.0	0	0	0	0	0
230	Bondhead Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Schomberg Silt Loam	C	0.7	0.1	536.0	323.5	365.2	219.1	132.2	146.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	2.9	536.0	513.2	365.2	219.1	209.8	146.1	13.2	546	7207.2	355.2	213.12	2813.184
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	546	11497.84	355.2	213.12	4484.0448
226	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
228	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	546	5023.2	355.2	213.12	1960.704
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	539	1158.85	362.2	289.76	622.984
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Total			0.7								0.0								11.6								85.5					
Total Impervious Area				0.1																8.7												
Type D Green Lane and Employment Expansion Settlement Area																																
418	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
416	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
414	Schomberg Clay Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
228	Schomberg Clay Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
224	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	26.5	536.0	4,732.9	365.2	182.6	1,612.4	182.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	546	2784.6	355.2	177.6	905.76
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
226	Schomberg Clay Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	546	2948.4	355.2	213.12	1150.848
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Schomberg Clay Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	546	936.028	355.2	177.6	305.1168
222	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	2.4	536.0	428.8	365.2	219.1	175.3	146.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	546	6819.54	355.2	213.12	2661.8688
	Muck	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
208	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
210	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Percy Fine Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
214	Schomberg Silt Loam	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
212	Percy Fine Sandy Loam	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
6B	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
7B	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	539	4527.6	362.2	289.76	2433.984
	Brighton Sandy Loam	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0
Total Area			0.0								38.5								0.0								33.1					
Total Impervious Area												28.9																				

FUTURE WATER BALANCE

Ravenshoe Precipitation (mm) 901.2

Catchment No.	Soil Type	Hydrologic Soil Group	Agriculture						Wetlands/Open Water	Forest						MDR						LDR					
			Area	E.T. (mm)	ET* pervious area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	Area	E.T. (mm)	E.T.*PERVIOUS AREA	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	Average Imperious (45%)	E.T. (mm)	E.T. *pervious area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	Average Impervious (30%)	E.T. (mm)	E.T. * Pervious area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area
MODIFIED																												
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.2	18.7	536.0	23333.5	365.2	219.1	9538.9
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.9	525.0	546.8	376.2	301.0	313.4	84.8	25.5	525.0	31176.0	376.2	263.3	15638.9
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	1.3	525.0	1809.6	376.2	188.1	576.7
3B	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	6.3	515.0	7601.5	386.2	309.0	4560.3
	Type C	C	2.7	543.0	1471.7	358.2	214.9	582.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	4.4	536.0	5441.9	365.2	182.6	1853.9
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	2.5	525.0	3020.4	376.2	263.3	1516.0
4B	Type A	A	5.2	525.0	3268.0	376.2	263.3	1639.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	5.7	515.0	6882.5	386.2	270.3	3612.8
Total			**8.94**						**14.8**	**0.00**							**1.89**						**214.31**						
Total Impervious Area																	**0.85**							**64.29**					
PRISTINE																													
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	12.7	5.7	525.0	3659.2	376.2	301.0	2097.7	150.4	45.1	525.0	55275.3	376.2	301.0	31686.9
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	536.0	19.3	365.2	182.6	6.6
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1M	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.7	33.8	525.0	41407.0	376.2	301.0	23736.9
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	3.4	49.2	548.0	26964.5	353.2	247.2	12165.5	11.1	5.0	525.0	3211.0	376.2	263.3	1610.6	273.8	82.1	525.0	100625.1	376.2	301.0	57684.1
238	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	549.0	7052.4	352.2	140.9	1809.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	6.8	525.0	8299.1	376.2	188.1	2873.4
238	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.6	525.0	724.1	376.2	225.7	311.3
232	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.4	525.0	437.9	376.2	263.3	219.6
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	525.0	241.2	376.2	301.0	138.3	30.2	9.1	525.0	11097.2	376.2	301.0	6361.8
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.4	7.0	525.0	8611.5	376.2	188.1	3085.4
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7B	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	1.1	525.0	1300.5	376.2	301.0	745.5
Total			**0.0**						**27.4**	**62.1**							**24.6**						**619.9**						
Total Impervious Area																	**11.1**							**186.0**					
REFERENCE																													
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	4.9	2.63	550.0	1447.9	351.2	245.8	646.8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	20.4	6.1	536.0	7654.9	365.2	219.1	3129.4
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.2	4.3	515.0	5113.9	386.2	309.0	3067.9
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.05	550.0	35.7	351.2	210.7	13.7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	10.0	3.0	536.0	3735.8	365.2	182.6	1272.7
240	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.95	548.0	3260.6	353.2	317.9	1891.4	0.00	0.0	0.0	0.0	0.0	0.0	0.0	15.3	4.6	525.0	5618.7	376.2	301.0	3221.6
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.08	550.0	1142.9	351.2	245.8	510.9	0.00	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.9	536.0	1161.5	365.2	219.1	474.8
242	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	546.0	110.5	355.2	319.7	64.7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	1.8	539.0	945.3	362.2	289.8	506.2	0.0	20.30	548.0	11124.0	353.2	317.9	6452.6	0.00	0.0	0.0	0.0	0.0	0.0	0.0	111.0	33.3	525.0	49776.6	376.2	301.0	23378.6
342	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	546.0	255.1	355.2	319.7	149.4	0.00	0.0	0.0	0.0	0.0	0.0	0.0	10.6	3.2	515.0	3833.8	386.2	309.0	2299.9
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	45.2	13.6	515.0	16283.0	386.2	270.3	8547.5
422	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	41.0	12.3	515.0	14767.4	386.2	270.3	7751.9
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.15	548.0	87.1	353.2	282.6	44.9	0.00	0.0	0.0	0.0	0.0	0.0	0.0	4.7	1.4	525.0	1744.0	376.2	263.3	874.8
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.67	550.0	2019.8	351.2	210.7	773.8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	26.8	8.0	536.0	10053.0	365.2	182.6	3424.8
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	7.7	2.3	525.0	2846.8	376.2	188.1	1019.9
228	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	39.5	11.8	525.0	14515.4	376.2	150.5	4160.5
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	1.02	0.5	525.0	263.2	376.2	301.0	168.1	66.9	20.1	525.0	24596.5	376.2	188.1	8813.3
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.35	0.2	525.0	101.2	376.2	301.0	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.03	546.0	17.1	355.2	284.2	8.9	0.00	0.0	0.0	0.0	0.0	0.0	0.0	25.7	8.6	515.0	10364.2	386.2	309.0	6217.7
230	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.08	0.0	525.0	23.4	376.2	301.0	13.4	33.2	9.9	525.0	12187.6	376.2	301.0	6986.6
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.86	548.0	15266.8	353.2	282.6	7871.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	140.3	42.1	525.0	51568.3	376.2	263.3	25866.6
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.37	546.0	1294.7	355.2	284.2	673.8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	5.9	1.8	515.0	2125.5	386.2	270.3	1115.8
232	Bottomland	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	548.0	7.4	353.2	211.9	2.8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	9.3	6.15	548.0	3370.2	353.2	282.6	1737.7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	49.3	14.8	525.0	18117.8	376.2	301.0	16386.1
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	12.4	9.36	546.0	5110.8	355.2	284.2	2659.8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	67.0	20.1	515.0	24153.5	386.2	309.0	14490.2
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	44.2	6.00	549.0	3292.4	352.2	176.1	1056.1	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
234	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	40.8	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.52	548.0	4671.1	353.2	317.9	2709.6	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.79	546.0	12986.8	355.2	319.7	7603.7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	28.8	8.6	515.0	10375.4	386.2	309.0	6224.4
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.49	550.0	817.1	351.2	245.8	365.2	0.00	0.0	0.0	0.0	0.0	0.0	0.0	7.4	2.2	536.0	2757.8	365.2	219.1	1127.4
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
238	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.04	549.0	8805.4	352.2	211.3	3389.4	0.00	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.8	525.0	1021.3	376.2	188.1	565.9
Total			**1.8**						**184.6**	**137.1**							**1.4**						**779.7**						
Total Impervious Area																	**0.7**							**233.9**					
SUBDIV																													
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.3	11.3	549.0	6195.4	352.2	176.1	1984.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.2	12.6	525.0	15495.5	376.2	150.5	4441.4
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.4	4.9	549.0	2671.6	352.2	176.1	857.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
218	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	548.0	1061.6	353.2	282.6	542.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	2.2	525.0	2755.0	376.2	263.3	1381.9
210	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	3.3	525.0	4071.3	376.2	112.9	875.2
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	14.9	525.0	18277.6	376.2	188.1	6548.6
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.6	25.7	525.0	31447.3	376.2	225.7	13520.6
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.9	515.0	1077.8	386.2	309.0	646.8
214	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.8	8.3	525.0	10225.3	376.2	301.0	5881.7
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	105.6	31.7	515.0	39070.7	386.2	309.0	22839.5
7	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	6.9	525.0	8513.3	376.2	188.1	3050.2
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	1.9	515.0	2283.8	386.2	309.0	1370.1
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.5	17.0	525.0	20775.5	376.2	188.1	7444.6
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.3	525.0	343.2	376.2	301.0	196.7
216	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			**0.0**						**19.1**								**0.0**						**419.4**						
Total Impervious Area																	**0.0**							**125.8**					

	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	550.0	1426.8	351.2	175.6	455.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	1.9	536.0	2349.4	365.2	146.1	640.3
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
416	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2	4.3	525.0	5206.4	376.2	225.7	2238.5
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	1.6	525.0	2006.7	376.2	263.3	1006.5
418	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	1.0	536.0	1210.3	365.2	182.6	412.3
414	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.6	536.0	777.4	365.2	182.6	264.8
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	2.8	536.0	3449.7	365.2	182.6	1175.2
224	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	1.0	536.0	1210.7	365.2	182.6	412.4
222	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
212	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			**0.0**						**5.1**	**2.8**						**0.0**							**43.6**						
Total Impervious Area																	**0.0**							**13.1**					

FUTURE WATER BALANCE

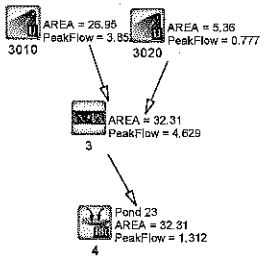
Ravenshoe Precipitation (mm): 901.2

Catchment No.	Soil Type	Hydrologic Soil Group	Estate							Institutional							Commerical							Open Space						
			Area	Average Impervious (15%)	E.T. (mm)	E.T. * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	Average Impervious (75%)	E.T. (mm)	E.T. * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	Average Impervious (15%)	E.T. (mm)	E.T. * Pervious Area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area	Area	E.T. (mm)	ET*pervious area	Surplus (mm)	Infiltration (mm)	Infiltration * Pervious Area
Mount Fantail																														
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	546.0	12319.5	355.2	213.1	4808.7
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	5.8	525.0	1016.5	376.2	301.0	582.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	539.0	22087.3	362.2	289.8	11873.9
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	543.0	8180.4	358.2	179.1	2698.2
3B	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	525.0	153.8	376.2	168.1	55.1	1.2	531.0	613.8	370.2	296.2	342.3
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.5	525.0	1353.8	386.2	309.0	796.7	1.2	531.0	613.8	370.2	296.2	342.3
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	1.1	525.0	3181.7	386.2	182.6	1106.6	0.1	546.0	64.2	355.2	177.6	20.9
4B	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.0	525.0	346.8	376.2	263.3	174.0	0.29	0.04	525.0	131.0	386.2	183.1	45.7	3.5	539.0	1888.1	362.2	253.5	892.8
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.7	515.0	888.0	386.2	270.3	151.2	25.1	3.8	525.0	11189.3	386.2	270.3	5761.8	0.5	531.0	288.4	370.2	259.1	140.7
Total			**0.00**							**12.62**							**35.88**							**83.94**						
Total Impervious Area				**0.00**							**9.47**							**5.38**												
Silkbeach																														
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.2	525.0	208.6	376.2	301.0	119.6	67.4	10.1	525.0	39057.9	376.2	301.0	17230.8	33.8	539.0	18243.9	362.2	289.8	9807.7
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.0	536.0	187.5	365.2	219.1	76.7	138.7	20.9	536.0	63631.0	365.2	219.1	26012.7	34.0	546.0	18566.9	365.2	219.1	7255.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	525.0	22.5	376.2	188.1	8.1	12.5	1.9	525.0	5591.8	376.2	188.1	2003.5	0.8	543.0	5319.2	358.2	179.1	1791.5
1M	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
244	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7	3.0	525.0	8791.3	376.2	301.0	5039.7	10.9	539.0	5860.1	362.2	289.8	3159.3
	Type B	B	13.2	2.0	525.0	5584.9	376.2	263.3	2651.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	539.0	13344.7	362.2	289.8	7173.9
236	Type D	D	1.1	0.2	525.0	493.1	376.2	112.9	106.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
238	Type B	B	2.7	0.4	525.0	1206.5	376.2	263.3	605.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	539.0	340.6	362.2	217.3	137.3
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	525.0	18.5	376.2	301.0	10.5	18.4	2.8	525.0	8230.6	376.2	301.0	4718.2	10.0	539.0	5388.8	362.2	289.8	2897.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.8	525.0	2289.2	376.2	188.1	820.2	18.0	543.0	9774.5	358.2	179.1	3224.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	2.4	515.0	6965.2	386.2	309.0	4196.6	12.7	531.0	6752.5	370.2	296.2	3766.1
7B	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	2.9	536.0	8950.3	365.2	219.1	3658.9	2.2	546.0	1183.9	355.2	213.1	462.1
216	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			**17.0**							**3.3**							**298.5**							**185.8**						
Total Impervious Area				**2.5**							**2.5**							**44.8**												
Rotherglen Ridge																														
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	539.0	117.7	362.2	289.8	63.3
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
242	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.2	525.0	382.3	376.2	301.0	219.1	96.4	14.5	525.0	43025.6	376.2	301.0	24664.7	2.3	539.0	1226.3	362.2	289.8	659.3
342	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	515.0	430.1	386.2	309.0	258.0	2.7	531.0	1417.6	370.2	296.2	799.6
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	1.2	525.0	3480.9	376.2	263.3	1745.8	6.2	539.0	3329.9	362.2	253.5	1562.1
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	531.0	2876.9	370.2	259.1	1404.0
422	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	546.0	1220.0	355.2	177.6	396.8
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.4	515.0	1213.9	386.2	309.0	728.2	1.9	531.0	986.2	370.2	259.1	481.3
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.8	525.0	2316.7	376.2	301.0	1328.1	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
228	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	543.0	2571.3	358.2	143.3	673.5
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	546.0	1876.7	355.2	213.1	732.5
226	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	548.0	3803.7	355.2	177.6	1236.3
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	543.0	5146.1	358.2	179.1	1697.3
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	546.0	1728.1	355.2	213.1	674.5
220	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5	525.0	79.0	376.2	188.1	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	543.0	1219.1	358.2	143.3	321.7
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	3.1	525.0	535.4	376.2	188.1	191.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	543.0	6104.8	358.2	179.1	2013.6
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.6	543.0	13886.3	358.2	179.1	4580.2
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.7	525.0	124.2	376.2	301.0	71.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	539.0	4042.1	362.2	289.8	2173.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
232	Bottomland	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.5	525.0	1517.3	376.2	301.0	869.8	5.8	539.0	3126.2	362.2	144.9	840.3
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	543.0	2443.5	358.2	143.3	644.8
234	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	543.0	4296.3	358.2	143.3	1133.7
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	531.0	75.1	370.2	296.2	41.9
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
238	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	543.0	598.6	358.2	179.1	194.1
Total			**0.0**							**8.5**							**116.6**							**114.9**						
Total Impervious Area				**0.0**							**6.4**							**17.5**												
Station																														
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	543.0	484.8	358.2	179.1	159.9
218	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	543.0	260.0	358.2	179.1	85.8
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	539.0	857.2	362.2	289.8	460.8
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	543.0	2115.7	358.2	143.3	558.3
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	539.0	4305.5	362.2	253.5	2025.3
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.8	515.0	514.1	386.2	309.0	308.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	531.0	6663.6	370.2	259.1	3252.0
7	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
216	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	543.0	714.5	358.2	179.1	235.7
Total			**0.0**							**1.8**							**0.0**							**26.7**						
Total Impervious Area				**0.0**							**0.8**							**0.0**												

	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.6	546.0	16161.6	355.2	142.1	4205.6
	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	546.0	8244.6	355.2	106.6	1609.1
416	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6	539.0	11642.4	362.2	217.3	4694.1
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
418	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
414	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.1	11.6	536.0	35106.7	365.2	182.6	11959.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
224	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.2	525.0	655.9	376.2	150.5	188.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	5.9	536.0	18032.1	365.2	182.6	6143.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
222	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	525.0	179.5	376.2	188.1	64.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	3.7	536.0	11169.0	365.2	182.6	3805.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2	4.2	525.0	12567.5	376.2	150.5	3602.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
208	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.5	525.0	1496.2	376.2	188.1	536.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	108.0	16.2	536.0	49185.1	365.2	146.1	13404.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
226	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	1.5	525.0	4384.1	376.2	112.9	942.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	7.5	536.0	22667.0	365.2	182.6	7722.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	17.5	525.0	52193.6	376.2	150.5	14960.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Bottomland	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	1.5	525.0	4462.5	376.2	150.5	1279.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	1.6	525.0	4861.9	376.2	263.3	2438.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	1.9	536.0	5838.7	365.2	146.1	1591.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	Bottomland	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	536.0	236.6	365.2	109.6	48.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type D	D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.5	525.0	1393.5	376.2	150.5	399.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
214	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.9	13.5	525.0	40135.2	376.2	263.3	20131.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	4.8	525.0	14404.4	376.2	263.3	7225.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.8	8.5	525.0	25329.1	376.2	263.3	12705.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Type A	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.0	11.8	515.0	34569.8	386.2	270.3	18146.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
212	Type B	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.7	525.0	1947.6	376.2	263.3	976.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			**0.0**							**0.0**							**758.7**							**66.3**						
Total Impervious Area				**0.0**							**0.0**							**113.8**											

APPENDIX K
Sensitivity Analysis Hydrologic Model Output

POND 23 – BASE FILE

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=============================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                           TIME: 6:37:33 PM

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************

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|    READ STORM   |    Filename: S:\2010 Projects\D-EE (E10)\
|                 |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                 |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
-------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25      .00 |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                 .50     1.21 |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                 .75     1.21 |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
                1.00     1.21 |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
                1.25     1.21 |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
                1.50     1.21 |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
                1.75     1.21 |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
                2.00     1.21 |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
                2.25     1.21 |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
                2.50     7.24 |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
                2.75     7.24 |  6.00    15.69 |  9.25     2.41 |
                3.00     7.24 |  6.25    15.69 |  9.50     1.21 |
                3.25     7.24 |  6.50     8.45 |  9.75     1.21 |

---------------------------------------------------------------------------------------------

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| CALIB           |
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| STANDHYD (3020) | Area (ha)= 5.36
|ID= 1 DT= 5.0 min | Total Imp(%)= 87.00 Dir. Conn.(%)= 87.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.66	.70
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	189.00	40.00
Mannings n =	.013	.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

			TOTALS
Max.Eff.Inten.(mm/hr)=	55.52	31.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.74 (ii)	8.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	.22	.12	
PEAK FLOW (cms)=	.72	.06	.777 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	119.71	51.70	110.87
TOTAL RAINFALL (mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT =	.99	.43	.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3010)	Area (ha)= 26.95
ID= 1 DT= 5.0 min	Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	21.29	5.66
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.50	2.00
Length (m)=	423.90	40.00
Mannings n =	.013	.250
Max.Eff.Inten.(mm/hr)=	55.52	41.09
over (min)	5.00	20.00
Storage Coeff. (min)=	6.81 (ii)	16.88 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	.18	.06

			TOTALS
PEAK FLOW (cms)=	3.28	.57	3.852 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	119.71	71.26	109.54
TOTAL RAINFALL (mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT =	.99	.59	.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0003)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3020):	5.36	.777	5.25	110.87
+ ID2= 2 (3010):	26.95	3.852	5.25	109.54
ID = 3 (0003):	32.31	4.629	5.25	109.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0004)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.3340	1.5400
	.0140	.1520	.3490	1.7350
	.0370	.3070	.3630	1.9320
	.0580	.4650	.3760	2.1330
	.0730	.6270	1.0880	2.3370
	.0860	.7930	2.3790	2.5440
	.0970	.9750	4.0460	2.7540
	.3020	1.1610	6.0170	2.9670
	.3180	1.3490	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	32.31	4.63	5.25	109.76
OUTFLOW: ID= 1 (0004)	32.31	1.31	6.25	109.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.35
TIME SHIFT OF PEAK FLOW (min)= 60.00

```
                MAXIMUM  STORAGE   USED        (ha.m.)=  2.3738

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 FINISH
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POND 23 – 6HR STORM

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:26:54 AM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal= 60.36 mm |    Comments: 100yr/6hr
--------------------

                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                .25     1.21  |  1.75    20.52 |  3.25     8.45 |  4.75     1.21
                .50     1.21  |  2.00    20.52 |  3.50     8.45 |  5.00     1.21
                .75     1.21  |  2.25    55.52 |  3.75     4.83 |  5.25     1.21
               1.00     1.21  |  2.50    55.52 |  4.00     4.83 |  5.50     1.21
               1.25     7.24  |  2.75    15.69 |  4.25     2.41 |  5.75     1.21
               1.50     7.24  |  3.00    15.69 |  4.50     2.41 |  6.00     1.21

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--------------------
| CALIB            |
| STANDHYD  (3020) |   Area     (ha)=   5.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  87.00   Dir. Conn.(%)=  87.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	4.66	.70
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	189.00	40.00
Mannings n	=	.013	.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	1.21	1.583	20.52	3.083	8.45	4.58	1.21
.167	1.21	1.667	20.52	3.167	8.45	4.67	1.21
.250	1.21	1.750	20.52	3.250	8.45	4.75	1.21
.333	1.21	1.833	20.52	3.333	8.45	4.83	1.21
.417	1.21	1.917	20.52	3.417	8.45	4.92	1.21
.500	1.21	2.000	20.52	3.500	8.45	5.00	1.21
.583	1.21	2.083	55.52	3.583	4.83	5.08	1.21
.667	1.21	2.167	55.52	3.667	4.83	5.17	1.21
.750	1.21	2.250	55.52	3.750	4.83	5.25	1.21
.833	1.21	2.333	55.52	3.833	4.83	5.33	1.21
.917	1.21	2.417	55.52	3.917	4.83	5.42	1.21
1.000	1.21	2.500	55.52	4.000	4.83	5.50	1.21
1.083	7.24	2.583	15.69	4.083	2.41	5.58	1.21
1.167	7.24	2.667	15.69	4.167	2.41	5.67	1.21
1.250	7.24	2.750	15.69	4.250	2.41	5.75	1.21
1.333	7.24	2.833	15.69	4.333	2.41	5.83	1.21
1.417	7.24	2.917	15.69	4.417	2.41	5.92	1.21
1.500	7.24	3.000	15.69	4.500	2.41	6.00	1.21

Max.Eff.Inten.	(mm/hr)=	55.52	71.76	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	4.74 (ii)	8.91 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	.22	.12	
				TOTALS
PEAK FLOW	(cms)=	.72	.03	.750 (iii)
TIME TO PEAK	(hrs)=	2.50	2.50	2.50
RUNOFF VOLUME	(mm)=	59.35	16.15	53.74
TOTAL RAINFALL	(mm)=	60.36	60.36	60.36
RUNOFF COEFFICIENT	=	.98	.27	.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (3010) | Area (ha)= 26.95
ID= 1 DT= 5.0 min | Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.29	5.66
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.50	2.00
Length	(m)=	423.90	40.00
Mannings n	=	.013	.250
Max.Eff.Inten.	(mm/hr)=	55.52	28.23
over	(min)	5.00	20.00
Storage Coeff.	(min)=	6.81 (ii)	18.51 (ii)
Unit Hyd. Tpeak	(min)=	5.00	20.00
Unit Hyd. peak	(cms)=	.18	.06
			TOTALS
PEAK FLOW	(cms)=	3.26	.30 3.522 (iii)
TIME TO PEAK	(hrs)=	2.50	2.67 2.50
RUNOFF VOLUME	(mm)=	59.35	24.91 52.12
TOTAL RAINFALL	(mm)=	60.36	60.36 60.36
RUNOFF COEFFICIENT	=	.98	.41 .86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0003)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3020):	5.36	.750	2.50	53.74
+ ID2= 2 (3010):	26.95	3.522	2.50	52.12
ID = 3 (0003):	32.31	4.272	2.50	52.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0004)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.0000	.0000	.3340	1.5400
.0140	.1520	.3490	1.7350
.0370	.3070	.3630	1.9320
.0580	.4650	.3760	2.1330
.0730	.6270	1.0880	2.3370
.0860	.7930	2.3790	2.5440
.0970	.9750	4.0460	2.7540
.3020	1.1610	6.0170	2.9670
.3180	1.3490	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	32.31	4.27	2.50	52.39
OUTFLOW: ID= 1 (0004)	32.31	.32	4.08	52.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.55
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 1.4025

FINISH

POND 23 – 24HR STORM

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:40:43 AM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal=130.88 mm |    Comments: 100yr/24hr
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	6.50	11.13	12.75	4.58	19.00	.65
.50	.65	6.75	11.13	13.00	4.58	19.25	.65
.75	.65	7.00	11.13	13.25	4.58	19.50	.65
1.00	.65	7.25	11.13	13.50	4.58	19.75	.65
1.25	.65	7.50	11.13	13.75	4.58	20.00	.65
1.50	.65	7.75	11.13	14.00	4.58	20.25	.65
1.75	.65	8.00	11.13	14.25	4.58	20.50	.65
2.00	.65	8.25	11.13	14.50	2.62	20.75	.65
2.25	.65	8.50	30.11	14.75	2.62	21.00	.65
2.50	.65	8.75	30.11	15.00	2.62	21.25	.65
2.75	.65	9.00	30.11	15.25	2.62	21.50	.65
3.00	.65	9.25	30.11	15.50	2.62	21.75	.65
3.25	.65	9.50	30.11	15.75	2.62	22.00	.65
3.50	.65	9.75	30.11	16.00	2.62	22.25	.65
3.75	.65	10.00	30.11	16.25	2.62	22.50	.65
4.00	.65	10.25	30.11	16.50	1.31	22.75	.65
4.25	.65	10.50	8.51	16.75	1.31	23.00	.65
4.50	3.93	10.75	8.51	17.00	1.31	23.25	.65
4.75	3.93	11.00	8.51	17.25	1.31	23.50	.65
5.00	3.93	11.25	8.51	17.50	1.31	23.75	.65
5.25	3.93	11.50	8.51	17.75	1.31	24.00	.65
5.50	3.93	11.75	8.51	18.00	1.31	24.25	.65
5.75	3.93	12.00	8.51	18.25	1.31		
6.00	3.93	12.25	8.51	18.50	.65		
6.25	3.93	12.50	4.58	18.75	.65		

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| CALIB              |
| STANDHYD  (3020)   |   Area     (ha)=   5.36
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  87.00   Dir. Conn.(%)=  87.00
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```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.66	.70
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	189.00	40.00
Mannings n	=	.013	.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	6.167	3.93	12.250	8.51	18.33	.65
.167	.00	6.250	3.93	12.333	4.58	18.42	.65
.250	.00	6.333	11.13	12.417	4.58	18.50	.65
.333	.65	6.417	11.13	12.500	4.58	18.58	.65
.417	.65	6.500	11.13	12.583	4.58	18.67	.65
.500	.65	6.583	11.13	12.667	4.58	18.75	.65
.583	.65	6.667	11.13	12.750	4.58	18.83	.65
.667	.65	6.750	11.13	12.833	4.58	18.92	.65
.750	.65	6.833	11.13	12.917	4.58	19.00	.65
.833	.65	6.917	11.13	13.000	4.58	19.08	.65
.917	.65	7.000	11.13	13.083	4.58	19.17	.65
1.000	.65	7.083	11.13	13.167	4.58	19.25	.65
1.083	.65	7.167	11.13	13.250	4.58	19.33	.65
1.167	.65	7.250	11.13	13.333	4.58	19.42	.65
1.250	.65	7.333	11.13	13.417	4.58	19.50	.65
1.333	.65	7.417	11.13	13.500	4.58	19.58	.65
1.417	.65	7.500	11.13	13.583	4.58	19.67	.65
1.500	.65	7.583	11.13	13.667	4.58	19.75	.65
1.583	.65	7.667	11.13	13.750	4.58	19.83	.65
1.667	.65	7.750	11.13	13.833	4.58	19.92	.65
1.750	.65	7.833	11.13	13.917	4.58	20.00	.65
1.833	.65	7.917	11.13	14.000	4.58	20.08	.65
1.917	.65	8.000	11.13	14.083	4.58	20.17	.65
2.000	.65	8.083	11.13	14.167	4.58	20.25	.65
2.083	.65	8.167	11.13	14.250	4.58	20.33	.65
2.167	.65	8.250	11.13	14.333	2.62	20.42	.65
2.250	.65	8.333	30.11	14.417	2.62	20.50	.65
2.333	.65	8.417	30.11	14.500	2.62	20.58	.65
2.417	.65	8.500	30.11	14.583	2.62	20.67	.65
2.500	.65	8.583	30.11	14.667	2.62	20.75	.65
2.583	.65	8.667	30.11	14.750	2.62	20.83	.65
2.667	.65	8.750	30.11	14.833	2.62	20.92	.65
2.750	.65	8.833	30.11	14.917	2.62	21.00	.65
2.833	.65	8.917	30.11	15.000	2.62	21.08	.65
2.917	.65	9.000	30.11	15.083	2.62	21.17	.65
3.000	.65	9.083	30.11	15.167	2.62	21.25	.65
3.083	.65	9.167	30.11	15.250	2.62	21.33	.65
3.167	.65	9.250	30.11	15.333	2.62	21.42	.65
3.250	.65	9.333	30.11	15.417	2.62	21.50	.65
3.333	.65	9.417	30.11	15.500	2.62	21.58	.65

3.417	.65	9.500	30.11	15.583	2.62	21.67	.65
3.500	.65	9.583	30.11	15.667	2.62	21.75	.65
3.583	.65	9.667	30.11	15.750	2.62	21.83	.65
3.667	.65	9.750	30.11	15.833	2.62	21.92	.65
3.750	.65	9.833	30.11	15.917	2.62	22.00	.65
3.833	.65	9.917	30.11	16.000	2.62	22.08	.65
3.917	.65	10.000	30.11	16.083	2.62	22.17	.65
4.000	.65	10.083	30.11	16.167	2.62	22.25	.65
4.083	.65	10.167	30.11	16.250	2.62	22.33	.65
4.167	.65	10.250	30.11	16.333	1.31	22.42	.65
4.250	.65	10.333	8.51	16.417	1.31	22.50	.65
4.333	3.93	10.417	8.51	16.500	1.31	22.58	.65
4.417	3.93	10.500	8.51	16.583	1.31	22.67	.65
4.500	3.93	10.583	8.51	16.667	1.31	22.75	.65
4.583	3.93	10.667	8.51	16.750	1.31	22.83	.65
4.667	3.93	10.750	8.51	16.833	1.31	22.92	.65
4.750	3.93	10.833	8.51	16.917	1.31	23.00	.65
4.833	3.93	10.917	8.51	17.000	1.31	23.08	.65
4.917	3.93	11.000	8.51	17.083	1.31	23.17	.65
5.000	3.93	11.083	8.51	17.167	1.31	23.25	.65
5.083	3.93	11.167	8.51	17.250	1.31	23.33	.65
5.167	3.93	11.250	8.51	17.333	1.31	23.42	.65
5.250	3.93	11.333	8.51	17.417	1.31	23.50	.65
5.333	3.93	11.417	8.51	17.500	1.31	23.58	.65
5.417	3.93	11.500	8.51	17.583	1.31	23.67	.65
5.500	3.93	11.583	8.51	17.667	1.31	23.75	.65
5.583	3.93	11.667	8.51	17.750	1.31	23.83	.65
5.667	3.93	11.750	8.51	17.833	1.31	23.92	.65
5.750	3.93	11.833	8.51	17.917	1.31	24.00	.65
5.833	3.93	11.917	8.51	18.000	1.31	24.08	.65
5.917	3.93	12.000	8.51	18.083	1.31	24.17	.65
6.000	3.93	12.083	8.51	18.167	1.31	24.25	.65
6.083	3.93	12.167	8.51	18.250	1.31		

Max.Eff.Inten.(mm/hr)=	30.11	17.78		
over (min)	5.00	25.00		
Storage Coeff. (min)=	6.05 (ii)	20.13 (ii)		
Unit Hyd. Tpeak (min)=	5.00	25.00		
Unit Hyd. peak (cms)=	.19	.05		
			TOTALS	
PEAK FLOW (cms)=	.39	.03	.422 (iii)	
TIME TO PEAK (hrs)=	9.75	10.25	10.25	
RUNOFF VOLUME (mm)=	129.88	58.72	120.63	
TOTAL RAINFALL (mm)=	130.88	130.88	130.88	
RUNOFF COEFFICIENT =	.99	.45	.92	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (3010)	Area (ha)= 26.95
ID= 1 DT= 5.0 min	Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.29	5.66
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.50	2.00
Length	(m)=	423.90	40.00
Mannings n	=	.013	.250
Max.Eff.Inten.(mm/hr)=		30.11	23.23
over (min)		10.00	25.00
Storage Coeff. (min)=		8.70 (ii)	21.35 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		.12	.05

			TOTALS
PEAK FLOW (cms)=	1.78	.34	2.124 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	129.88	79.86	119.38
TOTAL RAINFALL (mm)=	130.88	130.88	130.88
RUNOFF COEFFICIENT =	.99	.61	.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0003)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3020):		5.36	.422	10.25	120.63
+ ID2= 2 (3010):		26.95	2.124	10.25	119.38
ID = 3 (0003):		32.31	2.546	10.25	119.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0004)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.3340	1.5400
	.0140	.1520	.3490	1.7350
	.0370	.3070	.3630	1.9320
	.0580	.4650	.3760	2.1330
	.0730	.6270	1.0880	2.3370
	.0860	.7930	2.3790	2.5440
	.0970	.9750	4.0460	2.7540
	.3020	1.1610	6.0170	2.9670
	.3180	1.3490	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	32.31	2.55	10.25	119.58
OUTFLOW: ID= 1 (0004)	32.31	1.01	10.67	119.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.58
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 2.3143

FINISH

POND 23 - -25% RAINFALL INTENSITY

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M M M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
```


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 8:11:14 PM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

READ STORM | Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal=120.71 mm | Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

MODIFY STORM | CASE= 1 | MODIFYING PARAMETERS | Multiplication Factor= .75 | Time shift (min) = .00

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	.00	3.500	15.39	6.750	6.34	10.00	.91
.500	.91	3.750	15.39	7.000	6.34	10.25	.91
.750	.91	4.000	15.39	7.250	6.34	10.50	.91
1.000	.91	4.250	15.39	7.500	3.62	10.75	.91
1.250	.91	4.500	41.64	7.750	3.62	11.00	.91
1.500	.91	4.750	41.64	8.000	3.62	11.25	.91
1.750	.91	5.000	41.64	8.250	3.62	11.50	.91
2.000	.91	5.250	41.64	8.500	1.81	11.75	.91
2.250	.91	5.500	11.77	8.750	1.81	12.00	.91
2.500	5.43	5.750	11.77	9.000	1.81	12.25	.91
2.750	5.43	6.000	11.77	9.250	1.81		
3.000	5.43	6.250	11.77	9.500	.91		
3.250	5.43	6.500	6.34	9.750	.91		

CALIB | STANDHYD (3020) | ID= 1 DT= 5.0 min | Area (ha)= 5.36 | Total Imp(%)= 87.00 Dir. Conn.(%)= 87.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.66	.70
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	189.00	40.00
Mannings n	=	.013	.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	5.43	6.250	11.77	9.33	.91
.167	.00	3.250	5.43	6.333	6.34	9.42	.91
.250	.00	3.333	15.39	6.417	6.34	9.50	.91
.333	.91	3.417	15.39	6.500	6.34	9.58	.91
.417	.91	3.500	15.39	6.583	6.34	9.67	.91
.500	.91	3.583	15.39	6.667	6.34	9.75	.91
.583	.91	3.667	15.39	6.750	6.34	9.83	.91
.667	.91	3.750	15.39	6.833	6.34	9.92	.91
.750	.91	3.833	15.39	6.917	6.34	10.00	.91
.833	.91	3.917	15.39	7.000	6.34	10.08	.91
.917	.91	4.000	15.39	7.083	6.34	10.17	.91
1.000	.91	4.083	15.39	7.167	6.34	10.25	.91
1.083	.91	4.167	15.39	7.250	6.34	10.33	.91
1.167	.91	4.250	15.39	7.333	3.62	10.42	.91
1.250	.91	4.333	41.64	7.417	3.62	10.50	.91
1.333	.91	4.417	41.64	7.500	3.62	10.58	.91
1.417	.91	4.500	41.64	7.583	3.62	10.67	.91
1.500	.91	4.583	41.64	7.667	3.62	10.75	.91
1.583	.91	4.667	41.64	7.750	3.62	10.83	.91
1.667	.91	4.750	41.64	7.833	3.62	10.92	.91
1.750	.91	4.833	41.64	7.917	3.62	11.00	.91
1.833	.91	4.917	41.64	8.000	3.62	11.08	.91
1.917	.91	5.000	41.64	8.083	3.62	11.17	.91
2.000	.91	5.083	41.64	8.167	3.62	11.25	.91
2.083	.91	5.167	41.64	8.250	3.62	11.33	.91
2.167	.91	5.250	41.64	8.333	1.81	11.42	.91
2.250	.91	5.333	11.77	8.417	1.81	11.50	.91
2.333	5.43	5.417	11.77	8.500	1.81	11.58	.91
2.417	5.43	5.500	11.77	8.583	1.81	11.67	.91
2.500	5.43	5.583	11.77	8.667	1.81	11.75	.91

2.583	5.43	5.667	11.77	8.750	1.81	11.83	.91
2.667	5.43	5.750	11.77	8.833	1.81	11.92	.91
2.750	5.43	5.833	11.77	8.917	1.81	12.00	.91
2.833	5.43	5.917	11.77	9.000	1.81	12.08	.91
2.917	5.43	6.000	11.77	9.083	1.81	12.17	.91
3.000	5.43	6.083	11.77	9.167	1.81	12.25	.91
3.083	5.43	6.167	11.77	9.250	1.81		

Max.Eff.Inten.(mm/hr)=	41.64	103.48		
over (min)	5.00	10.00		
Storage Coeff. (min)=	5.31 (ii)	10.00 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	.21	.11		
			TOTALS	
PEAK FLOW (cms)=	.54	.04	.575 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	89.53	32.39	82.10	
TOTAL RAINFALL (mm)=	90.53	90.53	90.53	
RUNOFF COEFFICIENT =	.99	.36	.91	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (3010)	Area (ha)= 26.95	
ID= 1 DT= 5.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	21.29	5.66	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	1.50	2.00	
Length	(m)=	423.90	40.00	
Mannings n	=	.013	.250	
Max.Eff.Inten.(mm/hr)=		41.64	27.51	
over (min)		10.00	20.00	
Storage Coeff. (min)=		7.64 (ii)	19.47 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		.13	.06	
				TOTALS
PEAK FLOW (cms)=		2.46	.37	2.824 (iii)
TIME TO PEAK (hrs)=		5.25	5.33	5.25
RUNOFF VOLUME (mm)=		89.53	46.84	80.57
TOTAL RAINFALL (mm)=		90.53	90.53	90.53
RUNOFF COEFFICIENT =		.99	.52	.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0003)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (3020):	5.36	.575	5.25	82.10
	+ ID2= 2 (3010):	26.95	2.824	5.25	80.57
	ID = 3 (0003):	32.31	3.400	5.25	80.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0004)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.3340	1.5400
	.0140	.1520	.3490	1.7350
	.0370	.3070	.3630	1.9320
	.0580	.4650	.3760	2.1330
	.0730	.6270	1.0880	2.3370
	.0860	.7930	2.3790	2.5440
	.0970	.9750	4.0460	2.7540
	.3020	1.1610	6.0170	2.9670
	.3180	1.3490	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	32.31	3.40	5.25	80.82
OUTFLOW: ID= 1 (0004)	32.31	.37	7.50	80.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.80
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 1.9950

FINISH

POND 23 - +25% RAINFALL INTENSITY

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

      OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
     O   O    T      T    H   H   Y Y   MM MM  O   O
     O   O    T      T    H   H    Y    M M M  O   O
      OOO     T      T    H   H    Y    M   M   OOO

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                  *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:55:05 AM

USER:


COMMENTS: _____________________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
-------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25      .00 |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                 .50     1.21 |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                 .75     1.21 |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
                1.00     1.21 |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
                1.25     1.21 |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
                1.50     1.21 |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
                1.75     1.21 |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
                2.00     1.21 |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
                2.25     1.21 |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
                2.50     7.24 |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
                2.75     7.24 |  6.00    15.69 |  9.25     2.41 |
                3.00     7.24 |  6.25    15.69 |  9.50     1.21 |
                3.25     7.24 |  6.50     8.45 |  9.75     1.21 |

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| MODIFY STORM     |    MODIFYING PARAMETERS
| CASE= 1          |    Multiplication Factor=  1.25
-------------------    Time shift  (min)     =   .00

                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                .250      .00 | 3.500    25.65 | 6.750    10.56 | 10.00     1.51
                .500     1.51 | 3.750    25.65 | 7.000    10.56 | 10.25     1.51
                .750     1.51 | 4.000    25.65 | 7.250    10.56 | 10.50     1.51
               1.000     1.51 | 4.250    25.65 | 7.500     6.04 | 10.75     1.51
               1.250     1.51 | 4.500    69.40 | 7.750     6.04 | 11.00     1.51
               1.500     1.51 | 4.750    69.40 | 8.000     6.04 | 11.25     1.51
               1.750     1.51 | 5.000    69.40 | 8.250     6.04 | 11.50     1.51
               2.000     1.51 | 5.250    69.40 | 8.500     3.01 | 11.75     1.51
               2.250     1.51 | 5.500    19.61 | 8.750     3.01 | 12.00     1.51
               2.500     9.05 | 5.750    19.61 | 9.000     3.01 | 12.25     1.51
               2.750     9.05 | 6.000    19.61 | 9.250     3.01 |
               3.000     9.05 | 6.250    19.61 | 9.500     1.51 |
               3.250     9.05 | 6.500    10.56 | 9.750     1.51 |

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-------------------
| CALIB            |
| STANDHYD  (3020) |   Area     (ha)=   5.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  87.00   Dir. Conn.(%)=  87.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     4.66          .70
     Dep. Storage     (mm)=     1.00         1.50
     Average Slope     (%)=     1.00         2.00
     Length            (m)=   189.00        40.00
     Mannings n            =     .013         .250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                .083      .00 | 3.167    9.05 | 6.250    19.61 | 9.33     1.51
                .167      .00 | 3.250    9.05 | 6.333    10.56 | 9.42     1.51
                .250      .00 | 3.333   25.65 | 6.417    10.56 | 9.50     1.51
                .333     1.51 | 3.417   25.65 | 6.500    10.56 | 9.58     1.51
                .417     1.51 | 3.500   25.65 | 6.583    10.56 | 9.67     1.51
                .500     1.51 | 3.583   25.65 | 6.667    10.56 | 9.75     1.51
                .583     1.51 | 3.667   25.65 | 6.750    10.56 | 9.83     1.51
                .667     1.51 | 3.750   25.65 | 6.833    10.56 | 9.92     1.51
                .750     1.51 | 3.833   25.65 | 6.917    10.56 | 10.00    1.51
                .833     1.51 | 3.917   25.65 | 7.000    10.56 | 10.08    1.51
                .917     1.51 | 4.000   25.65 | 7.083    10.56 | 10.17    1.51
               1.000     1.51 | 4.083   25.65 | 7.167    10.56 | 10.25    1.51
               1.083     1.51 | 4.167   25.65 | 7.250    10.56 | 10.33    1.51
               1.167     1.51 | 4.250   25.65 | 7.333     6.04 | 10.42    1.51
               1.250     1.51 | 4.333   69.40 | 7.417     6.04 | 10.50    1.51
               1.333     1.51 | 4.417   69.40 | 7.500     6.04 | 10.58    1.51
               1.417     1.51 | 4.500   69.40 | 7.583     6.04 | 10.67    1.51
               1.500     1.51 | 4.583   69.40 | 7.667     6.04 | 10.75    1.51
               1.583     1.51 | 4.667   69.40 | 7.750     6.04 | 10.83    1.51
               1.667     1.51 | 4.750   69.40 | 7.833     6.04 | 10.92    1.51
               1.750     1.51 | 4.833   69.40 | 7.917     6.04 | 11.00    1.51
               1.833     1.51 | 4.917   69.40 | 8.000     6.04 | 11.08    1.51
               1.917     1.51 | 5.000   69.40 | 8.083     6.04 | 11.17    1.51
               2.000     1.51 | 5.083   69.40 | 8.167     6.04 | 11.25    1.51
               2.083     1.51 | 5.167   69.40 | 8.250     6.04 | 11.33    1.51
               2.167     1.51 | 5.250   69.40 | 8.333     3.01 | 11.42    1.51
               2.250     1.51 | 5.333   19.61 | 8.417     3.01 | 11.50    1.51
               2.333     9.05 | 5.417   19.61 | 8.500     3.01 | 11.58    1.51
               2.417     9.05 | 5.500   19.61 | 8.583     3.01 | 11.67    1.51
               2.500     9.05 | 5.583   19.61 | 8.667     3.01 | 11.75    1.51
```

2.583	9.05	5.667	19.61	8.750	3.01	11.83	1.51
2.667	9.05	5.750	19.61	8.833	3.01	11.92	1.51
2.750	9.05	5.833	19.61	8.917	3.01	12.00	1.51
2.833	9.05	5.917	19.61	9.000	3.01	12.08	1.51
2.917	9.05	6.000	19.61	9.083	3.01	12.17	1.51
3.000	9.05	6.083	19.61	9.167	3.01	12.25	1.51
3.083	9.05	6.167	19.61	9.250	3.01		

Max.Eff.Inten.(mm/hr)=	69.40		43.90		
over (min)	5.00		10.00		
Storage Coeff. (min)=	4.33	(ii)	8.15	(ii)	
Unit Hyd. Tpeak (min)=	5.00		10.00		
Unit Hyd. peak (cms)=	.23		.13		
				TOTALS	
PEAK FLOW (cms)=	.90		.08	.980	(iii)
TIME TO PEAK (hrs)=	5.17		5.25	5.25	
RUNOFF VOLUME (mm)=	149.89		73.15	139.91	
TOTAL RAINFALL (mm)=	150.89		150.89	150.89	
RUNOFF COEFFICIENT =	.99		.48	.93	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (3010)	Area (ha)= 26.95		
ID= 1 DT= 5.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	21.29	5.66		
Dep. Storage (mm)=	1.00	1.50		
Average Slope (%)=	1.50	2.00		
Length (m)=	423.90	40.00		
Mannings n =	.013	.250		
Max.Eff.Inten.(mm/hr)=	69.40	55.61		
over (min)	5.00	15.00		
Storage Coeff. (min)=	6.23	(ii) 11.04	(ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	.19	.09		
			TOTALS	
PEAK FLOW (cms)=	4.10	.83	4.932	(iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	149.89	97.20	138.82	
TOTAL RAINFALL (mm)=	150.89	150.89	150.89	
RUNOFF COEFFICIENT =	.99	.64	.92	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0003)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3020):	5.36	.980	5.25	139.91
+ ID2= 2 (3010):	26.95	4.932	5.25	138.82
ID = 3 (0003):	32.31	5.912	5.25	139.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0004)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.3340	1.5400
	.0140	.1520	.3490	1.7350
	.0370	.3070	.3630	1.9320
	.0580	.4650	.3760	2.1330
	.0730	.6270	1.0880	2.3370
	.0860	.7930	2.3790	2.5440
	.0970	.9750	4.0460	2.7540
	.3020	1.1610	6.0170	2.9670
	.3180	1.3490	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0003)	32.31	5.91	5.25	139.00
OUTFLOW: ID= 1 (0004)	32.31	3.20	5.42	138.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.14
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 2.6535

FINISH

POND 23 – CN AMC I

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                           TIME: 8:00:23 PM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
--------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                .25      .00  |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                .50     1.21  |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                .75     1.21  |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
               1.00     1.21  |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
               1.25     1.21  |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
               1.50     1.21  |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
               1.75     1.21  |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
               2.00     1.21  |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
               2.25     1.21  |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
               2.50     7.24  |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
               2.75     7.24  |  6.00    15.69 |  9.25     2.41 |
               3.00     7.24  |  6.25    15.69 |  9.50     1.21 |
               3.25     7.24  |  6.50     8.45 |  9.75     1.21 |

--------------------------------------------------------------------------------
```

```
--------------------
| CALIB            |
| STANDHYD  (3020) |   Area     (ha)=   5.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  87.00   Dir. Conn.(%)=  87.00
--------------------

                              IMPERVIOUS     PERVIOUS (i)
     Surface Area      (ha)=       4.66          .70
     Dep. Storage      (mm)=       1.00         1.50
     Average Slope     (%)=        1.00         2.00
     Length            (m)=      189.00        40.00
     Mannings n          =         .013         .250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
          TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
           hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
          .083      .00  |  3.167    7.24 |  6.250   15.69 |  9.33     1.21
          .167      .00  |  3.250    7.24 |  6.333    8.45 |  9.42     1.21
          .250      .00  |  3.333   20.52 |  6.417    8.45 |  9.50     1.21
          .333     1.21  |  3.417   20.52 |  6.500    8.45 |  9.58     1.21
          .417     1.21  |  3.500   20.52 |  6.583    8.45 |  9.67     1.21
          .500     1.21  |  3.583   20.52 |  6.667    8.45 |  9.75     1.21
          .583     1.21  |  3.667   20.52 |  6.750    8.45 |  9.83     1.21
          .667     1.21  |  3.750   20.52 |  6.833    8.45 |  9.92     1.21
          .750     1.21  |  3.833   20.52 |  6.917    8.45 | 10.00     1.21
          .833     1.21  |  3.917   20.52 |  7.000    8.45 | 10.08     1.21
          .917     1.21  |  4.000   20.52 |  7.083    8.45 | 10.17     1.21
         1.000     1.21  |  4.083   20.52 |  7.167    8.45 | 10.25     1.21
         1.083     1.21  |  4.167   20.52 |  7.250    8.45 | 10.33     1.21
         1.167     1.21  |  4.250   20.52 |  7.333    4.83 | 10.42     1.21
         1.250     1.21  |  4.333   55.52 |  7.417    4.83 | 10.50     1.21
         1.333     1.21  |  4.417   55.52 |  7.500    4.83 | 10.58     1.21
         1.417     1.21  |  4.500   55.52 |  7.583    4.83 | 10.67     1.21
         1.500     1.21  |  4.583   55.52 |  7.667    4.83 | 10.75     1.21
         1.583     1.21  |  4.667   55.52 |  7.750    4.83 | 10.83     1.21
         1.667     1.21  |  4.750   55.52 |  7.833    4.83 | 10.92     1.21
         1.750     1.21  |  4.833   55.52 |  7.917    4.83 | 11.00     1.21
         1.833     1.21  |  4.917   55.52 |  8.000    4.83 | 11.08     1.21
         1.917     1.21  |  5.000   55.52 |  8.083    4.83 | 11.17     1.21
         2.000     1.21  |  5.083   55.52 |  8.167    4.83 | 11.25     1.21
         2.083     1.21  |  5.167   55.52 |  8.250    4.83 | 11.33     1.21
         2.167     1.21  |  5.250   55.52 |  8.333    2.41 | 11.42     1.21
         2.250     1.21  |  5.333   15.69 |  8.417    2.41 | 11.50     1.21
         2.333     7.24  |  5.417   15.69 |  8.500    2.41 | 11.58     1.21
         2.417     7.24  |  5.500   15.69 |  8.583    2.41 | 11.67     1.21
         2.500     7.24  |  5.583   15.69 |  8.667    2.41 | 11.75     1.21
         2.583     7.24  |  5.667   15.69 |  8.750    2.41 | 11.83     1.21
         2.667     7.24  |  5.750   15.69 |  8.833    2.41 | 11.92     1.21
         2.750     7.24  |  5.833   15.69 |  8.917    2.41 | 12.00     1.21
         2.833     7.24  |  5.917   15.69 |  9.000    2.41 | 12.08     1.21
         2.917     7.24  |  6.000   15.69 |  9.083    2.41 | 12.17     1.21
         3.000     7.24  |  6.083   15.69 |  9.167    2.41 | 12.25     1.21
         3.083     7.24  |  6.167   15.69 |  9.250    2.41 |

   Max.Eff.Inten.(mm/hr)=      55.52         60.42
         over (min)            5.00         10.00
   Storage Coeff.  (min)=      4.74 (ii)     8.91 (ii)
   Unit Hyd. Tpeak (min)=      5.00         10.00
   Unit Hyd. peak  (cms)=       .22           .12

                                                    *TOTALS*
   PEAK FLOW         (cms)=      .72           .03      .753 (iii)
   TIME TO PEAK      (hrs)=     5.25          5.25     5.25
   RUNOFF VOLUME      (mm)=   119.71         30.24   108.08
   TOTAL RAINFALL     (mm)=   120.71        120.71   120.71
   RUNOFF COEFFICIENT   =       .99           .25      .90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  42.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3010) |   Area     (ha)=  26.95
|ID= 1 DT= 5.0 min |   Total Imp(%)=  79.00   Dir. Conn.(%)=  79.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.29          5.66
     Dep. Storage     (mm)=      1.00          1.50
     Average Slope     (%)=      1.50          2.00
     Length            (m)=    423.90         40.00
     Mannings n           =      .013          .250

     Max.Eff.Inten.(mm/hr)=     55.52         27.97
               over (min)        5.00         20.00
     Storage Coeff.  (min)=     6.81 (ii)    18.56 (ii)
     Unit Hyd. Tpeak (min)=     5.00         20.00
     Unit Hyd. peak  (cms)=      .18           .06
                                                        *TOTALS*
     PEAK FLOW       (cms)=     3.28           .37          3.644 (iii)
     TIME TO PEAK    (hrs)=     5.25          5.33           5.25
     RUNOFF VOLUME    (mm)=   119.71         46.88         104.41
     TOTAL RAINFALL   (mm)=   120.71        120.71         120.71
     RUNOFF COEFFICIENT   =      .99           .39            .87

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  58.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0003) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (3020):      5.36      .753      5.25    108.08
       + ID2= 2 (3010):     26.95     3.644      5.25    104.41
         ==========================================================
         ID = 3 (0003):     32.31     4.397      5.25    105.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0004) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW     STORAGE    |   OUTFLOW     STORAGE
--------------------       (cms)      (ha.m.)    |    (cms)      (ha.m.)
                           .0000       .0000     |     .3340       1.5400
                           .0140       .1520     |     .3490       1.7350
                           .0370       .3070     |     .3630       1.9320
                           .0580       .4650     |     .3760       2.1330
                           .0730       .6270     |    1.0880       2.3370
                           .0860       .7930     |    2.3790       2.5440
                           .0970       .9750     |    4.0460       2.7540
                           .3020      1.1610     |    6.0170       2.9670
                           .3180      1.3490     |     .0000        .0000

                              AREA      QPEAK      TPEAK       R.V.
                              (ha)      (cms)      (hrs)       (mm)
    INFLOW : ID= 2 (0003)    32.31      4.40        5.25      105.02
    OUTFLOW: ID= 1 (0004)    32.31      1.11        6.33      104.85

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.24
                    TIME SHIFT OF PEAK FLOW          (min)= 65.00
                    MAXIMUM  STORAGE   USED        (ha.m.)=  2.3421

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 FINISH
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POND 23 – CN AMC III

```
 V    V   I    SSSSS  U   U    A    L
 V    V   I    SS     U   U   A A   L
  V  V    I     SS    U   U  AAAAA  L
  V  V    I      SS   U   U  A   A  L
   VV     I    SSSSS  UUUUU  A   A  LLLLL

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M   M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
```


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 7:43:13 PM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

| READ STORM | Ptotal=120.71 mm |

Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

| CALIB | STANDHYD (3020) | ID= 1 DT= 5.0 min |

Area (ha)= 5.36
Total Imp(%)= 87.00 Dir. Conn.(%)= 87.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.66	.70
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	189.00	40.00
Mannings n	=	.013	.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	55.52	43.81	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	4.74 (ii)	8.91 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	.22	.12	
PEAK FLOW	(cms)=	.72	.08	.801 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	119.71	76.10	114.04
TOTAL RAINFALL	(mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT	=	.99	.63	.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* = 79.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (3010) |   Area     (ha)=  26.95
|ID= 1 DT= 5.0 min |   Total Imp(%)=  79.00   Dir. Conn.(%)=  79.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    21.29          5.66
     Dep. Storage     (mm)=     1.00          1.50
     Average Slope     (%)=     1.50          2.00
     Length            (m)=   423.90         40.00
     Mannings n           =     .013          .250

     Max.Eff.Inten.(mm/hr)=    55.52         50.41
               over (min)      5.00         20.00
     Storage Coeff.  (min)=    6.81 (ii)    16.09 (ii)
     Unit Hyd. Tpeak (min)=    5.00         20.00
     Unit Hyd. peak  (cms)=     .18           .06
                                                      *TOTALS*
     PEAK FLOW       (cms)=    3.28           .73        4.017 (iii)
     TIME TO PEAK    (hrs)=    5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=  119.71         92.37       113.97
     TOTAL RAINFALL   (mm)=  120.71        120.71       120.71
     RUNOFF COEFFICIENT   =     .99           .77          .94


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* = 88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0003) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3020):      5.36     .801     5.25   114.04
       + ID2= 2 (3010):     26.95    4.017     5.25   113.97
         ==========================================
         ID = 3 (0003):     32.31    4.818     5.25   113.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0004) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000       .0000   |    .3340      1.5400
                          .0140       .1520   |    .3490      1.7350
                          .0370       .3070   |    .3630      1.9320
                          .0580       .4650   |    .3760      2.1330
                          .0730       .6270   |   1.0880      2.3370
                          .0860       .7930   |   2.3790      2.5440
                          .0970       .9750   |   4.0460      2.7540
                          .3020      1.1610   |   6.0170      2.9670
                          .3180      1.3490   |    .0000       .0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0003)    32.31      4.82      5.25     113.98
     OUTFLOW: ID= 1 (0004)    32.31      1.46      5.92     113.81

     PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.40
     TIME SHIFT OF PEAK FLOW          (min)= 40.00
     MAXIMUM  STORAGE   USED        (ha.m.)=  2.3975

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 FINISH
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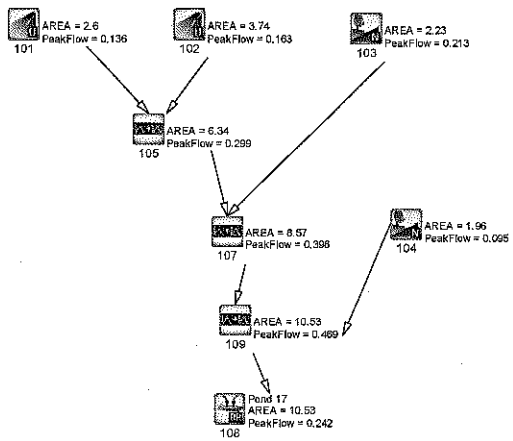
POND 17 – BASE FILE

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:16:26 AM

USER:


COMMENTS: ________________________________________________________________________

--------------------------------------------------------------------------------
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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


---------------------
|    READ STORM     |    Filename: S:\2010 Projects\D-EE (E10)\
|                   |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                   |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal= 88.50 mm  |    Comments: 100-Year 12-Hour SCS II Design Storm
---------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25     2.21 |  3.25     3.54 |  6.25    15.93 |  9.25     3.10
                 .50     2.21 |  3.50     3.54 |  6.50    15.93 |  9.50     3.10
                 .75     2.21 |  3.75     3.54 |  6.75     7.08 |  9.75     3.10
                1.00     2.21 |  4.00     3.54 |  7.00     7.08 | 10.00     3.10
                1.25     2.21 |  4.25     5.31 |  7.25     5.31 | 10.25     1.77
                1.50     2.21 |  4.50     5.31 |  7.50     5.31 | 10.50     1.77
                1.75     2.21 |  4.75     7.08 |  7.75     5.31 | 10.75     1.77
                2.00     2.21 |  5.00     7.08 |  8.00     5.31 | 11.00     1.77
                2.25     2.65 |  5.25    10.62 |  8.25     3.10 | 11.25     1.77
                2.50     2.65 |  5.50    10.62 |  8.50     3.10 | 11.50     1.77
                2.75     2.65 |  5.75    42.48 |  8.75     3.10 | 11.75     1.77
                3.00     2.65 |  6.00   116.82 |  9.00     3.10 | 12.00     1.77
--------------------------------------------------------------------------------

---------------------
| CALIB             |
| NASHYD    (0104)  |   Area     (ha)=   1.96   Curve Number   (CN)= 60.0
```

|ID= 1 DT=12.0 min | Ia (mm)= 2.50 # of Linear Res.(N)= 4.00

U.H. Tp(hrs)= .55

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.21	3.200	3.54	6.200	15.93	9.20	3.10
.400	2.21	3.400	3.54	6.400	15.93	9.40	3.10
.600	2.21	3.600	3.54	6.600	11.51	9.60	3.10
.800	2.21	3.800	3.54	6.800	7.08	9.80	3.10
1.000	2.21	4.000	3.54	7.000	7.08	10.00	3.10
1.200	2.21	4.200	5.31	7.200	5.31	10.20	1.77
1.400	2.21	4.400	5.31	7.400	5.31	10.40	1.77
1.600	2.21	4.600	6.19	7.600	5.31	10.60	1.77
1.800	2.21	4.800	7.08	7.800	5.31	10.80	1.77
2.000	2.21	5.000	7.08	8.000	5.31	11.00	1.77
2.200	2.65	5.200	10.62	8.200	3.10	11.20	1.77
2.400	2.65	5.400	10.62	8.400	3.10	11.40	1.77
2.600	2.65	5.600	26.55	8.600	3.10	11.60	1.77
2.800	2.65	5.800	61.06	8.800	3.10	11.80	1.77
3.000	2.66	6.000	116.82	9.000	3.10	12.00	1.77

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .095 (i)
TIME TO PEAK (hrs)= 6.400
RUNOFF VOLUME (mm)= 29.008
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = .328

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| NASHYD (0103) | Area (ha)= 2.23 Curve Number (CN)= 60.0
|ID= 1 DT=10.0 min | Ia (mm)= 2.50 # of Linear Res.(N)= 4.00

U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.21	3.167	3.54	6.167	15.93	9.17	3.10
.333	2.21	3.333	3.54	6.333	15.93	9.33	3.10
.500	2.21	3.500	3.54	6.500	15.93	9.50	3.10
.667	2.21	3.667	3.54	6.667	7.08	9.67	3.10
.833	2.21	3.833	3.54	6.833	7.08	9.83	3.10
1.000	2.21	4.000	3.54	7.000	7.08	10.00	3.10
1.167	2.21	4.167	5.31	7.167	5.31	10.17	1.77
1.333	2.21	4.333	5.31	7.333	5.31	10.33	1.77
1.500	2.21	4.500	5.31	7.500	5.31	10.50	1.77
1.667	2.21	4.667	7.08	7.667	5.31	10.67	1.77
1.833	2.21	4.833	7.08	7.833	5.31	10.83	1.77
2.000	2.21	5.000	7.08	8.000	5.31	11.00	1.77
2.167	2.65	5.167	10.62	8.167	3.10	11.17	1.77
2.333	2.65	5.333	10.62	8.333	3.10	11.33	1.77
2.500	2.65	5.500	10.62	8.500	3.10	11.50	1.77
2.667	2.65	5.667	42.48	8.667	3.10	11.67	1.77
2.833	2.65	5.833	79.65	8.833	3.10	11.83	1.77
3.000	2.66	6.000	116.82	9.000	3.10	12.00	1.77

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .213 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 29.111
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = .329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0102) | Area (ha)= 3.74
|ID= 1 DT=10.0 min | Total Imp(%)= 1.00 Dir. Conn.(%)= 1.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.04	3.70	
Dep. Storage	(mm)=	1.00	2.50	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	157.00	157.00	
Mannings n	=	.015	.200	
Max.Eff.Inten.	(mm/hr)=	116.82	26.82	
over	(min)	10.00	40.00	
Storage Coeff.	(min)=	3.43 (ii)	32.65 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	40.00	
Unit Hyd. peak	(cms)=	.16	.03	
				TOTALS
PEAK FLOW	(cms)=	.01	.16	.163 (iii)
TIME TO PEAK	(hrs)=	6.00	6.50	6.50
RUNOFF VOLUME	(mm)=	87.50	28.97	29.55
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	.99	.33	.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0101) | Area (ha)= 2.60
|ID= 1 DT=10.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.65	1.95	
Dep. Storage	(mm)=	1.00	2.50	
Average Slope	(%)=	.50	1.50	
Length	(m)=	131.00	131.00	
Mannings n	=	.150	.200	
Max.Eff.Inten.	(mm/hr)=	98.23	46.65	
over	(min)	20.00	40.00	
Storage Coeff.	(min)=	16.16 (ii)	34.76 (ii)	
Unit Hyd. Tpeak	(min)=	20.00	40.00	
Unit Hyd. peak	(cms)=	.06	.03	
				TOTALS
PEAK FLOW	(cms)=	.06	.11	.136 (iii)
TIME TO PEAK	(hrs)=	6.17	6.50	6.33
RUNOFF VOLUME	(mm)=	87.50	32.34	38.95
TOTAL RAINFALL	(mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT	=	.99	.37	.44

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)

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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0105) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0102):       3.74     .163     6.50    29.55
      + ID2= 2 (0101):       2.60     .136     6.33    38.95
        ==========================================================
        ID = 3 (0105):       6.34     .299     6.50    33.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0103):       2.23     .213     6.00    29.11
      + ID2= 2 (0105):       6.34     .299     6.50    33.40
        ==========================================================
        ID = 3 (0107):       8.57     .398     6.00    32.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0109) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0104):       1.96     .095     6.40    29.01
      + ID2= 2 (0107):       8.57     .398     6.00    32.29
        ==========================================================
        ID = 3 (0109):      10.53     .469     6.17    31.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                           .0000       .0000  |    .0170      .0925
                           .0070       .0015  |    .4100      .1756

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (0109)    10.53       .47      6.17     31.67
    OUTFLOW: ID= 1 (0108)    10.53       .24      7.00     31.66

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.61
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  .1402

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POND 17 - 6HR STORM

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                          TIME: 11:28:14 AM

USER:


COMMENTS: _____________________________________________________

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  ***************************
  ** SIMULATION NUMBER:   1 **
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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal= 63.72 mm |    Comments: 100-Year 6-Hour SCS II Design Storm
--------------------

  TIME   RAIN |  TIME   RAIN |  TIME   RAIN |  TIME   RAIN
   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
   .25   2.21 |  1.75   3.54 |  3.25 116.82 |  4.75   3.10
   .50   2.21 |  2.00   3.54 |  3.50  15.93 |  5.00   3.10
   .75   2.21 |  2.25   5.31 |  3.75   7.08 |  5.25   3.10
  1.00   2.21 |  2.50   7.08 |  4.00   5.31 |  5.50   1.77
  1.25   2.65 |  2.75  10.62 |  4.25   5.31 |  5.75   1.77
  1.50   2.65 |  3.00  42.48 |  4.50   3.10 |  6.00   1.77

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--------------------
| CALIB            |
| NASHYD    (0104) |   Area     (ha)=   1.96   Curve Number    (CN)= 60.0
|ID= 1 DT=12.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 4.00
--------------------   U.H. Tp(hrs)=    .55
```

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.21	1.800	3.54	3.400	41.15	5.00	3.10
.400	2.21	2.000	3.54	3.600	11.50	5.20	3.10
.600	2.21	2.200	5.31	3.800	6.64	5.40	2.10
.800	2.21	2.400	6.64	4.000	5.31	5.60	1.77
1.000	2.21	2.600	8.85	4.200	5.31	5.80	1.77
1.200	2.65	2.800	18.59	4.400	3.65	6.00	1.77
1.400	2.65	3.000	42.48	4.600	3.10		
1.600	3.10	3.200	116.82	4.800	3.10		

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .072 (i)
TIME TO PEAK (hrs)= 3.600
RUNOFF VOLUME (mm)= 16.279
TOTAL RAINFALL (mm)= 63.720
RUNOFF COEFFICIENT = .255

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0103)	Area (ha)= 2.23 Curve Number (CN)= 60.0
ID= 1 DT=10.0 min	Ia (mm)= 2.50 # of Linear Res.(N)= 4.00
	U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.21	1.667	3.54	3.167	116.82	4.67	3.10
.333	2.21	1.833	3.54	3.333	66.37	4.83	3.10
.500	2.21	2.000	3.54	3.500	15.93	5.00	3.10
.667	2.21	2.167	5.31	3.667	7.08	5.17	3.10
.833	2.21	2.333	6.19	3.833	6.19	5.33	2.43
1.000	2.21	2.500	7.08	4.000	5.31	5.50	1.77
1.167	2.65	2.667	10.62	4.167	5.31	5.67	1.77
1.333	2.65	2.833	26.55	4.333	4.20	5.83	1.77
1.500	2.65	3.000	42.48	4.500	3.10	6.00	1.77

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .154 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 16.337
TOTAL RAINFALL (mm)= 63.720
RUNOFF COEFFICIENT = .256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0102)	Area (ha)= 3.74
ID= 1 DT=10.0 min	Total Imp(%)= 1.00 Dir. Conn.(%)= 1.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.04	3.70
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	1.00	1.00
Length	(m)=	157.00	157.00
Mannings n	=	.015	.200
Max.Eff.Inten.	(mm/hr)=	116.82	17.35
over	(min)	10.00	40.00
Storage Coeff.	(min)=	3.43 (ii)	38.22 (ii)
Unit Hyd. Tpeak	(min)=	10.00	40.00
Unit Hyd. peak	(cms)=	.16	.03

				TOTALS
PEAK FLOW	(cms)=	.01	.11	.109 (iii)
TIME TO PEAK	(hrs)=	3.17	3.83	3.83
RUNOFF VOLUME	(mm)=	62.72	16.26	16.71
TOTAL RAINFALL	(mm)=	63.72	63.72	63.72
RUNOFF COEFFICIENT	=	.98	.26	.26

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0101)	Area (ha)= 2.60
ID= 1 DT=10.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.65	1.95
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	.50	1.50
Length	(m)=	131.00	131.00
Mannings n	=	.150	.200
Max.Eff.Inten.	(mm/hr)=	91.60	27.95
over	(min)	20.00	40.00
Storage Coeff.	(min)=	16.62 (ii)	39.45 (ii)
Unit Hyd. Tpeak	(min)=	20.00	40.00
Unit Hyd. peak	(cms)=	.06	.03

				TOTALS
PEAK FLOW	(cms)=	.06	.07	.108 (iii)
TIME TO PEAK	(hrs)=	3.33	3.83	3.50
RUNOFF VOLUME	(mm)=	62.72	18.42	23.73
TOTAL RAINFALL	(mm)=	63.72	63.72	63.72
RUNOFF COEFFICIENT	=	.98	.29	.37

***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0102):	3.74	.109	3.83	16.71
	+ ID2= 2 (0101):	2.60	.108	3.50	23.73
	ID = 3 (0105):	6.34	.216	3.67	19.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0103):      2.23     .154     3.33    16.34
       + ID2= 2 (0105):      6.34     .216     3.67    19.59
         ==========================================================
         ID = 3 (0107):      8.57     .313     3.33    18.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):      1.96     .072     3.60    16.28
       + ID2= 2 (0107):      8.57     .313     3.33    18.74
         ==========================================================
         ID = 3 (0109):     10.53     .359     3.33    18.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW     STORAGE   |  OUTFLOW     STORAGE
--------------------      (cms)      (ha.m.)   |   (cms)      (ha.m.)
                          .0000       .0000    |    .0170       .0925
                          .0070       .0015    |    .4100       .1756

                                 AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (0109)       10.53       .36      3.33     18.27
    OUTFLOW: ID= 1 (0108)       10.53       .13      4.50     18.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.85
                  TIME SHIFT OF PEAK FLOW          (min)= 70.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=   .1161

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POND 17 – 24HR STORM

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D    O U T P U T  *****


  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:42:25 AM

USER:


COMMENTS: _____________________________________________________

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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal=177.00 mm |    Comments: 100-Year 24-Hour SCS II Design Storm
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	2.21	6.25	3.54	12.25	15.93	18.25	3.10
.50	2.21	6.50	3.54	12.50	15.93	18.50	3.10
.75	2.21	6.75	3.54	12.75	15.93	18.75	3.10
1.00	2.21	7.00	3.54	13.00	15.93	19.00	3.10
1.25	2.21	7.25	3.54	13.25	7.08	19.25	3.10
1.50	2.21	7.50	3.54	13.50	7.08	19.50	3.10
1.75	2.21	7.75	3.54	13.75	7.08	19.75	3.10
2.00	2.21	8.00	3.54	14.00	7.08	20.00	3.10
2.25	2.21	8.25	5.31	14.25	5.31	20.25	1.77
2.50	2.21	8.50	5.31	14.50	5.31	20.50	1.77
2.75	2.21	8.75	5.31	14.75	5.31	20.75	1.77
3.00	2.21	9.00	5.31	15.00	5.31	21.00	1.77
3.25	2.21	9.25	7.08	15.25	5.31	21.25	1.77
3.50	2.21	9.50	7.08	15.50	5.31	21.50	1.77
3.75	2.21	9.75	7.08	15.75	5.31	21.75	1.77

4.00	2.21	10.00	7.08	16.00	5.31	22.00	1.77
4.25	2.65	10.25	10.62	16.25	3.10	22.25	1.77
4.50	2.65	10.50	10.62	16.50	3.10	22.50	1.77
4.75	2.65	10.75	10.62	16.75	3.10	22.75	1.77
5.00	2.65	11.00	10.62	17.00	3.10	23.00	1.77
5.25	2.65	11.25	42.48	17.25	3.10	23.25	1.77
5.50	2.65	11.50	42.48	17.50	3.10	23.50	1.77
5.75	2.65	11.75	116.82	17.75	3.10	23.75	1.77
6.00	2.65	12.00	116.82	18.00	3.10	24.00	1.77

CALIB					
NASHYD (0104)	Area (ha)=	1.96	Curve Number (CN)=	60.0	
ID= 1 DT=12.0 min	Ia (mm)=	2.50	# of Linear Res.(N)=	4.00	
	U.H. Tp(hrs)=	.55			

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.21	6.200	3.54	12.200	15.93	18.20	3.10
.400	2.21	6.400	3.54	12.400	15.93	18.40	3.10
.600	2.21	6.600	3.54	12.600	15.93	18.60	3.10
.800	2.21	6.800	3.54	12.800	15.93	18.80	3.10
1.000	2.21	7.000	3.54	13.000	15.93	19.00	3.10
1.200	2.21	7.200	3.54	13.200	7.08	19.20	3.10
1.400	2.21	7.400	3.54	13.400	7.08	19.40	3.10
1.600	2.21	7.600	3.54	13.600	7.08	19.60	3.10
1.800	2.21	7.800	3.54	13.800	7.08	19.80	3.10
2.000	2.21	8.000	3.54	14.000	7.08	20.00	3.10
2.200	2.21	8.200	5.31	14.200	5.31	20.20	1.77
2.400	2.21	8.400	5.31	14.400	5.31	20.40	1.77
2.600	2.21	8.600	5.31	14.600	5.31	20.60	1.77
2.800	2.21	8.800	5.31	14.800	5.31	20.80	1.77
3.000	2.21	9.000	5.31	15.000	5.31	21.00	1.77
3.200	2.21	9.200	7.08	15.200	5.31	21.20	1.77
3.400	2.21	9.400	7.08	15.400	5.31	21.40	1.77
3.600	2.21	9.600	7.08	15.600	5.31	21.60	1.77
3.800	2.21	9.800	7.08	15.800	5.31	21.80	1.77
4.000	2.21	10.000	7.08	16.000	5.31	22.00	1.77
4.200	2.65	10.200	10.62	16.200	3.10	22.20	1.77
4.400	2.65	10.400	10.62	16.400	3.10	22.40	1.77
4.600	2.65	10.600	10.62	16.600	3.10	22.60	1.77
4.800	2.65	10.800	10.62	16.800	3.10	22.80	1.77
5.000	2.65	11.000	10.62	17.000	3.10	23.00	1.77
5.200	2.65	11.200	42.48	17.200	3.10	23.20	1.77
5.400	2.65	11.400	42.48	17.400	3.10	23.40	1.77
5.600	2.65	11.600	79.65	17.600	3.10	23.60	1.77
5.800	2.65	11.800	116.82	17.800	3.10	23.80	1.77
6.000	2.65	12.000	116.82	18.000	3.10	24.00	1.77

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .237 (i)
TIME TO PEAK (hrs)= 12.200
RUNOFF VOLUME (mm)= 88.690
TOTAL RAINFALL (mm)= 177.000
RUNOFF COEFFICIENT = .501

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0103)	Area (ha)=	2.23	Curve Number (CN)=	60.0	
ID= 1 DT=10.0 min	Ia (mm)=	2.50	# of Linear Res.(N)=	4.00	
	U.H. Tp(hrs)=	.20			

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.21	6.167	3.54	12.167	15.93	18.17	3.10
.333	2.21	6.333	3.54	12.333	15.93	18.33	3.10
.500	2.21	6.500	3.54	12.500	15.93	18.50	3.10
.667	2.21	6.667	3.54	12.667	15.93	18.67	3.10
.833	2.21	6.833	3.54	12.833	15.93	18.83	3.10
1.000	2.21	7.000	3.54	13.000	15.93	19.00	3.10
1.167	2.21	7.167	3.54	13.167	7.08	19.17	3.10
1.333	2.21	7.333	3.54	13.333	7.08	19.33	3.10
1.500	2.21	7.500	3.54	13.500	7.08	19.50	3.10
1.667	2.21	7.667	3.54	13.667	7.08	19.67	3.10
1.833	2.21	7.833	3.54	13.833	7.08	19.83	3.10
2.000	2.21	8.000	3.54	14.000	7.08	20.00	3.10
2.167	2.21	8.167	5.31	14.167	5.31	20.17	1.77
2.333	2.21	8.333	5.31	14.333	5.31	20.33	1.77
2.500	2.21	8.500	5.31	14.500	5.31	20.50	1.77
2.667	2.21	8.667	5.31	14.667	5.31	20.67	1.77
2.833	2.21	8.833	5.31	14.833	5.31	20.83	1.77
3.000	2.21	9.000	5.31	15.000	5.31	21.00	1.77
3.167	2.21	9.167	7.08	15.167	5.31	21.17	1.77
3.333	2.21	9.333	7.08	15.333	5.31	21.33	1.77
3.500	2.21	9.500	7.08	15.500	5.31	21.50	1.77
3.667	2.21	9.667	7.08	15.667	5.31	21.67	1.77
3.833	2.21	9.833	7.08	15.833	5.31	21.83	1.77
4.000	2.21	10.000	7.08	16.000	5.31	22.00	1.77
4.167	2.65	10.167	10.62	16.167	3.10	22.17	1.77
4.333	2.65	10.333	10.62	16.333	3.10	22.33	1.77
4.500	2.65	10.500	10.62	16.500	3.10	22.50	1.77
4.667	2.65	10.667	10.62	16.667	3.10	22.67	1.77
4.833	2.65	10.833	10.62	16.833	3.10	22.83	1.77
5.000	2.65	11.000	10.62	17.000	3.10	23.00	1.77
5.167	2.65	11.167	42.48	17.167	3.10	23.17	1.77
5.333	2.65	11.333	42.48	17.333	3.10	23.33	1.77
5.500	2.65	11.500	42.48	17.500	3.10	23.50	1.77
5.667	2.65	11.667	116.82	17.667	3.10	23.67	1.77
5.833	2.65	11.833	116.82	17.833	3.10	23.83	1.77
6.000	2.65	12.000	116.82	18.000	3.10	24.00	1.77

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .432 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 89.004
TOTAL RAINFALL (mm)= 177.000
RUNOFF COEFFICIENT = .503

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0102)	Area (ha)=	3.74			
ID= 1 DT=10.0 min	Total Imp(%)=	1.00	Dir. Conn.(%)=	1.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.04	3.70
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	1.00	1.00
Length	(m)=	157.00	157.00
Mannings n	=	.015	.200
Max.Eff.Inten.(mm/hr)=		116.82	71.06
over (min)		10.00	30.00
Storage Coeff. (min)=		3.43 (ii)	23.22 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00

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     Unit Hyd. peak  (cms)=        .16          .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .01          .47          .473 (iii)
     TIME TO PEAK    (hrs)=      12.00        12.17        12.17
     RUNOFF VOLUME    (mm)=     176.00        88.56        89.43
     TOTAL RAINFALL   (mm)=     177.00       177.00       177.00
     RUNOFF COEFFICIENT   =        .99          .50          .51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)=   2.60
|ID= 1 DT=10.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=  12.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area    (ha)=       .65          1.95
     Dep. Storage    (mm)=      1.00          2.50
     Average Slope    (%)=       .50          1.50
     Length           (m)=    131.00        131.00
     Mannings n          =      .150          .200

     Max.Eff.Inten.(mm/hr)=    116.62         89.83
           over      (min)      20.00         30.00
     Storage Coeff.  (min)=     15.08 (ii)    29.39 (ii)
     Unit Hyd. Tpeak (min)=     20.00         30.00
     Unit Hyd. peak  (cms)=       .07           .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .09           .29          .363 (iii)
     TIME TO PEAK    (hrs)=     12.00         12.17        12.17
     RUNOFF VOLUME    (mm)=    176.00         95.80       105.42
     TOTAL RAINFALL   (mm)=    177.00        177.00       177.00
     RUNOFF COEFFICIENT   =       .99           .54          .60

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0105) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0102):      3.74      .473     12.17     89.43
      + ID2= 2 (0101):      2.60      .363     12.17    105.42
        ==========================================================
        ID = 3 (0105):      6.34      .836     12.17     95.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0103):      2.23      .432     12.00     89.00
      + ID2= 2 (0105):      6.34      .836     12.17     95.99
        ==========================================================
        ID = 3 (0107):      8.57     1.196     12.00     94.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
        ID1= 1 (0104):      1.96      .237     12.20     88.69
      + ID2= 2 (0107):      8.57     1.196     12.00     94.17
        ==========================================================
        ID = 3 (0109):     10.53     1.387     12.00     93.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW     STORAGE   |  OUTFLOW     STORAGE
--------------------      (cms)      (ha.m.)   |   (cms)      (ha.m.)
                          .0000       .0000    |    .0170       .0925
                          .0070       .0015    |    .4100       .1756

                              AREA      QPEAK      TPEAK       R.V.
                              (ha)      (cms)      (hrs)       (mm)
    INFLOW : ID= 2 (0109)    10.53       1.39      12.00      93.16
    OUTFLOW: ID= 1 (0108)    10.53        .89      12.50      93.15

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 63.96
               TIME SHIFT OF PEAK FLOW          (min)= 30.00
               MAXIMUM  STORAGE   USED        (ha.m.)=   .2771

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 FINISH
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POND 17 - -25% RAINFALL INTENSITY

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                  *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                          TIME: 6:34:33 PM

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
--------------------
                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .25    2.21 |  3.25    3.54 |  6.25   15.93 |  9.25    3.10
                 .50    2.21 |  3.50    3.54 |  6.50   15.93 |  9.50    3.10
                 .75    2.21 |  3.75    3.54 |  6.75    7.08 |  9.75    3.10
                1.00    2.21 |  4.00    3.54 |  7.00    7.08 | 10.00    3.10
                1.25    2.21 |  4.25    5.31 |  7.25    5.31 | 10.25    1.77
                1.50    2.21 |  4.50    5.31 |  7.50    5.31 | 10.50    1.77
                1.75    2.21 |  4.75    7.08 |  7.75    5.31 | 10.75    1.77
                2.00    2.21 |  5.00    7.08 |  8.00    5.31 | 11.00    1.77
                2.25    2.65 |  5.25   10.62 |  8.25    3.10 | 11.25    1.77
                2.50    2.65 |  5.50   10.62 |  8.50    3.10 | 11.50    1.77
                2.75    2.65 |  5.75   42.48 |  8.75    3.10 | 11.75    1.77
                3.00    2.65 |  6.00  116.82 |  9.00    3.10 | 12.00    1.77

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--------------------
| MODIFY STORM     |    MODIFYING PARAMETERS
| CASE= 1          |    Multiplication Factor=   .75
--------------------    Time shift  (min)    =   .00

                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .250   1.66 | 3.250    2.65 | 6.250   11.95 |  9.25    2.32
                 .500   1.66 | 3.500    2.65 | 6.500   11.95 |  9.50    2.32
                 .750   1.66 | 3.750    2.65 | 6.750    5.31 |  9.75    2.32
                1.000   1.66 | 4.000    2.65 | 7.000    5.31 | 10.00    2.32
                1.250   1.66 | 4.250    3.98 | 7.250    3.98 | 10.25    1.33
                1.500   1.66 | 4.500    3.98 | 7.500    3.98 | 10.50    1.33
                1.750   1.66 | 4.750    5.31 | 7.750    3.98 | 10.75    1.33
                2.000   1.66 | 5.000    5.31 | 8.000    3.98 | 11.00    1.33
                2.250   1.99 | 5.250    7.97 | 8.250    2.32 | 11.25    1.33
                2.500   1.99 | 5.500    7.97 | 8.500    2.32 | 11.50    1.33
                2.750   1.99 | 5.750   31.86 | 8.750    2.32 | 11.75    1.33
                3.000   1.99 | 6.000   87.61 | 9.000    2.32 | 12.00    1.33

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--------------------
| CALIB            |
| NASHYD   (0104)  |   Area     (ha)=   1.96   Curve Number    (CN)= 60.0
|ID= 1 DT=12.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 4.00
--------------------   U.H. Tp(hrs)=    .55

        NOTE:  RAINFALL WAS TRANSFORMED TO  12.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .200   1.66 | 3.200    2.65 | 6.200   11.95 |  9.20    2.32
                 .400   1.66 | 3.400    2.65 | 6.400   11.95 |  9.40    2.32
                 .600   1.66 | 3.600    2.65 | 6.600    8.63 |  9.60    2.32
                 .800   1.66 | 3.800    2.65 | 6.800    5.31 |  9.80    2.32
                1.000   1.66 | 4.000    2.66 | 7.000    5.31 | 10.00    2.32
                1.200   1.66 | 4.200    3.98 | 7.200    3.98 | 10.20    1.33
                1.400   1.66 | 4.400    3.98 | 7.400    3.98 | 10.40    1.33
                1.600   1.66 | 4.600    4.65 | 7.600    3.98 | 10.60    1.33
                1.800   1.66 | 4.800    5.31 | 7.800    3.98 | 10.80    1.33
                2.000   1.66 | 5.000    5.31 | 8.000    3.98 | 11.00    1.33
                2.200   1.99 | 5.200    7.96 | 8.200    2.32 | 11.20    1.33
                2.400   1.99 | 5.400    7.97 | 8.400    2.32 | 11.40    1.33
                2.600   1.99 | 5.600   19.91 | 8.600    2.32 | 11.60    1.33
                2.800   1.99 | 5.800   45.80 | 8.800    2.32 | 11.80    1.33
                3.000   1.99 | 6.000   87.61 | 9.000    2.32 | 12.00    1.33

     Unit Hyd Qpeak  (cms)=    .169

     PEAK FLOW       (cms)=    .057 (i)
     TIME TO PEAK    (hrs)=   6.400
     RUNOFF VOLUME    (mm)=  17.520
     TOTAL RAINFALL   (mm)=  66.375
     RUNOFF COEFFICIENT   =    .264

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (0103)  |   Area     (ha)=   2.23   Curve Number    (CN)= 60.0
|ID= 1 DT=10.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 4.00
--------------------   U.H. Tp(hrs)=    .20

        NOTE:  RAINFALL WAS TRANSFORMED TO  10.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
.167	1.66	3.167	2.65	6.167	11.95	9.17	2.32
.333	1.66	3.333	2.65	6.333	11.95	9.33	2.32
.500	1.66	3.500	2.66	6.500	11.95	9.50	2.32
.667	1.66	3.667	2.65	6.667	5.31	9.67	2.32
.833	1.66	3.833	2.65	6.833	5.31	9.83	2.32
1.000	1.66	4.000	2.66	7.000	5.31	10.00	2.32
1.167	1.66	4.167	3.98	7.167	3.98	10.17	1.33
1.333	1.66	4.333	3.98	7.333	3.98	10.33	1.33
1.500	1.66	4.500	3.98	7.500	3.98	10.50	1.33
1.667	1.66	4.667	5.31	7.667	3.98	10.67	1.33
1.833	1.66	4.833	5.31	7.833	3.98	10.83	1.33
2.000	1.66	5.000	5.31	8.000	3.98	11.00	1.33
2.167	1.99	5.167	7.96	8.167	2.32	11.17	1.33
2.333	1.99	5.333	7.97	8.333	2.32	11.33	1.33
2.500	1.99	5.500	7.97	8.500	2.32	11.50	1.33
2.667	1.99	5.667	31.86	8.667	2.32	11.67	1.33
2.833	1.99	5.833	59.74	8.833	2.32	11.83	1.33
3.000	1.99	6.000	87.61	9.000	2.32	12.00	1.33

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .128 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 17.583
TOTAL RAINFALL (mm)= 66.375
RUNOFF COEFFICIENT = .265

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0102)
ID= 1 DT=10.0 min

Area (ha)= 3.74
Total Imp(%)= 1.00 Dir. Conn.(%)= 1.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.04	3.70
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	1.00	1.00
Length	(m)=	157.00	157.00
Mannings n	=	.015	.200
Max.Eff.Inten.	(mm/hr)=	87.61	13.09
over	(min)	10.00	50.00
Storage Coeff.	(min)=	3.85 (ii)	42.78 (ii)
Unit Hyd. Tpeak	(min)=	10.00	50.00
Unit Hyd. peak	(cms)=	.16	.02

				TOTALS
PEAK FLOW	(cms)=	.01	.08	.081 (iii)
TIME TO PEAK	(hrs)=	6.00	6.67	6.67
RUNOFF VOLUME	(mm)=	65.37	17.50	17.97
TOTAL RAINFALL	(mm)=	66.38	66.38	66.38
RUNOFF COEFFICIENT	=	.98	.26	.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0101)
ID= 1 DT=10.0 min

Area (ha)= 2.60
Total Imp(%)= 25.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.65	1.95
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	.50	1.50
Length	(m)=	131.00	131.00
Mannings n	=	.150	.200
Max.Eff.Inten.	(mm/hr)=	73.68	21.36
over	(min)	20.00	50.00
Storage Coeff.	(min)=	18.13 (ii)	43.56 (ii)
Unit Hyd. Tpeak	(min)=	20.00	50.00
Unit Hyd. peak	(cms)=	.06	.02

				TOTALS
PEAK FLOW	(cms)=	.04	.06	.073 (iii)
TIME TO PEAK	(hrs)=	6.17	6.67	6.17
RUNOFF VOLUME	(mm)=	65.38	19.79	25.25
TOTAL RAINFALL	(mm)=	66.38	66.38	66.38
RUNOFF COEFFICIENT	=	.98	.30	.38

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0105)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	3.74	.081	6.67	17.97
+ ID2= 2 (0101):	2.60	.073	6.17	25.25
ID = 3 (0105):	6.34	.153	6.67	20.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0107)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0103):	2.23	.128	6.00	17.58
+ ID2= 2 (0105):	6.34	.153	6.67	20.95
ID = 3 (0107):	8.57	.223	6.00	20.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0109)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	1.96	.057	6.40	17.52
+ ID2= 2 (0107):	8.57	.223	6.00	20.08
ID = 3 (0109):	10.53	.252	6.00	19.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0108)
IN= 2---> OUT= 1

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.0170	.0925
	.0070	.0015	.4100	.1756

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	10.53	.25	6.00	19.60
OUTFLOW: ID= 1 (0108)	10.53	.09	7.67	19.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.78
TIME SHIFT OF PEAK FLOW (min)=100.00
MAXIMUM STORAGE USED (ha.m.)= .1080

FINISH

POND 17 - +25% RAINFALL INTENSITY

```
 V    V   I    SSSSS  U   U    A    L
 V    V   I    SS     U   U   A A   L
  V  V    I     SS    U   U  AAAAA  L
  V  V    I      SS   U   U  A   A  L
   VV     I    SSSSS  UUUUU  A   A  LLLLL

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M M M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 6:41:12 PM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

READ STORM	Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal= 88.50 mm	Comments: 100-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	2.21	3.25	3.54	6.25	15.93	9.25	3.10
.50	2.21	3.50	3.54	6.50	15.93	9.50	3.10
.75	2.21	3.75	3.54	6.75	7.08	9.75	3.10
1.00	2.21	4.00	3.54	7.00	7.08	10.00	3.10
1.25	2.21	4.25	5.31	7.25	5.31	10.25	1.77
1.50	2.21	4.50	5.31	7.50	5.31	10.50	1.77
1.75	2.21	4.75	7.08	7.75	5.31	10.75	1.77
2.00	2.21	5.00	7.08	8.00	5.31	11.00	1.77
2.25	2.65	5.25	10.62	8.25	3.10	11.25	1.77
2.50	2.65	5.50	10.62	8.50	3.10	11.50	1.77
2.75	2.65	5.75	42.48	8.75	3.10	11.75	1.77
3.00	2.65	6.00	116.82	9.00	3.10	12.00	1.77

| MODIFY STORM |
| CASE= 1 |

MODIFYING PARAMETERS
Multiplication Factor= 1.25
Time shift (min) = .00

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	2.77	3.250	4.43	6.250	19.91	9.25	3.87
.500	2.77	3.500	4.43	6.500	19.91	9.50	3.87
.750	2.77	3.750	4.43	6.750	8.85	9.75	3.87
1.000	2.77	4.000	4.43	7.000	8.85	10.00	3.87
1.250	2.77	4.250	6.64	7.250	6.64	10.25	2.21
1.500	2.77	4.500	6.64	7.500	6.64	10.50	2.21
1.750	2.77	4.750	8.85	7.750	6.64	10.75	2.21
2.000	2.77	5.000	8.85	8.000	6.64	11.00	2.21
2.250	3.32	5.250	13.28	8.250	3.87	11.25	2.21
2.500	3.32	5.500	13.28	8.500	3.87	11.50	2.21
2.750	3.32	5.750	53.10	8.750	3.87	11.75	2.21
3.000	3.32	6.000	146.02	9.000	3.87	12.00	2.21

| CALIB |
| NASHYD (0104) |
| ID= 1 DT=12.0 min |

Area (ha)= 1.96 Curve Number (CN)= 60.0
Ia (mm)= 2.50 # of Linear Res.(N)= 4.00
U.H. Tp(hrs)= .55

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.77	3.200	4.43	6.200	19.91	9.20	3.87
.400	2.77	3.400	4.43	6.400	19.91	9.40	3.87
.600	2.77	3.600	4.43	6.600	14.38	9.60	3.87
.800	2.77	3.800	4.43	6.800	8.85	9.80	3.87
1.000	2.77	4.000	4.43	7.000	8.85	10.00	3.87
1.200	2.77	4.200	6.64	7.200	6.64	10.20	2.21
1.400	2.77	4.400	6.64	7.400	6.64	10.40	2.21
1.600	2.77	4.600	7.74	7.600	6.64	10.60	2.21
1.800	2.77	4.800	8.85	7.800	6.64	10.80	2.21
2.000	2.77	5.000	8.85	8.000	6.64	11.00	2.21
2.200	3.32	5.200	13.27	8.200	3.87	11.20	2.21
2.400	3.32	5.400	13.28	8.400	3.87	11.40	2.21
2.600	3.32	5.600	33.19	8.600	3.87	11.60	2.21
2.800	3.32	5.800	76.33	8.800	3.87	11.80	2.21
3.000	3.32	6.000	146.02	9.000	3.87	12.00	2.21

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .139 (i)
TIME TO PEAK (hrs)= 6.400
RUNOFF VOLUME (mm)= 42.198
TOTAL RAINFALL (mm)= 110.625
RUNOFF COEFFICIENT = .381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| NASHYD (0103) |
| ID= 1 DT=10.0 min |

Area (ha)= 2.23 Curve Number (CN)= 60.0
Ia (mm)= 2.50 # of Linear Res.(N)= 4.00
U.H. Tp(hrs)= .20

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.77	3.167	4.43	6.167	19.91	9.17	3.87
.333	2.77	3.333	4.43	6.333	19.91	9.33	3.87
.500	2.77	3.500	4.43	6.500	19.91	9.50	3.87
.667	2.77	3.667	4.43	6.667	8.85	9.67	3.87
.833	2.77	3.833	4.43	6.833	8.85	9.83	3.87
1.000	2.77	4.000	4.43	7.000	8.85	10.00	3.87
1.167	2.77	4.167	6.64	7.167	6.64	10.17	2.21
1.333	2.77	4.333	6.64	7.333	6.64	10.33	2.21
1.500	2.77	4.500	6.64	7.500	6.64	10.50	2.21
1.667	2.77	4.667	8.85	7.667	6.64	10.67	2.21
1.833	2.77	4.833	8.85	7.833	6.64	10.83	2.21
2.000	2.77	5.000	8.85	8.000	6.64	11.00	2.21
2.167	3.32	5.167	13.27	8.167	3.87	11.17	2.21
2.333	3.32	5.333	13.28	8.333	3.87	11.33	2.21
2.500	3.32	5.500	13.28	8.500	3.87	11.50	2.21
2.667	3.32	5.667	53.10	8.667	3.87	11.67	2.21
2.833	3.32	5.833	99.56	8.833	3.87	11.83	2.21
3.000	3.32	6.000	146.02	9.000	3.87	12.00	2.21

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .312 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 42.347
TOTAL RAINFALL (mm)= 110.625
RUNOFF COEFFICIENT = .383

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0102) |
| ID= 1 DT=10.0 min |

Area (ha)= 3.74
Total Imp(%)= 1.00 Dir. Conn.(%)= 1.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.04	3.70	
Dep. Storage	(mm)=	1.00	2.50	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	157.00	157.00	
Mannings n	=	.015	.200	
Max.Eff.Inten.(mm/hr)=		146.02	39.47	
over (min)		10.00	30.00	
Storage Coeff.	(min)=	3.14 (ii)	28.18 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	30.00	
Unit Hyd. peak	(cms)=	.16	.04	
				TOTALS
PEAK FLOW	(cms)=	.01	.27	.271 (iii)
TIME TO PEAK	(hrs)=	6.00	6.33	6.33
RUNOFF VOLUME	(mm)=	109.62	42.14	42.81
TOTAL RAINFALL	(mm)=	110.63	110.63	110.63
RUNOFF COEFFICIENT	=	.99	.38	.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0101) |
| ID= 1 DT=10.0 min |

Area (ha)= 2.60
Total Imp(%)= 25.00 Dir. Conn.(%)= 12.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.65	1.95	
Dep. Storage	(mm)=	1.00	2.50	
Average Slope	(%)=	.50	1.50	
Length	(m)=	131.00	131.00	
Mannings n	=	.150	.200	
Max.Eff.Inten.(mm/hr)=		146.02	67.62	
over (min)		10.00	30.00	
Storage Coeff.	(min)=	13.79 (ii)	29.83 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	30.00	
Unit Hyd. peak	(cms)=	.09	.04	
				TOTALS
PEAK FLOW	(cms)=	.09	.18	.215 (iii)
TIME TO PEAK	(hrs)=	6.00	6.33	6.33
RUNOFF VOLUME	(mm)=	109.62	46.56	54.12
TOTAL RAINFALL	(mm)=	110.63	110.63	110.63
RUNOFF COEFFICIENT	=	.99	.42	.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0105)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0102):		3.74	.271	6.33	42.81
+ ID2= 2 (0101):		2.60	.215	6.33	54.12
ID = 3 (0105):		6.34	.485	6.33	47.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0107)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0103):		2.23	.312	6.00	42.35
+ ID2= 2 (0105):		6.34	.485	6.33	47.45
ID = 3 (0107):		8.57	.684	6.00	46.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0109)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0104):		1.96	.139	6.40	42.20
+ ID2= 2 (0107):		8.57	.684	6.00	46.12
ID = 3 (0109):		10.53	.771	6.17	45.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0108)
IN= 2---> OUT= 1

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.0170	.0925
	.0070	.0015	.4100	.1756

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)		10.53	.77	6.17	45.38
OUTFLOW: ID= 1 (0108)		10.53	.43	6.75	45.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.28
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= .1793

FINISH

POND 17 – CN AMC I

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO    TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O     T      T    H   H   Y Y   MM MM  O   O
      O   O     T      T    H   H    Y    M M M  O   O
       OOO      T      T    H   H    Y    M   M   OOO

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                  ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                           TIME: 8:01:35 PM

USER:


COMMENTS: _____________________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal= 88.50 mm |    Comments: 100-Year 12-Hour SCS II Design Storm
--------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25     2.21 |  3.25     3.54 |  6.25    15.93 |  9.25     3.10
                 .50     2.21 |  3.50     3.54 |  6.50    15.93 |  9.50     3.10
                 .75     2.21 |  3.75     3.54 |  6.75     7.08 |  9.75     3.10
                1.00     2.21 |  4.00     3.54 |  7.00     7.08 | 10.00     3.10
                1.25     2.21 |  4.25     5.31 |  7.25     5.31 | 10.25     1.77
                1.50     2.21 |  4.50     5.31 |  7.50     5.31 | 10.50     1.77
                1.75     2.21 |  4.75     7.08 |  7.75     5.31 | 10.75     1.77
                2.00     2.21 |  5.00     7.08 |  8.00     5.31 | 11.00     1.77
                2.25     2.65 |  5.25    10.62 |  8.25     3.10 | 11.25     1.77
                2.50     2.65 |  5.50    10.62 |  8.50     3.10 | 11.50     1.77
                2.75     2.65 |  5.75    42.48 |  8.75     3.10 | 11.75     1.77
                3.00     2.65 |  6.00   116.82 |  9.00     3.10 | 12.00     1.77

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| CALIB              |
| NASHYD    (0104) |   Area     (ha)=   1.96   Curve Number    (CN)= 40.0
|ID= 1 DT=12.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 4.00
--------------------   U.H. Tp(hrs)=    .55

        NOTE:  RAINFALL WAS TRANSFORMED TO  12.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
          TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
           hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
          .200     2.21 |  3.200    3.54 |  6.200   15.93 |  9.20     3.10
          .400     2.21 |  3.400    3.54 |  6.400   15.93 |  9.40     3.10
          .600     2.21 |  3.600    3.54 |  6.600   11.51 |  9.60     3.10
          .800     2.21 |  3.800    3.54 |  6.800    7.08 |  9.80     3.10
         1.000     2.21 |  4.000    3.54 |  7.000    7.08 | 10.00     3.10
         1.200     2.21 |  4.200    5.31 |  7.200    5.31 | 10.20     1.77
         1.400     2.21 |  4.400    5.31 |  7.400    5.31 | 10.40     1.77
         1.600     2.21 |  4.600    6.19 |  7.600    5.31 | 10.60     1.77
         1.800     2.21 |  4.800    7.08 |  7.800    5.31 | 10.80     1.77
         2.000     2.21 |  5.000    7.08 |  8.000    5.31 | 11.00     1.77
         2.200     2.65 |  5.200   10.62 |  8.200    3.10 | 11.20     1.77
         2.400     2.65 |  5.400   10.62 |  8.400    3.10 | 11.40     1.77
         2.600     2.65 |  5.600   26.55 |  8.600    3.10 | 11.60     1.77
         2.800     2.65 |  5.800   61.06 |  8.800    3.10 | 11.80     1.77
         3.000     2.66 |  6.000  116.82 |  9.000    3.10 | 12.00     1.77

    Unit Hyd Qpeak  (cms)=    .169

    PEAK FLOW       (cms)=    .050 (i)
    TIME TO PEAK    (hrs)=   6.400
    RUNOFF VOLUME    (mm)=  15.860
    TOTAL RAINFALL   (mm)=  88.500
    RUNOFF COEFFICIENT   =    .179

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0103) |   Area     (ha)=   2.23   Curve Number    (CN)= 40.0
|ID= 1 DT=10.0 min |   Ia       (mm)=   2.50   # of Linear Res.(N)= 4.00
--------------------   U.H. Tp(hrs)=    .20

        NOTE:  RAINFALL WAS TRANSFORMED TO  10.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
          TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
           hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
          .167     2.21 |  3.167    3.54 |  6.167   15.93 |  9.17     3.10
          .333     2.21 |  3.333    3.54 |  6.333   15.93 |  9.33     3.10
          .500     2.21 |  3.500    3.54 |  6.500   15.93 |  9.50     3.10
          .667     2.21 |  3.667    3.54 |  6.667    7.08 |  9.67     3.10
          .833     2.21 |  3.833    3.54 |  6.833    7.08 |  9.83     3.10
         1.000     2.21 |  4.000    3.54 |  7.000    7.08 | 10.00     3.10
         1.167     2.21 |  4.167    5.31 |  7.167    5.31 | 10.17     1.77
         1.333     2.21 |  4.333    5.31 |  7.333    5.31 | 10.33     1.77
         1.500     2.21 |  4.500    5.31 |  7.500    5.31 | 10.50     1.77
         1.667     2.21 |  4.667    7.08 |  7.667    5.31 | 10.67     1.77
         1.833     2.21 |  4.833    7.08 |  7.833    5.31 | 10.83     1.77
         2.000     2.21 |  5.000    7.08 |  8.000    5.31 | 11.00     1.77
         2.167     2.65 |  5.167   10.62 |  8.167    3.10 | 11.17     1.77
         2.333     2.65 |  5.333   10.62 |  8.333    3.10 | 11.33     1.77
         2.500     2.65 |  5.500   10.62 |  8.500    3.10 | 11.50     1.77
         2.667     2.65 |  5.667   42.48 |  8.667    3.10 | 11.67     1.77
         2.833     2.65 |  5.833   79.65 |  8.833    3.10 | 11.83     1.77
         3.000     2.66 |  6.000  116.82 |  9.000    3.10 | 12.00     1.77

    Unit Hyd Qpeak  (cms)=    .529
```

```
     PEAK FLOW       (cms)=    .114 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  15.917
     TOTAL RAINFALL   (mm)=  88.500
     RUNOFF COEFFICIENT   =    .180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0102) |   Area    (ha)=   3.74
|ID= 1 DT=10.0 min |   Total Imp(%)=   1.00   Dir. Conn.(%)=   1.00
--------------------
                          IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=      .04          3.70
     Dep. Storage     (mm)=     1.00          2.50
     Average Slope     (%)=     1.00          1.00
     Length            (m)=   157.00        157.00
     Mannings n            =     .015          .200

     Max.Eff.Inten.(mm/hr)=   116.82         10.14
               over (min)        10.00         50.00
     Storage Coeff.  (min)=     3.43 (ii)    46.56 (ii)
     Unit Hyd. Tpeak (min)=    10.00         50.00
     Unit Hyd. peak  (cms)=      .16           .02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      .01           .07          .069 (iii)
     TIME TO PEAK    (hrs)=     6.00          6.67          6.67
     RUNOFF VOLUME    (mm)=    87.50         15.84         16.55
     TOTAL RAINFALL   (mm)=    88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      .99           .18           .19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  40.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)=   2.60
|ID= 1 DT=10.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=  12.00
--------------------
                          IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=      .65          1.95
     Dep. Storage     (mm)=     1.00          2.50
     Average Slope     (%)=      .50          1.50
     Length            (m)=   131.00        131.00
     Mannings n            =     .150          .200

     Max.Eff.Inten.(mm/hr)=    98.23         19.12
               over (min)        20.00         50.00
     Storage Coeff.  (min)=    16.16 (ii)    42.74 (ii)
     Unit Hyd. Tpeak (min)=    20.00         50.00
     Unit Hyd. peak  (cms)=      .06           .03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      .06           .05          .087 (iii)
     TIME TO PEAK    (hrs)=     6.17          6.67          6.17
     RUNOFF VOLUME    (mm)=    87.50         18.15         26.46
     TOTAL RAINFALL   (mm)=    88.50         88.50         88.50
     RUNOFF COEFFICIENT   =      .99           .21           .30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  40.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0105) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0102):     3.74     .069     6.67    16.55
        + ID2= 2 (0101):     2.60     .087     6.17    26.46
          ==========================================================
          ID = 3 (0105):     6.34     .140     6.67    20.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0103):     2.23     .114     6.00    15.92
        + ID2= 2 (0105):     6.34     .140     6.67    20.61
          ==========================================================
          ID = 3 (0107):     8.57     .221     6.00    19.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0104):     1.96     .050     6.40    15.86
        + ID2= 2 (0107):     8.57     .221     6.00    19.39
          ==========================================================
          ID = 3 (0109):    10.53     .247     6.00    18.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000      .0000    |    .0170       .0925
                          .0070      .0015    |    .4100       .1756

                             AREA     QPEAK      TPEAK       R.V.
                             (ha)     (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (0109)  10.53       .25       6.00       18.73
     OUTFLOW: ID= 1 (0108)  10.53       .08       7.83       18.72

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.77
               TIME SHIFT OF PEAK FLOW        (min)=110.00
               MAXIMUM  STORAGE   USED       (ha.m.)=   .1055

--------------------------------------------------------------------------------

 FINISH
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POND 17 – CN AMC III

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M M M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 7:46:06 PM

USER:

COMMENTS: _____

```
**************************
** SIMULATION NUMBER:   1 **
**************************
```

READ STORM	Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal= 88.50 mm	Comments: 100-Year 12-Hour SCS II Design Storm

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	2.21	3.25	3.54	6.25	15.93	9.25	3.10
.50	2.21	3.50	3.54	6.50	15.93	9.50	3.10
.75	2.21	3.75	3.54	6.75	7.08	9.75	3.10
1.00	2.21	4.00	3.54	7.00	7.08	10.00	3.10
1.25	2.21	4.25	5.31	7.25	5.31	10.25	1.77
1.50	2.21	4.50	5.31	7.50	5.31	10.50	1.77
1.75	2.21	4.75	7.08	7.75	5.31	10.75	1.77
2.00	2.21	5.00	7.08	8.00	5.31	11.00	1.77
2.25	2.65	5.25	10.62	8.25	3.10	11.25	1.77
2.50	2.65	5.50	10.62	8.50	3.10	11.50	1.77
2.75	2.65	5.75	42.48	8.75	3.10	11.75	1.77
3.00	2.65	6.00	116.82	9.00	3.10	12.00	1.77

CALIB					
NASHYD (0104)	Area (ha)=	1.96	Curve Number (CN)=	77.0	
ID= 1 DT=12.0 min	Ia (mm)=	2.50	# of Linear Res.(N)=	4.00	
	U.H. Tp(hrs)=	.55			

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.21	3.200	3.54	6.200	15.93	9.20	3.10
.400	2.21	3.400	3.54	6.400	15.93	9.40	3.10
.600	2.21	3.600	3.54	6.600	11.51	9.60	3.10
.800	2.21	3.800	3.54	6.800	7.08	9.80	3.10
1.000	2.21	4.000	3.54	7.000	7.08	10.00	3.10
1.200	2.21	4.200	5.31	7.200	5.31	10.20	1.77
1.400	2.21	4.400	5.31	7.400	5.31	10.40	1.77
1.600	2.21	4.600	6.19	7.600	5.31	10.60	1.77
1.800	2.21	4.800	7.08	7.800	5.31	10.80	1.77
2.000	2.21	5.000	7.08	8.000	5.31	11.00	1.77
2.200	2.65	5.200	10.62	8.200	3.10	11.20	1.77
2.400	2.65	5.400	10.62	8.400	3.10	11.40	1.77
2.600	2.65	5.600	26.55	8.600	3.10	11.60	1.77
2.800	2.65	5.800	61.06	8.800	3.10	11.80	1.77
3.000	2.66	6.000	116.82	9.000	3.10	12.00	1.77

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .154 (i)
TIME TO PEAK (hrs)= 6.400
RUNOFF VOLUME (mm)= 45.758
TOTAL RAINFALL (mm)= 88.500
RUNOFF COEFFICIENT = .517

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0103)	Area (ha)=	2.23	Curve Number (CN)=	77.0	
ID= 1 DT=10.0 min	Ia (mm)=	2.50	# of Linear Res.(N)=	4.00	
	U.H. Tp(hrs)=	.20			

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.21	3.167	3.54	6.167	15.93	9.17	3.10
.333	2.21	3.333	3.54	6.333	15.93	9.33	3.10
.500	2.21	3.500	3.54	6.500	15.93	9.50	3.10
.667	2.21	3.667	3.54	6.667	7.08	9.67	3.10
.833	2.21	3.833	3.54	6.833	7.08	9.83	3.10
1.000	2.21	4.000	3.54	7.000	7.08	10.00	3.10
1.167	2.21	4.167	5.31	7.167	5.31	10.17	1.77
1.333	2.21	4.333	5.31	7.333	5.31	10.33	1.77
1.500	2.21	4.500	5.31	7.500	5.31	10.50	1.77
1.667	2.21	4.667	7.08	7.667	5.31	10.67	1.77
1.833	2.21	4.833	7.08	7.833	5.31	10.83	1.77
2.000	2.21	5.000	7.08	8.000	5.31	11.00	1.77
2.167	2.65	5.167	10.62	8.167	3.10	11.17	1.77
2.333	2.65	5.333	10.62	8.333	3.10	11.33	1.77
2.500	2.65	5.500	10.62	8.500	3.10	11.50	1.77
2.667	2.65	5.667	42.48	8.667	3.10	11.67	1.77
2.833	2.65	5.833	79.65	8.833	3.10	11.83	1.77
3.000	2.66	6.000	116.82	9.000	3.10	12.00	1.77

Unit Hyd Qpeak (cms)= .529

```
     PEAK FLOW        (cms)=     .345 (i)
     TIME TO PEAK     (hrs)=    6.000
     RUNOFF VOLUME     (mm)=   45.920
     TOTAL RAINFALL    (mm)=   88.500
     RUNOFF COEFFICIENT   =     .519

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

| CALIB | STANDHYD (0102) | ID= 1 DT=10.0 min | Area (ha)= 3.74 | Total Imp(%)= 1.00 | Dir. Conn.(%)= 1.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	.04	3.70
Dep. Storage (mm)=	1.00	2.50
Average Slope (%)=	1.00	1.00
Length (m)=	157.00	157.00
Mannings n =	.015	.200
Max.Eff.Inten.(mm/hr)=	116.82	44.17
over (min)	10.00	30.00
Storage Coeff. (min)=	3.43 (ii)	27.37 (ii)
Unit Hyd. Tpeak (min)=	10.00	30.00
Unit Hyd. peak (cms)=	.16	.04

		TOTALS
PEAK FLOW (cms)=	.01	.30	.303 (iii)
TIME TO PEAK (hrs)=	6.00	6.33	6.33
RUNOFF VOLUME (mm)=	87.50	45.69	46.10
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	.99	.52	.52

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* = 77.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

| CALIB | STANDHYD (0101) | ID= 1 DT=10.0 min | Area (ha)= 2.60 | Total Imp(%)= 25.00 | Dir. Conn.(%)= 12.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	.65	1.95
Dep. Storage (mm)=	1.00	2.50
Average Slope (%)=	.50	1.50
Length (m)=	131.00	131.00
Mannings n =	.150	.200
Max.Eff.Inten.(mm/hr)=	98.23	73.06
over (min)	20.00	40.00
Storage Coeff. (min)=	16.16 (ii)	31.71 (ii)
Unit Hyd. Tpeak (min)=	20.00	40.00
Unit Hyd. peak (cms)=	.06	.03

		TOTALS
PEAK FLOW (cms)=	.06	.18	.205 (iii)
TIME TO PEAK (hrs)=	6.17	6.50	6.50
RUNOFF VOLUME (mm)=	87.50	49.39	53.96
TOTAL RAINFALL (mm)=	88.50	88.50	88.50
RUNOFF COEFFICIENT =	.99	.56	.61

```
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* = 77.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

| ADD HYD (0105) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	3.74	.303	6.33	46.10
+ ID2= 2 (0101):	2.60	.205	6.50	53.96
ID = 3 (0105):	6.34	.506	6.33	49.32

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

| ADD HYD (0107) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0103):	2.23	.345	6.00	45.92
+ ID2= 2 (0105):	6.34	.506	6.33	49.32
ID = 3 (0107):	8.57	.681	6.17	48.44

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

| ADD HYD (0109) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	1.96	.154	6.40	45.76
+ ID2= 2 (0107):	8.57	.681	6.17	48.44
ID = 3 (0109):	10.53	.814	6.17	47.93

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

| RESERVOIR (0108) | IN= 2---> OUT= 1 | DT= 5.0 min |

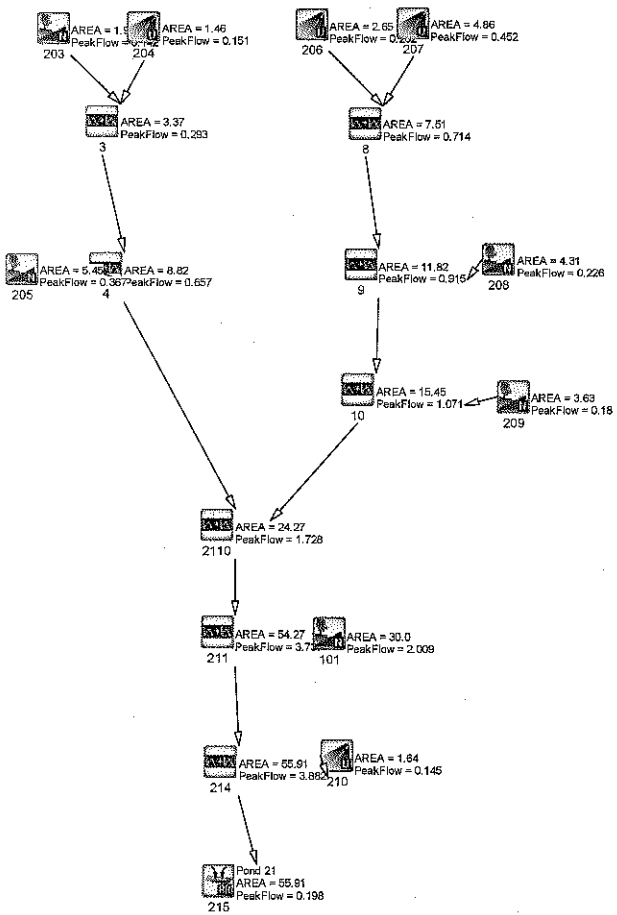
OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.0000	.0000	.0170	.0925
.0070	.0015	.4100	.1756

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	10.53	.81	6.17	47.93
OUTFLOW: ID= 1 (0108)	10.53	.47	6.75	47.93

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.56
                TIME SHIFT OF PEAK FLOW          (min)= 35.00
                MAXIMUM  STORAGE   USED        (ha.m.)=   .1883
```

```
 FINISH
```

POND 21 – BASE FILE

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================================================================================
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       V    V   I    SSSSS  U   U     A    L
       V    V   I    SS     U   U    A A   L
        V  V    I     SS    U   U   AAAAA  L
        V  V    I      SS   U   U   A   A  L
         VV     I    SSSSS  UUUUU   A   A  LLLLL

        OOO    TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
       O   O     T      T    H   H   Y Y   MM MM  O   O
       O   O     T      T    H   H    Y    M M M  O   O
        OOO      T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D    O U T P U T  *****


  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas


DATE: 3/30/2011                           TIME: 11:18:20 AM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM     |    Filename: S:\2010 Projects\D-EE (E10)\
|                   |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                   |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm  |    Comments: 100yr/12hr
-------------------

                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25      .00 |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                 .50     1.21 |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                 .75     1.21 |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
                1.00     1.21 |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
                1.25     1.21 |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
                1.50     1.21 |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
                1.75     1.21 |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
                2.00     1.21 |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
                2.25     1.21 |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
                2.50     7.24 |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
                2.75     7.24 |  6.00    15.69 |  9.25     2.41 |
                3.00     7.24 |  6.25    15.69 |  9.50     1.21 |
                3.25     7.24 |  6.50     8.45 |  9.75     1.21 |

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| CALIB             |
```

| NASHYD (0101) | Area (ha)= 30.00 Curve Number (CN)= 54.2
|ID= 1 DT= 5.0 min | Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= .18

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

Unit Hyd Qpeak (cms)= 6.366

PEAK FLOW (cms)= 2.009 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 42.446
TOTAL RAINFALL (mm)= 120.710
RUNOFF COEFFICIENT = .352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| NASHYD (0209) | Area (ha)= 3.63 Curve Number (CN)= 56.3
|ID= 1 DT= 5.0 min | Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= .58

Unit Hyd Qpeak (cms)= .239

PEAK FLOW (cms)= .180 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 44.918
TOTAL RAINFALL (mm)= 120.710
RUNOFF COEFFICIENT = .372

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| NASHYD (0208) | Area (ha)= 4.31 Curve Number (CN)= 57.0
|ID= 1 DT= 5.0 min | Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= .54

Unit Hyd Qpeak (cms)= .305

PEAK FLOW (cms)= .226 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 45.718
TOTAL RAINFALL (mm)= 120.710
RUNOFF COEFFICIENT = .379

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0207) | Area (ha)= 4.86
|ID= 1 DT= 5.0 min | Total Imp(%)= 17.50 Dir. Conn.(%)= 8.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.85	4.01	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	450.00	35.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	55.52	38.33	
over	(min)	10.00	15.00	
Storage Coeff.	(min)=	9.81 (ii)	12.49 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	15.00	
Unit Hyd. peak	(cms)=	.11	.08	
				TOTALS
PEAK FLOW	(cms)=	.07	.39	.452 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	119.71	56.91	62.43
TOTAL RAINFALL	(mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT	=	.99	.47	.52

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0206) | Area (ha)= 2.65
|ID= 1 DT= 5.0 min | Total Imp(%)= 24.50 Dir. Conn.(%)= 12.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.65	2.00
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.80	2.00
Length	(m)=	340.00	35.00
Mannings n	=	.013	.030
Max.Eff.Inten.	(mm/hr)=	55.52	41.26
over	(min)	5.00	15.00
Storage Coeff.	(min)=	5.65 (ii)	10.42 (ii)

```
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=        .20           .09
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05           .21          .262 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=     119.71         58.51         66.04
     TOTAL RAINFALL   (mm)=     120.71        120.71        120.71
     RUNOFF COEFFICIENT   =        .99           .48           .55

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* = 65.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0205) |   Area     (ha)=   5.45   Curve Number    (CN)= 58.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=    .671

     PEAK FLOW       (cms)=    .367 (i)
     TIME TO PEAK    (hrs)=   5.333
     RUNOFF VOLUME    (mm)=  47.685
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT   =    .395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0204) |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  13.50
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39           1.07
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.70           2.00
     Length            (m)=     145.00          35.00
     Mannings n            =       .013           .030

     Max.Eff.Inten.(mm/hr)=      55.52          42.48
               over (min)         5.00          10.00
     Storage Coeff.  (min)=       3.45 (ii)      7.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00          10.00
     Unit Hyd. peak  (cms)=        .26           .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .03           .12          .151 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25          5.25
     RUNOFF VOLUME    (mm)=     119.71         58.15         67.33
     TOTAL RAINFALL   (mm)=     120.71        120.71        120.71
     RUNOFF COEFFICIENT   =        .99           .49           .56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* = 65.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD    (0203) |   Area     (ha)=   1.91   Curve Number    (CN)= 57.3
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .09

     Unit Hyd Qpeak  (cms)=    .811

     PEAK FLOW       (cms)=    .142 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  44.327
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT   =    .367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0210) |   Area     (ha)=   1.64
|ID= 1 DT= 5.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   8.80
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44           1.20
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=        .50           2.00
     Length            (m)=      30.00          10.00
     Mannings n            =       .013           .030

     Max.Eff.Inten.(mm/hr)=      55.52          36.96
               over (min)         5.00           5.00
     Storage Coeff.  (min)=       1.93 (ii)      4.47 (ii)
     Unit Hyd. Tpeak (min)=       5.00           5.00
     Unit Hyd. peak  (cms)=        .31           .23
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .02           .12          .145 (iii)
     TIME TO PEAK    (hrs)=       4.75          5.25          5.25
     RUNOFF VOLUME    (mm)=     119.71         48.12         54.42
     TOTAL RAINFALL   (mm)=     120.71        120.71        120.71
     RUNOFF COEFFICIENT   =        .99           .40           .45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* = 55.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0008) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)     (cms)    (hrs)      (mm)
          ID1= 1 (0207):     4.86     .452     5.25     62.43
        + ID2= 2 (0206):     2.65     .262     5.25     66.04
          ==========================================================
          ID = 3 (0008):     7.51     .714     5.25     63.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0003) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)     (cms)    (hrs)      (mm)
          ID1= 1 (0204):     1.46     .151     5.25     67.33
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        + ID2= 2 (0203):     1.91    .142     5.25    44.33
          ==========================================================
          ID = 3 (0003):     3.37    .293     5.25    54.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0009) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0208):     4.31    .226     5.50    45.72
        + ID2= 2 (0008):     7.51    .714     5.25    63.71
          ==========================================================
          ID = 3 (0009):    11.82    .915     5.25    57.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0004) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0205):     5.45    .367     5.33    47.68
        + ID2= 2 (0003):     3.37    .293     5.25    54.29
          ==========================================================
          ID = 3 (0004):     8.82    .657     5.25    50.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0010) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0209):     3.63    .180     5.50    44.92
        + ID2= 2 (0009):    11.82    .915     5.25    57.15
          ==========================================================
          ID = 3 (0010):    15.45   1.071     5.25    54.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):    15.45   1.071     5.25    54.27
        + ID2= 2 (0004):     8.82    .657     5.25    50.21
          ==========================================================
          ID = 3 (2110):    24.27   1.728     5.25    52.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0211) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0101):    30.00   2.009     5.25    42.45
        + ID2= 2 (2110):    24.27   1.728     5.25    52.80
          ==========================================================
          ID = 3 (0211):    54.27   3.737     5.25    47.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0211):    54.27   3.737     5.25    47.07
        + ID2= 2 (0210):     1.64    .145     5.25    54.42
          ==========================================================
          ID = 3 (0214):    55.91   3.882     5.25    47.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0215) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW     STORAGE    |   OUTFLOW     STORAGE
--------------------      (cms)      (ha.m.)    |    (cms)      (ha.m.)
                          .0000       .0000     |    .1730       .9050
                          .0030       .1460     |    .1840      1.0100
                          .0200       .2630     |    .1850      1.0380
                          .0710       .4190     |    .1870      1.2050
                          .1120       .5550     |    .1890      1.3810
                          .1510       .7510     |    .0000       .0000

                                AREA      QPEAK      TPEAK       R.V.
                                (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (0214)     55.91       3.88       5.25      47.29
     OUTFLOW: ID= 1 (0215)     55.91        .20       9.42      45.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.10
                TIME SHIFT OF PEAK FLOW          (min)=250.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  2.1785

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 FINISH
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POND 21 – 6HR STORM

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:30:01 AM

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal= 60.36 mm |    Comments: 100yr/6hr
--------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25     1.21 |  1.75    20.52 |  3.25     8.45 |  4.75     1.21
                 .50     1.21 |  2.00    20.52 |  3.50     8.45 |  5.00     1.21
                 .75     1.21 |  2.25    55.52 |  3.75     4.83 |  5.25     1.21
                1.00     1.21 |  2.50    55.52 |  4.00     4.83 |  5.50     1.21
                1.25     7.24 |  2.75    15.69 |  4.25     2.41 |  5.75     1.21
                1.50     7.24 |  3.00    15.69 |  4.50     2.41 |  6.00     1.21

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--------------------
| CALIB            |
| NASHYD    (0101) |   Area     (ha)=  30.00   Curve Number    (CN)= 54.2
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .18
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	1.21	1.583	20.52	3.083	8.45	4.58	1.21
.167	1.21	1.667	20.52	3.167	8.45	4.67	1.21
.250	1.21	1.750	20.52	3.250	8.45	4.75	1.21
.333	1.21	1.833	20.52	3.333	8.45	4.83	1.21
.417	1.21	1.917	20.52	3.417	8.45	4.92	1.21
.500	1.21	2.000	20.52	3.500	8.45	5.00	1.21
.583	1.21	2.083	55.52	3.583	4.83	5.08	1.21
.667	1.21	2.167	55.52	3.667	4.83	5.17	1.21
.750	1.21	2.250	55.52	3.750	4.83	5.25	1.21
.833	1.21	2.333	55.52	3.833	4.83	5.33	1.21
.917	1.21	2.417	55.52	3.917	4.83	5.42	1.21
1.000	1.21	2.500	55.52	4.000	4.83	5.50	1.21
1.083	7.24	2.583	15.69	4.083	2.41	5.58	1.21
1.167	7.24	2.667	15.69	4.167	2.41	5.67	1.21
1.250	7.24	2.750	15.69	4.250	2.41	5.75	1.21
1.333	7.24	2.833	15.69	4.333	2.41	5.83	1.21
1.417	7.24	2.917	15.69	4.417	2.41	5.92	1.21
1.500	7.24	3.000	15.69	4.500	2.41	6.00	1.21

```
    Unit Hyd Qpeak  (cms)=   6.366

    PEAK FLOW       (cms)=   1.001 (i)
    TIME TO PEAK    (hrs)=   2.500
    RUNOFF VOLUME    (mm)=  12.629
    TOTAL RAINFALL   (mm)=  60.355
    RUNOFF COEFFICIENT   =    .209

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0209) |   Area     (ha)=   3.63   Curve Number    (CN)= 56.3
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .58

    Unit Hyd Qpeak  (cms)=    .239

    PEAK FLOW       (cms)=    .072 (i)
    TIME TO PEAK    (hrs)=   3.000
    RUNOFF VOLUME    (mm)=  13.530
    TOTAL RAINFALL   (mm)=  60.355
    RUNOFF COEFFICIENT   =    .224

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0208) |   Area     (ha)=   4.31   Curve Number    (CN)= 57.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .54

    Unit Hyd Qpeak  (cms)=    .305

    PEAK FLOW       (cms)=    .091 (i)
    TIME TO PEAK    (hrs)=   3.000
    RUNOFF VOLUME    (mm)=  13.829
    TOTAL RAINFALL   (mm)=  60.355
    RUNOFF COEFFICIENT   =    .229

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (0207)  |   Area     (ha)=   4.86
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  17.50   Dir. Conn.(%)=   8.80
--------------------
                              IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=        .85           4.01
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=        .50           2.00
     Length            (m)=     450.00          35.00
     Mannings n           =       .013           .030

     Max.Eff.Inten.(mm/hr)=      55.52          23.79
               over (min)        10.00          15.00
     Storage Coeff.  (min)=       9.81 (ii)     13.05 (ii)
     Unit Hyd. Tpeak (min)=      10.00          15.00
     Unit Hyd. peak  (cms)=        .11            .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .06            .19          .249 (iii)
     TIME TO PEAK    (hrs)=       2.50           2.58         2.58
     RUNOFF VOLUME    (mm)=      59.35          17.63        21.30
     TOTAL RAINFALL   (mm)=      60.36          60.36        60.36
     RUNOFF COEFFICIENT   =        .98            .29          .35

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.5     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0206)  |   Area     (ha)=   2.65
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  24.50   Dir. Conn.(%)=  12.30
--------------------
                              IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=        .65           2.00
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.80           2.00
     Length            (m)=     340.00          35.00
     Mannings n           =       .013           .030

     Max.Eff.Inten.(mm/hr)=      55.52          25.97
               over (min)         5.00          15.00
     Storage Coeff.  (min)=       5.65 (ii)     10.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00          15.00
     Unit Hyd. peak  (cms)=        .20            .09
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .05            .11          .157 (iii)
     TIME TO PEAK    (hrs)=       2.50           2.58         2.50
     RUNOFF VOLUME    (mm)=      59.36          18.35        23.39
     TOTAL RAINFALL   (mm)=      60.36          60.36        60.36
     RUNOFF COEFFICIENT   =        .98            .30          .39

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.5     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD    (0205)  |   Area     (ha)=   5.45   Curve Number    (CN)= 58.7
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=    .671

     PEAK FLOW       (cms)=    .166 (i)
     TIME TO PEAK    (hrs)=   2.667
     RUNOFF VOLUME    (mm)=  14.576
     TOTAL RAINFALL   (mm)=  60.355
     RUNOFF COEFFICIENT   =    .242

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0204)  |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  27.00   Dir. Conn.(%)=  13.50
--------------------
                              IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=        .39           1.07
     Dep. Storage     (mm)=       1.00           5.00
     Average Slope     (%)=       1.70           2.00
     Length            (m)=     145.00          35.00
     Mannings n           =       .013           .030

     Max.Eff.Inten.(mm/hr)=      55.52          26.89
               over (min)         5.00          10.00
     Storage Coeff.  (min)=       3.45 (ii)     7.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00          10.00
     Unit Hyd. peak  (cms)=        .26            .13
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .03            .07          .099 (iii)
     TIME TO PEAK    (hrs)=       2.50           2.50         2.50
     RUNOFF VOLUME    (mm)=      59.35          18.64        24.13
     TOTAL RAINFALL   (mm)=      60.36          60.36        60.36
     RUNOFF COEFFICIENT   =        .98            .31          .40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  65.5     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| NASHYD    (0203)  |   Area     (ha)=   1.91   Curve Number    (CN)= 57.3
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .09

     Unit Hyd Qpeak  (cms)=    .811

     PEAK FLOW       (cms)=    .083 (i)
     TIME TO PEAK    (hrs)=   2.500
     RUNOFF VOLUME    (mm)=  13.433
     TOTAL RAINFALL   (mm)=  60.355
     RUNOFF COEFFICIENT   =    .223

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0210)  |   Area     (ha)=   1.64
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  27.00   Dir. Conn.(%)=   8.80
--------------------
                              IMPERVIOUS     PERVIOUS (i)
```

Surface Area	(ha)=	.44	1.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	30.00	10.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.(mm/hr)=		55.52	21.62	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.93 (ii)	4.47 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		.31	.23	
			TOTALS	
PEAK FLOW	(cms)=	.02	.07	.094 (iii)
TIME TO PEAK	(hrs)=	2.42	2.50	2.50
RUNOFF VOLUME	(mm)=	59.35	14.26	18.23
TOTAL RAINFALL	(mm)=	60.36	60.36	60.36
RUNOFF COEFFICIENT	=	.98	.24	.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0207):	4.86	.249	2.58	21.30
+ ID2= 2 (0206):	2.65	.157	2.50	23.39
ID = 3 (0008):	7.51	.401	2.50	22.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0003)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.46	.099	2.50	24.13
+ ID2= 2 (0203):	1.91	.083	2.50	13.43
ID = 3 (0003):	3.37	.182	2.50	18.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0208):	4.31	.091	3.00	13.83
+ ID2= 2 (0008):	7.51	.401	2.50	22.04
ID = 3 (0009):	11.82	.457	2.58	19.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	5.45	.166	2.67	14.58
+ ID2= 2 (0003):	3.37	.182	2.50	18.07
ID = 3 (0004):	8.82	.326	2.50	15.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0209):	3.63	.072	3.00	13.53
+ ID2= 2 (0009):	11.82	.457	2.58	19.04
ID = 3 (0010):	15.45	.506	2.58	17.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2110)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	15.45	.506	2.58	17.75
+ ID2= 2 (0004):	8.82	.326	2.50	15.91
ID = 3 (2110):	24.27	.820	2.50	17.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0211)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	30.00	1.001	2.50	12.63
+ ID2= 2 (2110):	24.27	.820	2.50	17.08
ID = 3 (0211):	54.27	1.821	2.50	14.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0211):	54.27	1.821	2.50	14.62
+ ID2= 2 (0210):	1.64	.094	2.50	18.23
ID = 3 (0214):	55.91	1.915	2.50	14.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0215)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.0000	.0000	.1730	.9050
.0030	.1460	.1840	1.0100
.0200	.2630	.1850	1.0380
.0710	.4190	.1870	1.2050

```
                        .1120      .5550   |    .1890      1.3810
                        .1510      .7510   |    .0000       .0000

                                    AREA      QPEAK     TPEAK       R.V.
                                    (ha)      (cms)     (hrs)       (mm)
INFLOW : ID= 2 (0214)              55.91       1.92      2.50      14.73
OUTFLOW: ID= 1 (0215)              55.91        .14      4.75      13.54

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.17
                TIME SHIFT OF PEAK FLOW          (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=   .6826

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 FINISH
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POND 21 – 24HR STORM

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================================================================================
==================

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
        V V    I      SS   U   U  A   A  L
         VV    I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D    O U T P U T  *****


  Input    filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output   filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas


DATE: 3/30/2011                           TIME: 11:43:11 AM

USER:


COMMENTS: ____________________________________________________________________

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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal=130.88 mm |    Comments: 100yr/24hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	6.50	11.13	12.75	4.58	19.00	.65
.50	.65	6.75	11.13	13.00	4.58	19.25	.65
.75	.65	7.00	11.13	13.25	4.58	19.50	.65
1.00	.65	7.25	11.13	13.50	4.58	19.75	.65
1.25	.65	7.50	11.13	13.75	4.58	20.00	.65
1.50	.65	7.75	11.13	14.00	4.58	20.25	.65
1.75	.65	8.00	11.13	14.25	4.58	20.50	.65
2.00	.65	8.25	11.13	14.50	2.62	20.75	.65
2.25	.65	8.50	30.11	14.75	2.62	21.00	.65
2.50	.65	8.75	30.11	15.00	2.62	21.25	.65
2.75	.65	9.00	30.11	15.25	2.62	21.50	.65
3.00	.65	9.25	30.11	15.50	2.62	21.75	.65
3.25	.65	9.50	30.11	15.75	2.62	22.00	.65
3.50	.65	9.75	30.11	16.00	2.62	22.25	.65
3.75	.65	10.00	30.11	16.25	2.62	22.50	.65

4.00	.65	10.25	30.11	16.50	1.31	22.75	.65
4.25	.65	10.50	8.51	16.75	1.31	23.00	.65
4.50	3.93	10.75	8.51	17.00	1.31	23.25	.65
4.75	3.93	11.00	8.51	17.25	1.31	23.50	.65
5.00	3.93	11.25	8.51	17.50	1.31	23.75	.65
5.25	3.93	11.50	8.51	17.75	1.31	24.00	.65
5.50	3.93	11.75	8.51	18.00	1.31	24.25	.65
5.75	3.93	12.00	8.51	18.25	1.31		
6.00	3.93	12.25	8.51	18.50	.65		
6.25	3.93	12.50	4.58	18.75	.65		

CALIB					
NASHYD (0101)	Area	(ha)=	30.00	Curve Number (CN)=	54.2
ID= 1 DT= 5.0 min	Ia	(mm)=	1.50	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		.18		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

TRANSFORMED HYETOGRAPH

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	6.167	3.93	12.250	8.51	18.33	.65
.167	.00	6.250	3.93	12.333	4.58	18.42	.65
.250	.00	6.333	11.13	12.417	4.58	18.50	.65
.333	.65	6.417	11.13	12.500	4.58	18.58	.65
.417	.65	6.500	11.13	12.583	4.58	18.67	.65
.500	.65	6.583	11.13	12.667	4.58	18.75	.65
.583	.65	6.667	11.13	12.750	4.58	18.83	.65
.667	.65	6.750	11.13	12.833	4.58	18.92	.65
.750	.65	6.833	11.13	12.917	4.58	19.00	.65
.833	.65	6.917	11.13	13.000	4.58	19.08	.65
.917	.65	7.000	11.13	13.083	4.58	19.17	.65
1.000	.65	7.083	11.13	13.167	4.58	19.25	.65
1.083	.65	7.167	11.13	13.250	4.58	19.33	.65
1.167	.65	7.250	11.13	13.333	4.58	19.42	.65
1.250	.65	7.333	11.13	13.417	4.58	19.50	.65
1.333	.65	7.417	11.13	13.500	4.58	19.58	.65
1.417	.65	7.500	11.13	13.583	4.58	19.67	.65
1.500	.65	7.583	11.13	13.667	4.58	19.75	.65
1.583	.65	7.667	11.13	13.750	4.58	19.83	.65
1.667	.65	7.750	11.13	13.833	4.58	19.92	.65
1.750	.65	7.833	11.13	13.917	4.58	20.00	.65
1.833	.65	7.917	11.13	14.000	4.58	20.08	.65
1.917	.65	8.000	11.13	14.083	4.58	20.17	.65
2.000	.65	8.083	11.13	14.167	4.58	20.25	.65
2.083	.65	8.167	11.13	14.250	4.58	20.33	.65
2.167	.65	8.250	11.13	14.333	2.62	20.42	.65
2.250	.65	8.333	30.11	14.417	2.62	20.50	.65
2.333	.65	8.417	30.11	14.500	2.62	20.58	.65
2.417	.65	8.500	30.11	14.583	2.62	20.67	.65
2.500	.65	8.583	30.11	14.667	2.62	20.75	.65
2.583	.65	8.667	30.11	14.750	2.62	20.83	.65
2.667	.65	8.750	30.11	14.833	2.62	20.92	.65
2.750	.65	8.833	30.11	14.917	2.62	21.00	.65
2.833	.65	8.917	30.11	15.000	2.62	21.08	.65
2.917	.65	9.000	30.11	15.083	2.62	21.17	.65
3.000	.65	9.083	30.11	15.167	2.62	21.25	.65
3.083	.65	9.167	30.11	15.250	2.62	21.33	.65
3.167	.65	9.250	30.11	15.333	2.62	21.42	.65
3.250	.65	9.333	30.11	15.417	2.62	21.50	.65
3.333	.65	9.417	30.11	15.500	2.62	21.58	.65
3.417	.65	9.500	30.11	15.583	2.62	21.67	.65
3.500	.65	9.583	30.11	15.667	2.62	21.75	.65
3.583	.65	9.667	30.11	15.750	2.62	21.83	.65
3.667	.65	9.750	30.11	15.833	2.62	21.92	.65
3.750	.65	9.833	30.11	15.917	2.62	22.00	.65
3.833	.65	9.917	30.11	16.000	2.62	22.08	.65
3.917	.65	10.000	30.11	16.083	2.62	22.17	.65
4.000	.65	10.083	30.11	16.167	2.62	22.25	.65
4.083	.65	10.167	30.11	16.250	2.62	22.33	.65
4.167	.65	10.250	30.11	16.333	1.31	22.42	.65
4.250	.65	10.333	8.51	16.417	1.31	22.50	.65
4.333	3.93	10.417	8.51	16.500	1.31	22.58	.65
4.417	3.93	10.500	8.51	16.583	1.31	22.67	.65
4.500	3.93	10.583	8.51	16.667	1.31	22.75	.65
4.583	3.93	10.667	8.51	16.750	1.31	22.83	.65
4.667	3.93	10.750	8.51	16.833	1.31	22.92	.65
4.750	3.93	10.833	8.51	16.917	1.31	23.00	.65
4.833	3.93	10.917	8.51	17.000	1.31	23.08	.65
4.917	3.93	11.000	8.51	17.083	1.31	23.17	.65
5.000	3.93	11.083	8.51	17.167	1.31	23.25	.65
5.083	3.93	11.167	8.51	17.250	1.31	23.33	.65
5.167	3.93	11.250	8.51	17.333	1.31	23.42	.65
5.250	3.93	11.333	8.51	17.417	1.31	23.50	.65
5.333	3.93	11.417	8.51	17.500	1.31	23.58	.65
5.417	3.93	11.500	8.51	17.583	1.31	23.67	.65
5.500	3.93	11.583	8.51	17.667	1.31	23.75	.65
5.583	3.93	11.667	8.51	17.750	1.31	23.83	.65
5.667	3.93	11.750	8.51	17.833	1.31	23.92	.65
5.750	3.93	11.833	8.51	17.917	1.31	24.00	.65
5.833	3.93	11.917	8.51	18.000	1.31	24.08	.65
5.917	3.93	12.000	8.51	18.083	1.31	24.17	.65
6.000	3.93	12.083	8.51	18.167	1.31	24.25	.65
6.083	3.93	12.167	8.51	18.250	1.31		

Unit Hyd Qpeak (cms)= 6.366

PEAK FLOW (cms)= 1.213 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 48.519
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = .371

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0209)	Area	(ha)=	3.63	Curve Number (CN)=	56.3
ID= 1 DT= 5.0 min	Ia	(mm)=	1.50	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		.58		

Unit Hyd Qpeak (cms)= .239

PEAK FLOW (cms)= .134 (i)
TIME TO PEAK (hrs)= 10.417
RUNOFF VOLUME (mm)= 51.261
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = .392

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0208)	Area	(ha)=	4.31	Curve Number (CN)=	57.0
ID= 1 DT= 5.0 min	Ia	(mm)=	1.50	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		.54		

Unit Hyd Qpeak (cms)= .305

PEAK FLOW (cms)= .164 (i)
TIME TO PEAK (hrs)= 10.333
RUNOFF VOLUME (mm)= 52.146
TOTAL RAINFALL (mm)= 130.880
RUNOFF COEFFICIENT = .398

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB             |
| STANDHYD  (0207)  |   Area     (ha)=   4.86
|ID= 1 DT= 5.0 min  |   Total Imp(%)= 17.50   Dir. Conn.(%)=   8.80
--------------------

                              IMPERVIOUS     PERVIOUS (i)
     Surface Area      (ha)=       .85           4.01
     Dep. Storage      (mm)=      1.00           5.00
     Average Slope      (%)=       .50           2.00
     Length             (m)=    450.00          35.00
     Mannings n            =      .013           .030

     Max.Eff.Inten.(mm/hr)=     30.11          21.90
               over (min)       15.00          20.00
     Storage Coeff.  (min)=     12.53 (ii)     15.89 (ii)
     Unit Hyd. Tpeak (min)=     15.00          20.00
     Unit Hyd. peak  (cms)=       .08            .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .04            .23        .266 (iii)
     TIME TO PEAK    (hrs)=     10.25          10.25       10.25
     RUNOFF VOLUME    (mm)=    129.88          64.54       70.29
     TOTAL RAINFALL   (mm)=    130.88         130.88      130.88
     RUNOFF COEFFICIENT    =      .99            .49         .54

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB             |
| STANDHYD  (0206)  |   Area     (ha)=   2.65
|ID= 1 DT= 5.0 min  |   Total Imp(%)= 24.50   Dir. Conn.(%)=  12.30
--------------------

                              IMPERVIOUS     PERVIOUS (i)
     Surface Area      (ha)=       .65           2.00
     Dep. Storage      (mm)=      1.00           5.00
     Average Slope      (%)=      1.80           2.00
     Length             (m)=    340.00          35.00
     Mannings n            =      .013           .030

     Max.Eff.Inten.(mm/hr)=     30.11          23.52
               over (min)        5.00          15.00
     Storage Coeff.  (min)=      7.21 (ii)     10.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00          15.00
     Unit Hyd. peak  (cms)=       .17            .09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .03            .13         .154 (iii)
     TIME TO PEAK    (hrs)=      9.75          10.25       10.25
     RUNOFF VOLUME    (mm)=    129.88          66.27       74.09
     TOTAL RAINFALL   (mm)=    130.88         130.88      130.88
     RUNOFF COEFFICIENT    =      .99            .51         .57

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD    (0205)  |   Area     (ha)=   5.45   Curve Number    (CN)= 58.7
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=    .671

     PEAK FLOW       (cms)=    .235 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  54.314
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT    =    .415

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB             |
| STANDHYD  (0204)  |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min  |   Total Imp(%)= 27.00   Dir. Conn.(%)=  13.50
--------------------

                              IMPERVIOUS     PERVIOUS (i)
     Surface Area      (ha)=       .39           1.07
     Dep. Storage      (mm)=      1.00           5.00
     Average Slope      (%)=      1.70           2.00
     Length             (m)=    145.00          35.00
     Mannings n            =      .013           .030

     Max.Eff.Inten.(mm/hr)=     30.11          24.20
               over (min)        5.00          10.00
     Storage Coeff.  (min)=      4.40 (ii)      7.62 (ii)
     Unit Hyd. Tpeak (min)=      5.00          10.00
     Unit Hyd. peak  (cms)=       .23            .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .02            .07         .087 (iii)
     TIME TO PEAK    (hrs)=      9.17          10.25       10.25
     RUNOFF VOLUME    (mm)=    129.88          66.97       75.46
     TOTAL RAINFALL   (mm)=    130.88         130.88      130.88
     RUNOFF COEFFICIENT    =      .99            .51         .58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  65.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB             |
| NASHYD    (0203)  |   Area     (ha)=   1.91   Curve Number    (CN)= 57.3
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .09

     Unit Hyd Qpeak  (cms)=    .811

     PEAK FLOW       (cms)=    .082 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)=  50.547
     TOTAL RAINFALL   (mm)= 130.880
     RUNOFF COEFFICIENT    =    .386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB             |
| STANDHYD  (0210)  |   Area     (ha)=   1.64
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|ID= 1 DT= 5.0 min | Total Imp(%)= 27.00 Dir. Conn.(%)= 8.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.44	1.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	30.00	10.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.(mm/hr)=		30.11	21.32	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.47 (ii)	5.71 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		.29	.15	
				TOTALS
PEAK FLOW	(cms)=	.01	.07	.082 (iii)
TIME TO PEAK	(hrs)=	8.83	10.25	10.25
RUNOFF VOLUME	(mm)=	129.88	54.90	61.50
TOTAL RAINFALL	(mm)=	130.88	130.88	130.88
RUNOFF COEFFICIENT	=	.99	.42	.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0207):		4.86	.266	10.25	70.29
+ ID2= 2 (0206):		2.65	.154	10.25	74.09
ID = 3 (0008):		7.51	.420	10.25	71.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0003)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0204):		1.46	.087	10.25	75.46
+ ID2= 2 (0203):		1.91	.082	10.25	50.55
ID = 3 (0003):		3.37	.169	10.25	61.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0208):		4.31	.164	10.33	52.15
+ ID2= 2 (0008):		7.51	.420	10.25	71.63
ID = 3 (0009):		11.82	.582	10.25	64.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0205):		5.45	.235	10.25	54.31
+ ID2= 2 (0003):		3.37	.169	10.25	61.34
ID = 3 (0004):		8.82	.405	10.25	57.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0209):		3.63	.134	10.42	51.26
+ ID2= 2 (0009):		11.82	.582	10.25	64.53
ID = 3 (0010):		15.45	.713	10.25	61.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2110)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0010):		15.45	.713	10.25	61.41
+ ID2= 2 (0004):		8.82	.405	10.25	57.00
ID = 3 (2110):		24.27	1.118	10.25	59.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0211)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0101):		30.00	1.213	10.25	48.52
+ ID2= 2 (2110):		24.27	1.118	10.25	59.81
ID = 3 (0211):		54.27	2.331	10.25	53.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0211):		54.27	2.331	10.25	53.57
+ ID2= 2 (0210):		1.64	.082	10.25	61.50
ID = 3 (0214):		55.91	2.413	10.25	53.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0215)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)		(cms)	(ha.m.)
DT= 5.0 min		.0000	.0000		.1730	.9050

	.0030	.1460	.1840	1.0100
	.0200	.2630	.1850	1.0380
	.0710	.4190	.1870	1.2050
	.1120	.5550	.1890	1.3810
	.1510	.7510	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0214)	55.91	2.41	10.25	53.80
OUTFLOW: ID= 1 (0215)	55.91	.20	16.50	52.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.24
TIME SHIFT OF PEAK FLOW (min)=375.00
MAXIMUM STORAGE USED (ha.m.)= 2.2347

FINISH

==========

POND 21 - -25% RAINFALL INTENSITY

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```
 V    V   I    SSSSS  U   U    A    L
 V    V   I    SS     U   U   A A   L
  V  V    I     SS    U   U  AAAAA  L
  V  V    I      SS   U   U  A   A  L
   VV     I    SSSSS  UUUUU  A   A  LLLLL

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M M M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011 TIME: 11:50:40 AM

USER:

COMMENTS: _____

```
**************************
** SIMULATION NUMBER:   1 **
**************************
```

READ STORM	Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal=120.71 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

MODIFY STORM	MODIFYING PARAMETERS
CASE= 1	Multiplication Factor= .75
	Time shift (min) = .00

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	.00	3.500	15.39	6.750	6.34	10.00	.91
.500	.91	3.750	15.39	7.000	6.34	10.25	.91
.750	.91	4.000	15.39	7.250	6.34	10.50	.91
1.000	.91	4.250	15.39	7.500	3.62	10.75	.91
1.250	.91	4.500	41.64	7.750	3.62	11.00	.91
1.500	.91	4.750	41.64	8.000	3.62	11.25	.91
1.750	.91	5.000	41.64	8.250	3.62	11.50	.91
2.000	.91	5.250	41.64	8.500	1.81	11.75	.91
2.250	.91	5.500	11.77	8.750	1.81	12.00	.91
2.500	5.43	5.750	11.77	9.000	1.81	12.25	.91
2.750	5.43	6.000	11.77	9.250	1.81		
3.000	5.43	6.250	11.77	9.500	.91		
3.250	5.43	6.500	6.34	9.750	.91		

CALIB	
NASHYD (0101)	Area (ha)= 30.00 Curve Number (CN)= 54.2
ID= 1 DT= 5.0 min	Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .18

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	5.43	6.250	11.77	9.33	.91
.167	.00	3.250	5.43	6.333	6.34	9.42	.91
.250	.00	3.333	15.39	6.417	6.34	9.50	.91
.333	.91	3.417	15.39	6.500	6.34	9.58	.91
.417	.91	3.500	15.39	6.583	6.34	9.67	.91
.500	.91	3.583	15.39	6.667	6.34	9.75	.91
.583	.91	3.667	15.39	6.750	6.34	9.83	.91
.667	.91	3.750	15.39	6.833	6.34	9.92	.91
.750	.91	3.833	15.39	6.917	6.34	10.00	.91
.833	.91	3.917	15.39	7.000	6.34	10.08	.91
.917	.91	4.000	15.39	7.083	6.34	10.17	.91
1.000	.91	4.083	15.39	7.167	6.34	10.25	.91
1.083	.91	4.167	15.39	7.250	6.34	10.33	.91
1.167	.91	4.250	15.39	7.333	3.62	10.42	.91
1.250	.91	4.333	41.64	7.417	3.62	10.50	.91
1.333	.91	4.417	41.64	7.500	3.62	10.58	.91
1.417	.91	4.500	41.64	7.583	3.62	10.67	.91
1.500	.91	4.583	41.64	7.667	3.62	10.75	.91
1.583	.91	4.667	41.64	7.750	3.62	10.83	.91
1.667	.91	4.750	41.64	7.833	3.62	10.92	.91
1.750	.91	4.833	41.64	7.917	3.62	11.00	.91
1.833	.91	4.917	41.64	8.000	3.62	11.08	.91
1.917	.91	5.000	41.64	8.083	3.62	11.17	.91
2.000	.91	5.083	41.64	8.167	3.62	11.25	.91
2.083	.91	5.167	41.64	8.250	3.62	11.33	.91
2.167	.91	5.250	41.64	8.333	1.81	11.42	.91
2.250	.91	5.333	11.77	8.417	1.81	11.50	.91
2.333	5.43	5.417	11.77	8.500	1.81	11.58	.91
2.417	5.43	5.500	11.77	8.583	1.81	11.67	.91
2.500	5.43	5.583	11.77	8.667	1.81	11.75	.91
2.583	5.43	5.667	11.77	8.750	1.81	11.83	.91
2.667	5.43	5.750	11.77	8.833	1.81	11.92	.91
2.750	5.43	5.833	11.77	8.917	1.81	12.00	.91
2.833	5.43	5.917	11.77	9.000	1.81	12.08	.91
2.917	5.43	6.000	11.77	9.083	1.81	12.17	.91
3.000	5.43	6.083	11.77	9.167	1.81	12.25	.91
3.083	5.43	6.167	11.77	9.250	1.81		

Unit Hyd Qpeak (cms)= 6.366

PEAK FLOW (cms)= 1.234 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 26.029
TOTAL RAINFALL (mm)= 90.532
RUNOFF COEFFICIENT = .288

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0209)	Area (ha)= 3.63 Curve Number (CN)= 56.3
ID= 1 DT= 5.0 min	Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .58

Unit Hyd Qpeak (cms)= .239

PEAK FLOW (cms)= .110 (i)
TIME TO PEAK (hrs)= 5.583
RUNOFF VOLUME (mm)= 27.697
TOTAL RAINFALL (mm)= 90.532
RUNOFF COEFFICIENT = .306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0208)	Area (ha)= 4.31 Curve Number (CN)= 57.0
ID= 1 DT= 5.0 min	Ia (mm)= 1.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .54

Unit Hyd Qpeak (cms)= .305

PEAK FLOW (cms)= .138 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 28.243
TOTAL RAINFALL (mm)= 90.532
RUNOFF COEFFICIENT = .312

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (0207)	Area (ha)= 4.86	
ID= 1 DT= 5.0 min	Total Imp(%)= 17.50	Dir. Conn.(%)= 8.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.85	4.01	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	450.00	35.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	41.64	24.58	
over	(min)	10.00	15.00	
Storage Coeff.	(min)=	11.01 (ii)	14.21 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	15.00	
Unit Hyd. peak	(cms)=	.10	.08	
				TOTALS
PEAK FLOW	(cms)=	.05	.24	.288 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	89.53	35.73	40.46
TOTAL RAINFALL	(mm)=	90.53	90.53	90.53
RUNOFF COEFFICIENT	=	.99	.39	.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0206)	Area (ha)= 2.65				
ID= 1 DT= 5.0 min	Total Imp(%)= 24.50	Dir. Conn.(%)= 12.30			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.65	2.00	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.80	2.00	
Length	(m)=	340.00	35.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	41.64	26.59	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	6.34 (ii)	9.44 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	.19	.12	
				TOTALS
PEAK FLOW	(cms)=	.04	.14	.177 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	89.53	36.92	43.39
TOTAL RAINFALL	(mm)=	90.53	90.53	90.53
RUNOFF COEFFICIENT	=	.99	.41	.48

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0205)	Area (ha)= 5.45	Curve Number (CN)= 58.7			
ID= 1 DT= 5.0 min	Ia (mm)= 1.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .31				

Unit Hyd Qpeak (cms)= .671

PEAK FLOW (cms)= .227 (i)
TIME TO PEAK (hrs)= 5.333
RUNOFF VOLUME (mm)= 29.596
TOTAL RAINFALL (mm)= 90.532
RUNOFF COEFFICIENT = .327

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0204)	Area (ha)= 1.46				
ID= 1 DT= 5.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 13.50			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.39	1.07	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.70	2.00	
Length	(m)=	145.00	35.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	41.64	27.44	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	3.87 (ii)	6.93 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	.25	.14	
				TOTALS
PEAK FLOW	(cms)=	.02	.08	.101 (iii)
TIME TO PEAK	(hrs)=	5.08	5.25	5.25
RUNOFF VOLUME	(mm)=	89.53	37.40	44.43
TOTAL RAINFALL	(mm)=	90.53	90.53	90.53
RUNOFF COEFFICIENT	=	.99	.41	.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0203)	Area (ha)= 1.91	Curve Number (CN)= 57.3			
ID= 1 DT= 5.0 min	Ia (mm)= 1.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .09				

Unit Hyd Qpeak (cms)= .811

PEAK FLOW (cms)= .089 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 27.406
TOTAL RAINFALL (mm)= 90.532
RUNOFF COEFFICIENT = .303

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0210)	Area (ha)= 1.64				
ID= 1 DT= 5.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 8.80			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.44	1.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	30.00	10.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	41.64	23.11	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.37 (ii)	5.02 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	.31	.16	
				TOTALS
PEAK FLOW	(cms)=	.02	.07	.091 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	89.53	29.61	34.88
TOTAL RAINFALL	(mm)=	90.53	90.53	90.53
RUNOFF COEFFICIENT	=	.99	.33	.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0207):		4.86	.288	5.25	40.46
+	ID2= 2 (0206):		2.65	.177	5.25	43.39
	ID = 3 (0008):		7.51	.465	5.25	41.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0003)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0204):		1.46	.101	5.25	44.43
+	ID2= 2 (0203):		1.91	.089	5.25	27.41
	ID = 3 (0003):		3.37	.190	5.25	34.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0208):		4.31	.138	5.50	28.24
+	ID2= 2 (0008):		7.51	.465	5.25	41.50
	ID = 3 (0009):		11.82	.587	5.25	36.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0205):		5.45	.227	5.33	29.60
+	ID2= 2 (0003):		3.37	.190	5.25	34.78
	ID = 3 (0004):		8.82	.413	5.25	31.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0209):		3.63	.110	5.58	27.70
+	ID2= 2 (0009):		11.82	.587	5.25	36.66
	ID = 3 (0010):		15.45	.681	5.25	34.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2110)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0010):		15.45	.681	5.25	34.56
+	ID2= 2 (0004):		8.82	.413	5.25	31.58
	ID = 3 (2110):		24.27	1.094	5.25	33.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0211)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0101):		30.00	1.234	5.25	26.03
+	ID2= 2 (2110):		24.27	1.094	5.25	33.47
	ID = 3 (0211):		54.27	2.328	5.25	29.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0211):		54.27	2.328	5.25	29.36
+	ID2= 2 (0210):		1.64	.091	5.25	34.88
	ID = 3 (0214):		55.91	2.420	5.25	29.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0215)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			.0000	.0000	.1730	.9050
			.0030	.1460	.1840	1.0100
			.0200	.2630	.1850	1.0380
			.0710	.4190	.1870	1.2050
			.1120	.5550	.1890	1.3810
			.1510	.7510	.0000	.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (0214)	55.91	2.42	5.25	29.52
OUTFLOW:	ID= 1 (0215)	55.91	.19	8.67	28.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.76
TIME SHIFT OF PEAK FLOW (min)=205.00
MAXIMUM STORAGE USED (ha.m.)= 1.2766

FINISH

POND 21 - +25% RAINFALL INTENSITY

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M M M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 8:07:37 PM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

READ STORM	Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal=120.71 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

MODIFY STORM CASE= 1	MODIFYING PARAMETERS Multiplication Factor= 1.25 Time shift (min) = .00

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	.00	3.500	25.65	6.750	10.56	10.00	1.51
.500	1.51	3.750	25.65	7.000	10.56	10.25	1.51
.750	1.51	4.000	25.65	7.250	10.56	10.50	1.51
1.000	1.51	4.250	25.65	7.500	6.04	10.75	1.51
1.250	1.51	4.500	69.40	7.750	6.04	11.00	1.51
1.500	1.51	4.750	69.40	8.000	6.04	11.25	1.51
1.750	1.51	5.000	69.40	8.250	6.04	11.50	1.51
2.000	1.51	5.250	69.40	8.500	3.01	11.75	1.51
2.250	1.51	5.500	19.61	8.750	3.01	12.00	1.51
2.500	9.05	5.750	19.61	9.000	3.01	12.25	1.51
2.750	9.05	6.000	19.61	9.250	3.01		
3.000	9.05	6.250	19.61	9.500	1.51		
3.250	9.05	6.500	10.56	9.750	1.51		

CALIB NASHYD (0101) ID= 1 DT= 5.0 min	Area (ha)= 30.00 Curve Number (CN)= 54.2 Ia (mm)= 1.50 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= .18

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	9.05	6.250	19.61	9.33	1.51
.167	.00	3.250	9.05	6.333	10.56	9.42	1.51
.250	.00	3.333	25.65	6.417	10.56	9.50	1.51
.333	1.51	3.417	25.65	6.500	10.56	9.58	1.51
.417	1.51	3.500	25.65	6.583	10.56	9.67	1.51
.500	1.51	3.583	25.65	6.667	10.56	9.75	1.51
.583	1.51	3.667	25.65	6.750	10.56	9.83	1.51
.667	1.51	3.750	25.65	6.833	10.56	9.92	1.51
.750	1.51	3.833	25.65	6.917	10.56	10.00	1.51
.833	1.51	3.917	25.65	7.000	10.56	10.08	1.51
.917	1.51	4.000	25.65	7.083	10.56	10.17	1.51
1.000	1.51	4.083	25.65	7.167	10.56	10.25	1.51
1.083	1.51	4.167	25.65	7.250	10.56	10.33	1.51
1.167	1.51	4.250	25.65	7.333	6.04	10.42	1.51
1.250	1.51	4.333	69.40	7.417	6.04	10.50	1.51
1.333	1.51	4.417	69.40	7.500	6.04	10.58	1.51
1.417	1.51	4.500	69.40	7.583	6.04	10.67	1.51
1.500	1.51	4.583	69.40	7.667	6.04	10.75	1.51
1.583	1.51	4.667	69.40	7.750	6.04	10.83	1.51
1.667	1.51	4.750	69.40	7.833	6.04	10.92	1.51
1.750	1.51	4.833	69.40	7.917	6.04	11.00	1.51
1.833	1.51	4.917	69.40	8.000	6.04	11.08	1.51
1.917	1.51	5.000	69.40	8.083	6.04	11.17	1.51
2.000	1.51	5.083	69.40	8.167	6.04	11.25	1.51
2.083	1.51	5.167	69.40	8.250	6.04	11.33	1.51
2.167	1.51	5.250	69.40	8.333	3.01	11.42	1.51
2.250	1.51	5.333	19.61	8.417	3.01	11.50	1.51
2.333	9.05	5.417	19.61	8.500	3.01	11.58	1.51
2.417	9.05	5.500	19.61	8.583	3.01	11.67	1.51
2.500	9.05	5.583	19.61	8.667	3.01	11.75	1.51
2.583	9.05	5.667	19.61	8.750	3.01	11.83	1.51
2.667	9.05	5.750	19.61	8.833	3.01	11.92	1.51
2.750	9.05	5.833	19.61	8.917	3.01	12.00	1.51
2.833	9.05	5.917	19.61	9.000	3.01	12.08	1.51
2.917	9.05	6.000	19.61	9.083	3.01	12.17	1.51
3.000	9.05	6.083	19.61	9.167	3.01	12.25	1.51
3.083	9.05	6.167	19.61	9.250	3.01		

```
     Unit Hyd Qpeak  (cms)=   6.366

     PEAK FLOW       (cms)=   2.886 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  61.130
     TOTAL RAINFALL   (mm)= 150.887
     RUNOFF COEFFICIENT   =    .405

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0209)  |   Area     (ha)=   3.63   Curve Number    (CN)= 56.3
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=    .58

     Unit Hyd Qpeak  (cms)=    .239

     PEAK FLOW       (cms)=    .260 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  64.396
     TOTAL RAINFALL   (mm)= 150.887
     RUNOFF COEFFICIENT   =    .427

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0208)  |   Area     (ha)=   4.31   Curve Number    (CN)= 57.0
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=    .54

     Unit Hyd Qpeak  (cms)=    .305

     PEAK FLOW       (cms)=    .326 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  65.442
     TOTAL RAINFALL   (mm)= 150.887
     RUNOFF COEFFICIENT   =    .434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0207)  |   Area     (ha)=   4.86
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  17.50   Dir. Conn.(%)=   8.80
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .85          4.01
     Dep. Storage     (mm)=     1.00          5.00
     Average Slope     (%)=      .50          2.00
     Length            (m)=   450.00         35.00
     Mannings n            =    .013          .030

     Max.Eff.Inten.(mm/hr)=    69.40         53.02
           over      (min)     10.00         15.00
     Storage Coeff.  (min)=    8.97 (ii)    11.33 (ii)
     Unit Hyd. Tpeak (min)=    10.00         15.00
     Unit Hyd. peak  (cms)=      .12           .09
                                                      *TOTALS*
     PEAK FLOW       (cms)=      .08           .55        .629 (iii)
     TIME TO PEAK    (hrs)=     5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=   149.89         80.12        86.26
     TOTAL RAINFALL   (mm)=   150.89        150.89       150.89
     RUNOFF COEFFICIENT   =      .99           .53          .57

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN* =  65.5     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0206)  |   Area     (ha)=   2.65
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  24.50   Dir. Conn.(%)=  12.30
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .65          2.00
     Dep. Storage     (mm)=     1.00          5.00
     Average Slope     (%)=     1.80          2.00
     Length            (m)=   340.00         35.00
     Mannings n            =    .013          .030

     Max.Eff.Inten.(mm/hr)=    69.40         56.85
           over      (min)     5.00         10.00
     Storage Coeff.  (min)=    5.17 (ii)     9.53 (ii)
     Unit Hyd. Tpeak (min)=    5.00         10.00
     Unit Hyd. peak  (cms)=      .21           .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=      .06           .30        .365 (iii)
     TIME TO PEAK    (hrs)=     5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=   149.89         82.08        90.42
     TOTAL RAINFALL   (mm)=   150.89        150.89       150.89
     RUNOFF COEFFICIENT   =      .99           .54          .60

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
           YOU SHOULD CONSIDER SPLITTING THE AREA.

     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN* =  65.5     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0205)  |   Area     (ha)=   5.45   Curve Number    (CN)= 58.7
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=    .671

     PEAK FLOW       (cms)=    .524 (i)
     TIME TO PEAK    (hrs)=   5.333
     RUNOFF VOLUME    (mm)=  67.995
     TOTAL RAINFALL   (mm)= 150.887
     RUNOFF COEFFICIENT   =    .451

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0204)  |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  27.00   Dir. Conn.(%)=  13.50
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .39          1.07
     Dep. Storage     (mm)=     1.00          5.00
     Average Slope     (%)=     1.70          2.00
     Length            (m)=   145.00         35.00
     Mannings n            =    .013          .030
```

Max.Eff.Inten.(mm/hr)=	69.40	58.45		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.15 (ii)	7.30 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	.27	.14		
			TOTALS	
PEAK FLOW (cms)=	.04	.17	.206 (iii)	
TIME TO PEAK (hrs)=	5.00	5.25	5.25	
RUNOFF VOLUME (mm)=	149.89	82.87	91.92	
TOTAL RAINFALL (mm)=	150.89	150.89	150.89	
RUNOFF COEFFICIENT =	.99	.55	.61	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
NASHYD (0203)	Area (ha)= 1.91	Curve Number (CN)= 57.3
ID= 1 DT= 5.0 min	Ia (mm)= 1.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .09	

Unit Hyd Qpeak (cms)=	.811	
PEAK FLOW (cms)=	.201	(i)
TIME TO PEAK (hrs)=	5.250	
RUNOFF VOLUME (mm)=	63.407	
TOTAL RAINFALL (mm)=	150.887	
RUNOFF COEFFICIENT =	.420	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0210)	Area (ha)= 1.64		
ID= 1 DT= 5.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 8.80	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.44	1.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	30.00	10.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.(mm/hr)=		69.40	52.18	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.77 (ii)	4.09 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		.32	.24	
			TOTALS	
PEAK FLOW (cms)=		.03	.17	.202 (iii)
TIME TO PEAK (hrs)=		4.67	5.25	5.25
RUNOFF VOLUME (mm)=		149.89	68.88	76.01
TOTAL RAINFALL (mm)=		150.89	150.89	150.89
RUNOFF COEFFICIENT =		.99	.46	.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0207):	4.86	.629	5.25	86.26
+ ID2= 2 (0206):	2.65	.365	5.25	90.42
ID = 3 (0008):	7.51	.994	5.25	87.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0003)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.46	.206	5.25	91.92
+ ID2= 2 (0203):	1.91	.201	5.25	63.41
ID = 3 (0003):	3.37	.407	5.25	75.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0208):	4.31	.326	5.50	65.44
+ ID2= 2 (0008):	7.51	.994	5.25	87.73
ID = 3 (0009):	11.82	1.286	5.25	79.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	5.45	.524	5.33	68.00
+ ID2= 2 (0003):	3.37	.407	5.25	75.76
ID = 3 (0004):	8.82	.928	5.25	70.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0209):	3.63	.260	5.50	64.40
+ ID2= 2 (0009):	11.82	1.286	5.25	79.60
ID = 3 (0010):	15.45	1.514	5.25	76.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (2110) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0010):     15.45     1.514      5.25     76.03
       + ID2= 2 (0004):      8.82      .928      5.25     70.96
         ==========================================================
         ID = 3 (2110):     24.27     2.442      5.25     74.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0211) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0101):     30.00     2.886      5.25     61.13
       + ID2= 2 (2110):     24.27     2.442      5.25     74.19
         ==========================================================
         ID = 3 (0211):     54.27     5.329      5.25     66.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0214) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0211):     54.27     5.329      5.25     66.97
       + ID2= 2 (0210):      1.64      .202      5.25     76.01
         ==========================================================
         ID = 3 (0214):     55.91     5.530      5.25     67.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0215) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000       .0000   |    .1730       .9050
                          .0030       .1460   |    .1840      1.0100
                          .0200       .2630   |    .1850      1.0380
                          .0710       .4190   |    .1870      1.2050
                          .1120       .5550   |    .1890      1.3810
                          .1510       .7510   |    .0000       .0000

                                AREA      QPEAK      TPEAK       R.V.
                                (ha)      (cms)      (hrs)       (mm)
    INFLOW : ID= 2 (0214)      55.91       5.53       5.25      67.23
    OUTFLOW: ID= 1 (0215)      55.91        .21       9.67      65.61

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.79
                TIME SHIFT OF PEAK FLOW          (min)=265.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  3.2137

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 FINISH
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POND 21 - CN AMC I

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                          TIME: 7:59:52 PM

USER:


COMMENTS: _____

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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

```
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```

```
| CALIB              |
| NASHYD    (0101) |   Area     (ha)=  30.00   Curve Number    (CN)= 34.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .18
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
		---- TRANSFORMED HYETOGRAPH ----					
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

```
Unit Hyd Qpeak  (cms)=   6.366

PEAK FLOW       (cms)=   1.091 (i)
TIME TO PEAK    (hrs)=   5.250
RUNOFF VOLUME    (mm)= 23.144
TOTAL RAINFALL   (mm)= 120.710
RUNOFF COEFFICIENT   =    .192
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB              |
| NASHYD    (0209) |   Area     (ha)=   3.63   Curve Number    (CN)= 36.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .58

Unit Hyd Qpeak  (cms)=    .239

PEAK FLOW       (cms)=    .097 (i)
TIME TO PEAK    (hrs)=   5.583
RUNOFF VOLUME    (mm)=  24.897
TOTAL RAINFALL   (mm)= 120.710
RUNOFF COEFFICIENT   =    .206
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB              |
| NASHYD    (0208) |   Area     (ha)=   4.31   Curve Number    (CN)= 37.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .54

Unit Hyd Qpeak  (cms)=    .305

PEAK FLOW       (cms)=    .124 (i)
TIME TO PEAK    (hrs)=   5.500
RUNOFF VOLUME    (mm)=  25.757
TOTAL RAINFALL   (mm)= 120.710
RUNOFF COEFFICIENT   =    .213
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB              |
| STANDHYD  (0207) |   Area     (ha)=   4.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  17.50   Dir. Conn.(%)=   8.80
--------------------
```

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.85	4.01	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	450.00	35.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.	(mm/hr)=	55.52	24.13	
over	(min)	10.00	15.00	
Storage Coeff.	(min)=	9.81 (ii)	13.04 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	15.00	
Unit Hyd. peak	(cms)=	.11	.08	
				TOTALS
PEAK FLOW	(cms)=	.07	.23	.299 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	119.71	34.98	42.43
TOTAL RAINFALL	(mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT	=	.99	.29	.35

```
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 46.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB              |
| STANDHYD  (0206) |   Area     (ha)=   2.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.50   Dir. Conn.(%)=  12.30
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.65	2.00
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.80	2.00
Length	(m)=	340.00	35.00
Mannings n	=	.013	.030
Max.Eff.Inten.	(mm/hr)=	55.52	26.27

```
              over (min)        5.00        15.00
     Storage Coeff.  (min)=     5.65 (ii)   10.42 (ii)
     Unit Hyd. Tpeak (min)=     5.00        15.00
     Unit Hyd. peak  (cms)=      .20          .09
                                                      *TOTALS*
     PEAK FLOW       (cms)=      .05          .13          .181 (iii)
     TIME TO PEAK    (hrs)=     5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=   119.71        36.32        46.57
     TOTAL RAINFALL   (mm)=   120.71       120.71       120.71
     RUNOFF COEFFICIENT   =      .99          .30          .39

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0205) |   Area     (ha)=   5.45   Curve Number    (CN)= 39.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=     .671

     PEAK FLOW       (cms)=     .209 (i)
     TIME TO PEAK    (hrs)=    5.333
     RUNOFF VOLUME    (mm)=  27.505
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT   =     .228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0204) |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  13.50
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          1.07
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.70          2.00
     Length            (m)=     145.00         35.00
     Mannings n           =       .013          .030

     Max.Eff.Inten.(mm/hr)=      55.52         27.17
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      3.45 (ii)     7.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=       .26           .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .03           .08          .107 (iii)
     TIME TO PEAK    (hrs)=      5.00          5.25         5.25
     RUNOFF VOLUME    (mm)=    119.71         36.86        48.04
     TOTAL RAINFALL   (mm)=    120.71        120.71       120.71
     RUNOFF COEFFICIENT   =       .99           .31          .40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  46.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0203) |   Area     (ha)=   1.91   Curve Number    (CN)= 37.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .09

     Unit Hyd Qpeak  (cms)=     .811

     PEAK FLOW       (cms)=     .080 (i)
     TIME TO PEAK    (hrs)=    5.250
     RUNOFF VOLUME    (mm)=  24.786
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT   =     .205

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0210) |   Area     (ha)=   1.64
|ID= 1 DT= 5.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=   8.80
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          1.20
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=        .50          2.00
     Length            (m)=      30.00         10.00
     Mannings n           =       .013          .030

     Max.Eff.Inten.(mm/hr)=      55.52         21.52
               over (min)        5.00          5.00
     Storage Coeff.  (min)=      1.93 (ii)     4.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00          5.00
     Unit Hyd. peak  (cms)=       .31           .23
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .02           .07          .094 (iii)
     TIME TO PEAK    (hrs)=      4.75          5.25         5.25
     RUNOFF VOLUME    (mm)=    119.71         27.56        35.66
     TOTAL RAINFALL   (mm)=    120.71        120.71       120.71
     RUNOFF COEFFICIENT   =       .99           .23          .30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  35.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0008) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0207):     4.86     .299     5.25    42.43
        + ID2= 2 (0206):     2.65     .181     5.25    46.57
          ==========================================================
          ID = 3 (0008):     7.51     .480     5.25    43.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0003) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0204):	1.46	.107	5.25	48.04
+ ID2= 2 (0203):	1.91	.080	5.25	24.79
ID = 3 (0003):	3.37	.187	5.25	34.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0208):	4.31	.124	5.50	25.76
+ ID2= 2 (0008):	7.51	.480	5.25	43.89
ID = 3 (0009):	11.82	.588	5.25	37.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	5.45	.209	5.33	27.50
+ ID2= 2 (0003):	3.37	.187	5.25	34.86
ID = 3 (0004):	8.82	.392	5.25	30.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0209):	3.63	.097	5.58	24.90
+ ID2= 2 (0009):	11.82	.588	5.25	37.28
ID = 3 (0010):	15.45	.670	5.25	34.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2110)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	15.45	.670	5.25	34.37
+ ID2= 2 (0004):	8.82	.392	5.25	30.32
ID = 3 (2110):	24.27	1.062	5.25	32.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0211)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	30.00	1.091	5.25	23.14
+ ID2= 2 (2110):	24.27	1.062	5.25	32.90
ID = 3 (0211):	54.27	2.153	5.25	27.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0211):	54.27	2.153	5.25	27.51
+ ID2= 2 (0210):	1.64	.094	5.25	35.66
ID = 3 (0214):	55.91	2.247	5.25	27.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0215)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.0000	.0000	.1730	.9050
.0030	.1460	.1840	1.0100
.0200	.2630	.1850	1.0380
.0710	.4190	.1870	1.2050
.1120	.5550	.1890	1.3810
.1510	.7510	.0000	.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0214)	55.91	2.25	5.25	27.75
OUTFLOW: ID= 1 (0215)	55.91	.19	8.67	26.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.31
TIME SHIFT OF PEAK FLOW (min)=205.00
MAXIMUM STORAGE USED (ha.m.)= 1.1871

FINISH

POND 21 – CN AMC III

```
 V    V   I    SSSSS  U   U    A    L
 V    V   I    SS     U   U   A A   L
  V  V    I     SS    U   U  AAAAA  L
  V  V    I      SS   U   U  A   A  L
   VV     I    SSSSS  UUUUU  A   A  LLLLL

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M M M  O   O
  OOO     T      T    H   H    Y    M   M   OOO

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                  ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                          TIME: 7:45:07 PM

USER:


COMMENTS: _____________________________________________________

--------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


---------------------
|    READ STORM     |    Filename: S:\2010 Projects\D-EE (E10)\
|                   |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                   |              Calcs\Hydrologic Models\Existing LSRCA Files\
| PTotal=120.71 mm  |    Comments: 100yr/12hr
---------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

```
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---------------------
| CALIB             |
| NASHYD    (0101)  |   Area     (ha)=  30.00   Curve Number    (CN)= 72.5
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .18

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

```
    Unit Hyd Qpeak  (cms)=   6.366

    PEAK FLOW       (cms)=   3.079 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  65.739
    TOTAL RAINFALL   (mm)= 120.710
    RUNOFF COEFFICIENT   =    .545

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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---------------------
| CALIB             |
| NASHYD    (0209)  |   Area     (ha)=   3.63   Curve Number    (CN)= 78.5
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .58

    Unit Hyd Qpeak  (cms)=    .239

    PEAK FLOW       (cms)=    .299 (i)
```

```
     TIME TO PEAK     (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  72.048
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT    =    .597

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0208) |   Area     (ha)=   4.31   Curve Number    (CN)= 74.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .54

     Unit Hyd Qpeak  (cms)=    .305

     PEAK FLOW       (cms)=    .345 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  68.171
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT    =    .565

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0207) |   Area     (ha)=   4.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  17.50   Dir. Conn.(%)=   8.80
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .85         4.01
     Dep. Storage     (mm)=     1.00         5.00
     Average Slope     (%)=      .50         2.00
     Length            (m)=   450.00        35.00
     Mannings n           =     .013         .030

     Max.Eff.Inten.(mm/hr)=    55.52        51.68
               over (min)      10.00        15.00
     Storage Coeff.  (min)=    9.81 (ii)   12.19 (ii)
     Unit Hyd. Tpeak (min)=   10.00        15.00
     Unit Hyd. peak  (cms)=     .11          .09
                                                    *TOTALS*
     PEAK FLOW       (cms)=     .07          .54        .610 (iii)
     TIME TO PEAK    (hrs)=    5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=  119.71        81.02        84.42
     TOTAL RAINFALL   (mm)=  120.71       120.71       120.71
     RUNOFF COEFFICIENT    =     .99          .67          .70

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0206) |   Area     (ha)=   2.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.50   Dir. Conn.(%)=  12.30
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .65         2.00
     Dep. Storage     (mm)=     1.00         5.00
     Average Slope     (%)=     1.80         2.00
     Length            (m)=   340.00        35.00
     Mannings n           =     .013         .030

     Max.Eff.Inten.(mm/hr)=    55.52        54.93
               over (min)      10.00        15.00
     Storage Coeff.  (min)=    5.65 (ii)   10.42 (ii)
     Unit Hyd. Tpeak (min)=    5.00        15.00
     Unit Hyd. peak  (cms)=     .20          .09
                                                    *TOTALS*
     PEAK FLOW       (cms)=     .05          .29        .343 (iii)
     TIME TO PEAK    (hrs)=    5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=  119.71        82.42        87.00
     TOTAL RAINFALL   (mm)=  120.71       120.71       120.71
     RUNOFF COEFFICIENT    =     .99          .68          .72

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0205) |   Area     (ha)=   5.45   Curve Number    (CN)= 76.5
|ID= 1 DT= 5.0 min |   Ia       (mm)=   1.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .31

     Unit Hyd Qpeak  (cms)=    .671

     PEAK FLOW       (cms)=    .558 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  72.026
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT    =    .597

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0204) |   Area     (ha)=   1.46
|ID= 1 DT= 5.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  13.50
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .39         1.07
     Dep. Storage     (mm)=     1.00         5.00
     Average Slope     (%)=     1.70         2.00
     Length            (m)=   145.00        35.00
     Mannings n           =     .013         .030

     Max.Eff.Inten.(mm/hr)=    55.52        56.29
               over (min)       5.00        10.00
     Storage Coeff.  (min)=    3.45 (ii)    7.98 (ii)
     Unit Hyd. Tpeak (min)=    5.00        10.00
     Unit Hyd. peak  (cms)=     .26          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=     .03          .16        .194 (iii)
     TIME TO PEAK    (hrs)=    5.00         5.25         5.25
     RUNOFF VOLUME    (mm)=  119.71        82.97        87.93
     TOTAL RAINFALL   (mm)=  120.71       120.71       120.71
     RUNOFF COEFFICIENT    =     .99          .69          .73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0203)	Area (ha)=	1.91	Curve Number (CN)=	74.0
ID= 1 DT= 5.0 min	Ia (mm)=	1.50	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.09		

Unit Hyd Qpeak (cms)= .811

PEAK FLOW (cms)= .203 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 65.600
TOTAL RAINFALL (mm)= 120.710
RUNOFF COEFFICIENT = .543

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0210)	Area (ha)=	1.64			
ID= 1 DT= 5.0 min	Total Imp(%)=	27.00	Dir. Conn.(%)=	8.80	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	.44	1.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	.50	2.00	
Length	(m)=	30.00	10.00	
Mannings n	=	.013	.030	
Max.Eff.Inten.(mm/hr)=		55.52	52.43	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.93 (ii)	4.47 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		.31	.23	
				TOTALS
PEAK FLOW (cms)=		.02	.17	.197 (iii)
TIME TO PEAK (hrs)=		4.75	5.25	5.25
RUNOFF VOLUME (mm)=		119.71	70.98	75.26
TOTAL RAINFALL (mm)=		120.71	120.71	120.71
RUNOFF COEFFICIENT =		.99	.59	.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0207):	4.86	.610	5.25	84.42
+ ID2= 2 (0206):	2.65	.343	5.25	87.00
ID = 3 (0008):	7.51	.952	5.25	85.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0003)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.46	.194	5.25	87.93
+ ID2= 2 (0203):	1.91	.203	5.25	65.60
ID = 3 (0003):	3.37	.397	5.25	75.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0009)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0208):	4.31	.345	5.50	68.17
+ ID2= 2 (0008):	7.51	.952	5.25	85.33
ID = 3 (0009):	11.82	1.269	5.25	79.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0004)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	5.45	.558	5.25	72.03
+ ID2= 2 (0003):	3.37	.397	5.25	75.27
ID = 3 (0004):	8.82	.955	5.25	73.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0209):	3.63	.299	5.50	72.05
+ ID2= 2 (0009):	11.82	1.269	5.25	79.07
ID = 3 (0010):	15.45	1.538	5.25	77.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

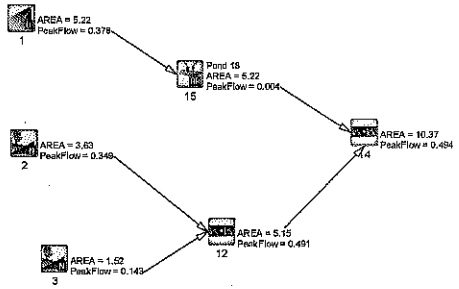
ADD HYD (2110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	15.45	1.538	5.25	77.42
+ ID2= 2 (0004):	8.82	.955	5.25	73.27
ID = 3 (2110):	24.27	2.492	5.25	75.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0211)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	30.00	3.079	5.25	65.74
+ ID2= 2 (2110):	24.27	2.492	5.25	75.91
ID = 3 (0211):	54.27	5.571	5.25	70.29

POND 18 – BASE FILE

```
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0214) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0211):     54.27     5.571      5.25     70.29
       + ID2= 2 (0210):      1.64      .197      5.25     75.26
         ==========================================================
         ID = 3 (0214):     55.91     5.767      5.25     70.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR (0215) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW     STORAGE    |   OUTFLOW     STORAGE
--------------------       (cms)     (ha.m.)    |    (cms)      (ha.m.)
                           .0000       .0000    |     .1730       .9050
                           .0030       .1460    |     .1840      1.0100
                           .0200       .2630    |     .1850      1.0380
                           .0710       .4190    |     .1870      1.2050
                           .1120       .5550    |     .1890      1.3810
                           .1510       .7510    |     .0000       .0000

                                    AREA      QPEAK     TPEAK       R.V.
                                    (ha)      (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0214)         55.91       5.77      5.25      70.43
    OUTFLOW: ID= 1 (0215)         55.91        .21      9.58      68.78

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.67
                  TIME SHIFT OF PEAK FLOW          (min)=260.00
                  MAXIMUM  STORAGE  USED        (ha.m.)=  3.3906

--------------------------------------------------------------------------------

 FINISH
================================================================================
```



```
================================================================================
====================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M M M  O   O
        OOO     T      T    H   H    Y    M   M   OOO

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                    ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                          TIME: 11:20:18 AM

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
--------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25      .00 |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                 .50     1.21 |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                 .75     1.21 |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
                1.00     1.21 |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
                1.25     1.21 |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
                1.50     1.21 |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
                1.75     1.21 |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
                2.00     1.21 |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
                2.25     1.21 |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
                2.50     7.24 |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
                2.75     7.24 |  6.00    15.69 |  9.25     2.41 |
                3.00     7.24 |  6.25    15.69 |  9.50     1.21 |
                3.25     7.24 |  6.50     8.45 |  9.75     1.21 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
```

```
| NASHYD    (0003) |   Area     (ha)=   1.52   Curve Number    (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .05

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                  ---- TRANSFORMED HYETOGRAPH ----
          TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
           hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
          .083      .00 |  3.167    7.24 |  6.250   15.69 |  9.33     1.21
          .167      .00 |  3.250    7.24 |  6.333    8.45 |  9.42     1.21
          .250      .00 |  3.333   20.52 |  6.417    8.45 |  9.50     1.21
          .333     1.21 |  3.417   20.52 |  6.500    8.45 |  9.58     1.21
          .417     1.21 |  3.500   20.52 |  6.583    8.45 |  9.67     1.21
          .500     1.21 |  3.583   20.52 |  6.667    8.45 |  9.75     1.21
          .583     1.21 |  3.667   20.52 |  6.750    8.45 |  9.83     1.21
          .667     1.21 |  3.750   20.52 |  6.833    8.45 |  9.92     1.21
          .750     1.21 |  3.833   20.52 |  6.917    8.45 | 10.00     1.21
          .833     1.21 |  3.917   20.52 |  7.000    8.45 | 10.08     1.21
          .917     1.21 |  4.000   20.52 |  7.083    8.45 | 10.17     1.21
         1.000     1.21 |  4.083   20.52 |  7.167    8.45 | 10.25     1.21
         1.083     1.21 |  4.167   20.52 |  7.250    8.45 | 10.33     1.21
         1.167     1.21 |  4.250   20.52 |  7.333    4.83 | 10.42     1.21
         1.250     1.21 |  4.333   55.52 |  7.417    4.83 | 10.50     1.21
         1.333     1.21 |  4.417   55.52 |  7.500    4.83 | 10.58     1.21
         1.417     1.21 |  4.500   55.52 |  7.583    4.83 | 10.67     1.21
         1.500     1.21 |  4.583   55.52 |  7.667    4.83 | 10.75     1.21
         1.583     1.21 |  4.667   55.52 |  7.750    4.83 | 10.83     1.21
         1.667     1.21 |  4.750   55.52 |  7.833    4.83 | 10.92     1.21
         1.750     1.21 |  4.833   55.52 |  7.917    4.83 | 11.00     1.21
         1.833     1.21 |  4.917   55.52 |  8.000    4.83 | 11.08     1.21
         1.917     1.21 |  5.000   55.52 |  8.083    4.83 | 11.17     1.21
         2.000     1.21 |  5.083   55.52 |  8.167    4.83 | 11.25     1.21
         2.083     1.21 |  5.167   55.52 |  8.250    4.83 | 11.33     1.21
         2.167     1.21 |  5.250   55.52 |  8.333    2.41 | 11.42     1.21
         2.250     1.21 |  5.333   15.69 |  8.417    2.41 | 11.50     1.21
         2.333     7.24 |  5.417   15.69 |  8.500    2.41 | 11.58     1.21
         2.417     7.24 |  5.500   15.69 |  8.583    2.41 | 11.67     1.21
         2.500     7.24 |  5.583   15.69 |  8.667    2.41 | 11.75     1.21
         2.583     7.24 |  5.667   15.69 |  8.750    2.41 | 11.83     1.21
         2.667     7.24 |  5.750   15.69 |  8.833    2.41 | 11.92     1.21
         2.750     7.24 |  5.833   15.69 |  8.917    2.41 | 12.00     1.21
         2.833     7.24 |  5.917   15.69 |  9.000    2.41 | 12.08     1.21
         2.917     7.24 |  6.000   15.69 |  9.083    2.41 | 12.17     1.21
         3.000     7.24 |  6.083   15.69 |  9.167    2.41 | 12.25     1.21
         3.083     7.24 |  6.167   15.69 |  9.250    2.41 |

    Unit Hyd Qpeak  (cms)=   1.161

    PEAK FLOW       (cms)=    .143 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  57.002
    TOTAL RAINFALL   (mm)= 120.710
    RUNOFF COEFFICIENT   =    .472

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area     (ha)=   3.63   Curve Number    (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .06

    Unit Hyd Qpeak  (cms)=   2.311

    PEAK FLOW       (cms)=    .349 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  57.334
    TOTAL RAINFALL   (mm)= 120.710
```

RUNOFF COEFFICIENT = .475

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0001)	Area (ha)= 5.22		
ID= 1 DT= 5.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 20.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.04	4.18
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	186.50	40.00
Mannings n	=	.013	.250
Max.Eff.Inten.	(mm/hr)=	55.52	22.86
over	(min)	5.00	20.00
Storage Coeff.	(min)=	4.70 (ii)	17.43 (ii)
Unit Hyd. Tpeak	(min)=	5.00	20.00
Unit Hyd. peak	(cms)=	.22	.06

				TOTALS
PEAK FLOW	(cms)=	.16	.22	.378 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	119.71	38.08	54.40
TOTAL RAINFALL	(mm)=	120.71	120.71	120.71
RUNOFF COEFFICIENT	=	.99	.32	.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 50.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0012)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0003):	1.52	.143	5.25	57.00
+ ID2= 2 (0002):	3.63	.349	5.25	57.33
ID = 3 (0012):	5.15	.491	5.25	57.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0015)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	.0000	.0000	.0960	.5250
	.0070	.4250	.1390	.5800
	.0640	.4300	.1920	.6150
	.0730	.4650	.2540	.6510

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0001)	5.22	.38	5.25	54.40
OUTFLOW: ID= 1 (0015)	5.22	.00	12.58	33.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.18
TIME SHIFT OF PEAK FLOW (min)=440.00
MAXIMUM STORAGE USED (ha.m.)= .2723

ADD HYD (0014)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0012):	5.15	.491	5.25	57.24
+ ID2= 2 (0015):	5.22	.004	12.58	33.44
ID = 3 (0014):	10.37	.494	5.25	45.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

POND 18 – 6HR STORM

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================================================================================
==================

      V     V   I    SSSSS  U   U    A    L
      V     V   I    SS     U   U   A A   L
       V   V    I     SS    U   U  AAAAA  L
       V   V    I      SS   U   U  A   A  L
        VV      I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                  ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:30:46 AM

USER:


COMMENTS: _____________________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal= 60.36 mm |    Comments: 100yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .25    1.21 |  1.75   20.52 |  3.25    8.45 |  4.75    1.21
                 .50    1.21 |  2.00   20.52 |  3.50    8.45 |  5.00    1.21
                 .75    1.21 |  2.25   55.52 |  3.75    4.83 |  5.25    1.21
                1.00    1.21 |  2.50   55.52 |  4.00    4.83 |  5.50    1.21
                1.25    7.24 |  2.75   15.69 |  4.25    2.41 |  5.75    1.21
                1.50    7.24 |  3.00   15.69 |  4.50    2.41 |  6.00    1.21

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD    (0003) |   Area     (ha)=   1.52   Curve Number    (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .05
```

```
NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                    ---- TRANSFORMED HYETOGRAPH ----
  TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
  .083     1.21 | 1.583    20.52 | 3.083    8.45 | 4.58     1.21
  .167     1.21 | 1.667    20.52 | 3.167    8.45 | 4.67     1.21
  .250     1.21 | 1.750    20.52 | 3.250    8.45 | 4.75     1.21
  .333     1.21 | 1.833    20.52 | 3.333    8.45 | 4.83     1.21
  .417     1.21 | 1.917    20.52 | 3.417    8.45 | 4.92     1.21
  .500     1.21 | 2.000    20.52 | 3.500    8.45 | 5.00     1.21
  .583     1.21 | 2.083    55.52 | 3.583    4.83 | 5.08     1.21
  .667     1.21 | 2.167    55.52 | 3.667    4.83 | 5.17     1.21
  .750     1.21 | 2.250    55.52 | 3.750    4.83 | 5.25     1.21
  .833     1.21 | 2.333    55.52 | 3.833    4.83 | 5.33     1.21
  .917     1.21 | 2.417    55.52 | 3.917    4.83 | 5.42     1.21
 1.000     1.21 | 2.500    55.52 | 4.000    4.83 | 5.50     1.21
 1.083     7.24 | 2.583    15.69 | 4.083    2.41 | 5.58     1.21
 1.167     7.24 | 2.667    15.69 | 4.167    2.41 | 5.67     1.21
 1.250     7.24 | 2.750    15.69 | 4.250    2.41 | 5.75     1.21
 1.333     7.24 | 2.833    15.69 | 4.333    2.41 | 5.83     1.21
 1.417     7.24 | 2.917    15.69 | 4.417    2.41 | 5.92     1.21
 1.500     7.24 | 3.000    15.69 | 4.500    2.41 | 6.00     1.21

    Unit Hyd Qpeak  (cms)=   1.161

    PEAK FLOW       (cms)=    .104 (i)
    TIME TO PEAK    (hrs)=   2.500
    RUNOFF VOLUME    (mm)=  19.670
    TOTAL RAINFALL   (mm)=  60.355
    RUNOFF COEFFICIENT   =    .326

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area     (ha)=   3.63   Curve Number    (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .06

    Unit Hyd Qpeak  (cms)=   2.311

    PEAK FLOW       (cms)=    .237 (i)
    TIME TO PEAK    (hrs)=   2.500
    RUNOFF VOLUME    (mm)=  18.778
    TOTAL RAINFALL   (mm)=  60.355
    RUNOFF COEFFICIENT   =    .311

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area     (ha)=   5.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.04          4.18
    Dep. Storage     (mm)=       1.00          1.50
    Average Slope     (%)=       1.00          2.00
    Length            (m)=     186.50         40.00
    Mannings n           =       .013          .250

    Max.Eff.Inten.(mm/hr)=      55.52         11.71
              over (min)        5.00         25.00
    Storage Coeff.  (min)=      4.70 (ii)    21.34 (ii)
    Unit Hyd. Tpeak (min)=      5.00         25.00
    Unit Hyd. peak  (cms)=       .22           .05
                                                    *TOTALS*
```

```
     PEAK FLOW       (cms)=        .16          .09          .226 (iii)
     TIME TO PEAK    (hrs)=       2.50         2.75          2.50
     RUNOFF VOLUME    (mm)=      59.35        11.07         20.73
     TOTAL RAINFALL   (mm)=      60.36        60.36         60.36
     RUNOFF COEFFICIENT   =        .98          .18           .34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* = 50.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0012) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0003):      1.52      .104      2.50     19.67
       + ID2= 2 (0002):      3.63      .237      2.50     18.78
         ==========================================================
         ID = 3 (0012):      5.15      .341      2.50     19.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR (0015) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000       .0000   |    .0960       .5250
                          .0070       .4250   |    .1390       .5800
                          .0640       .4300   |    .1920       .6150
                          .0730       .4650   |    .2540       .6510

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0001)     5.22       .23      2.50      20.73
     OUTFLOW: ID= 1 (0015)     5.22       .00      6.58      12.88

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=    .77
                   TIME SHIFT OF PEAK FLOW          (min)=245.00
                   MAXIMUM  STORAGE  USED        (ha.m.)=   .1056

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--------------------
| ADD HYD   (0014) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0012):      5.15      .341      2.50     19.04
       + ID2= 2 (0015):      5.22      .002      6.58     12.88
         ==========================================================
         ID = 3 (0014):     10.37      .342      2.50     15.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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POND 18 – 24HR STORM

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================================================================================
==================

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                           TIME: 11:44:24 AM

USER:


COMMENTS: ____________________________________________________________

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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Sensitivity Analysis\
| Ptotal=177.00 mm |    Comments: 100-Year 24-Hour SCS II Design Storm
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	2.21	6.25	3.54	12.25	15.93	18.25	3.10
.50	2.21	6.50	3.54	12.50	15.93	18.50	3.10
.75	2.21	6.75	3.54	12.75	15.93	18.75	3.10
1.00	2.21	7.00	3.54	13.00	15.93	19.00	3.10
1.25	2.21	7.25	3.54	13.25	7.08	19.25	3.10
1.50	2.21	7.50	3.54	13.50	7.08	19.50	3.10
1.75	2.21	7.75	3.54	13.75	7.08	19.75	3.10
2.00	2.21	8.00	3.54	14.00	7.08	20.00	3.10
2.25	2.21	8.25	5.31	14.25	5.31	20.25	1.77
2.50	2.21	8.50	5.31	14.50	5.31	20.50	1.77
2.75	2.21	8.75	5.31	14.75	5.31	20.75	1.77
3.00	2.21	9.00	5.31	15.00	5.31	21.00	1.77
3.25	2.21	9.25	7.08	15.25	5.31	21.25	1.77
3.50	2.21	9.50	7.08	15.50	5.31	21.50	1.77
3.75	2.21	9.75	7.08	15.75	5.31	21.75	1.77

4.00	2.21	10.00	7.08	16.00	5.31	22.00	1.77
4.25	2.65	10.25	10.62	16.25	3.10	22.25	1.77
4.50	2.65	10.50	10.62	16.50	3.10	22.50	1.77
4.75	2.65	10.75	10.62	16.75	3.10	22.75	1.77
5.00	2.65	11.00	10.62	17.00	3.10	23.00	1.77
5.25	2.65	11.25	42.48	17.25	3.10	23.25	1.77
5.50	2.65	11.50	42.48	17.50	3.10	23.50	1.77
5.75	2.65	11.75	116.82	17.75	3.10	23.75	1.77
6.00	2.65	12.00	116.82	18.00	3.10	24.00	1.77

CALIB					
NASHYD (0104)	Area	(ha)=	1.96	Curve Number	(CN)= 60.0
ID= 1 DT=12.0 min	Ia	(mm)=	2.50	# of Linear Res.	(N)= 4.00
	U.H. Tp	(hrs)=	.55		

NOTE: RAINFALL WAS TRANSFORMED TO 12.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.200	2.21	6.200	3.54	12.200	15.93	18.20	3.10
.400	2.21	6.400	3.54	12.400	15.93	18.40	3.10
.600	2.21	6.600	3.54	12.600	15.93	18.60	3.10
.800	2.21	6.800	3.54	12.800	15.93	18.80	3.10
1.000	2.21	7.000	3.54	13.000	15.93	19.00	3.10
1.200	2.21	7.200	3.54	13.200	7.08	19.20	3.10
1.400	2.21	7.400	3.54	13.400	7.08	19.40	3.10
1.600	2.21	7.600	3.54	13.600	7.08	19.60	3.10
1.800	2.21	7.800	3.54	13.800	7.08	19.80	3.10
2.000	2.21	8.000	3.54	14.000	7.08	20.00	3.10
2.200	2.21	8.200	5.31	14.200	5.31	20.20	1.77
2.400	2.21	8.400	5.31	14.400	5.31	20.40	1.77
2.600	2.21	8.600	5.31	14.600	5.31	20.60	1.77
2.800	2.21	8.800	5.31	14.800	5.31	20.80	1.77
3.000	2.21	9.000	5.31	15.000	5.31	21.00	1.77
3.200	2.21	9.200	7.08	15.200	5.31	21.20	1.77
3.400	2.21	9.400	7.08	15.400	5.31	21.40	1.77
3.600	2.21	9.600	7.08	15.600	5.31	21.60	1.77
3.800	2.21	9.800	7.08	15.800	5.31	21.80	1.77
4.000	2.21	10.000	7.08	16.000	5.31	22.00	1.77
4.200	2.65	10.200	10.62	16.200	3.10	22.20	1.77
4.400	2.65	10.400	10.62	16.400	3.10	22.40	1.77
4.600	2.65	10.600	10.62	16.600	3.10	22.60	1.77
4.800	2.65	10.800	10.62	16.800	3.10	22.80	1.77
5.000	2.65	11.000	10.62	17.000	3.10	23.00	1.77
5.200	2.65	11.200	42.48	17.200	3.10	23.20	1.77
5.400	2.65	11.400	42.48	17.400	3.10	23.40	1.77
5.600	2.65	11.600	79.65	17.600	3.10	23.60	1.77
5.800	2.65	11.800	116.82	17.800	3.10	23.80	1.77
6.000	2.65	12.000	116.82	18.000	3.10	24.00	1.77

Unit Hyd Qpeak (cms)= .169

PEAK FLOW (cms)= .237 (i)
TIME TO PEAK (hrs)= 12.200
RUNOFF VOLUME (mm)= 88.690
TOTAL RAINFALL (mm)= 177.000
RUNOFF COEFFICIENT = .501

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0103)	Area	(ha)=	2.23	Curve Number	(CN)= 60.0
ID= 1 DT=10.0 min	Ia	(mm)=	2.50	# of Linear Res.	(N)= 4.00
	U.H. Tp	(hrs)=	.20		

NOTE: RAINFALL WAS TRANSFORMED TO 10.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.167	2.21	6.167	3.54	12.167	15.93	18.17	3.10
.333	2.21	6.333	3.54	12.333	15.93	18.33	3.10
.500	2.21	6.500	3.54	12.500	15.93	18.50	3.10
.667	2.21	6.667	3.54	12.667	15.93	18.67	3.10
.833	2.21	6.833	3.54	12.833	15.93	18.83	3.10
1.000	2.21	7.000	3.54	13.000	15.93	19.00	3.10
1.167	2.21	7.167	3.54	13.167	7.08	19.17	3.10
1.333	2.21	7.333	3.54	13.333	7.08	19.33	3.10
1.500	2.21	7.500	3.54	13.500	7.08	19.50	3.10
1.667	2.21	7.667	3.54	13.667	7.08	19.67	3.10
1.833	2.21	7.833	3.54	13.833	7.08	19.83	3.10
2.000	2.21	8.000	3.54	14.000	7.08	20.00	3.10
2.167	2.21	8.167	5.31	14.167	5.31	20.17	1.77
2.333	2.21	8.333	5.31	14.333	5.31	20.33	1.77
2.500	2.21	8.500	5.31	14.500	5.31	20.50	1.77
2.667	2.21	8.667	5.31	14.667	5.31	20.67	1.77
2.833	2.21	8.833	5.31	14.833	5.31	20.83	1.77
3.000	2.21	9.000	5.31	15.000	5.31	21.00	1.77
3.167	2.21	9.167	7.08	15.167	5.31	21.17	1.77
3.333	2.21	9.333	7.08	15.333	5.31	21.33	1.77
3.500	2.21	9.500	7.08	15.500	5.31	21.50	1.77
3.667	2.21	9.667	7.08	15.667	5.31	21.67	1.77
3.833	2.21	9.833	7.08	15.833	5.31	21.83	1.77
4.000	2.21	10.000	7.08	16.000	5.31	22.00	1.77
4.167	2.65	10.167	10.62	16.167	3.10	22.17	1.77
4.333	2.65	10.333	10.62	16.333	3.10	22.33	1.77
4.500	2.65	10.500	10.62	16.500	3.10	22.50	1.77
4.667	2.65	10.667	10.62	16.667	3.10	22.67	1.77
4.833	2.65	10.833	10.62	16.833	3.10	22.83	1.77
5.000	2.65	11.000	10.62	17.000	3.10	23.00	1.77
5.167	2.65	11.167	42.48	17.167	3.10	23.17	1.77
5.333	2.65	11.333	42.48	17.333	3.10	23.33	1.77
5.500	2.65	11.500	42.48	17.500	3.10	23.50	1.77
5.667	2.65	11.667	116.82	17.667	3.10	23.67	1.77
5.833	2.65	11.833	116.82	17.833	3.10	23.83	1.77
6.000	2.65	12.000	116.82	18.000	3.10	24.00	1.77

Unit Hyd Qpeak (cms)= .529

PEAK FLOW (cms)= .432 (i)
TIME TO PEAK (hrs)= 12.000
RUNOFF VOLUME (mm)= 89.004
TOTAL RAINFALL (mm)= 177.000
RUNOFF COEFFICIENT = .503

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0102)	Area	(ha)=	3.74		
ID= 1 DT=10.0 min	Total Imp	(%)=	1.00	Dir. Conn.	(%)= 1.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.04	3.70
Dep. Storage	(mm)=	1.00	2.50
Average Slope	(%)=	1.00	1.00
Length	(m)=	157.00	157.00
Mannings n	=	.015	.200
Max.Eff.Inten.	(mm/hr)=	116.82	71.06
over	(min)	10.00	30.00
Storage Coeff.	(min)=	3.43 (ii)	23.22 (ii)
Unit Hyd. Tpeak	(min)=	10.00	30.00

```
     Unit Hyd. peak  (cms)=        .16          .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .01          .47           .473 (iii)
     TIME TO PEAK    (hrs)=      12.00        12.17         12.17
     RUNOFF VOLUME    (mm)=     176.00        88.56         89.43
     TOTAL RAINFALL   (mm)=     177.00       177.00        177.00
     RUNOFF COEFFICIENT   =        .99          .50           .51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)=   2.60
|ID= 1 DT=10.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=  12.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      .65          1.95
     Dep. Storage     (mm)=     1.00          2.50
     Average Slope     (%)=      .50          1.50
     Length            (m)=   131.00        131.00
     Mannings n           =     .150          .200

     Max.Eff.Inten.(mm/hr)=   116.82         89.83
               over (min)        20.00         30.00
     Storage Coeff.  (min)=    15.08 (ii)    29.39 (ii)
     Unit Hyd. Tpeak (min)=    20.00         30.00
     Unit Hyd. peak  (cms)=      .07           .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      .09           .29           .363 (iii)
     TIME TO PEAK    (hrs)=    12.00         12.17         12.17
     RUNOFF VOLUME    (mm)=   176.00         95.80        105.42
     TOTAL RAINFALL   (mm)=   177.00        177.00        177.00
     RUNOFF COEFFICIENT   =      .99           .54           .60

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0105) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0102):      3.74      .473     12.17     89.43
       + ID2= 2 (0101):      2.60      .363     12.17    105.42
         ==========================================================
         ID = 3 (0105):      6.34      .836     12.17     95.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0107) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0103):      2.23      .432     12.00     89.00
       + ID2= 2 (0105):      6.34      .836     12.17     95.99
         ==========================================================
         ID = 3 (0107):      8.57     1.196     12.00     94.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0109) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)     (cms)     (hrs)      (mm)
         ID1= 1 (0104):      1.96      .237     12.20     88.69
       + ID2= 2 (0107):      8.57     1.196     12.00     94.17
         ==========================================================
         ID = 3 (0109):     10.53     1.387     12.00     93.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000      .0000    |    .0170      .0925
                          .0070      .0015    |    .4100      .1756

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0109)   10.53      1.39     12.00     93.16
     OUTFLOW: ID= 1 (0108)   10.53       .89     12.50     93.15

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 63.96
               TIME SHIFT OF PEAK FLOW          (min)= 30.00
               MAXIMUM  STORAGE  USED        (ha.m.)=   .2771

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 FINISH
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POND 18 - -25% RAINFALL INTENSITY

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    *****  D E T A I L E D   O U T P U T  *****


  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/30/2011                          TIME: 11:53:37 AM

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

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--------------------
| MODIFY STORM     |    MODIFYING PARAMETERS
| CASE= 1          |    Multiplication Factor=   .75
--------------------    Time shift (min)     =   .00
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	.00	3.500	15.39	6.750	6.34	10.00	.91
.500	.91	3.750	15.39	7.000	6.34	10.25	.91
.750	.91	4.000	15.39	7.250	6.34	10.50	.91
1.000	.91	4.250	15.39	7.500	3.62	10.75	.91
1.250	.91	4.500	41.64	7.750	3.62	11.00	.91
1.500	.91	4.750	41.64	8.000	3.62	11.25	.91
1.750	.91	5.000	41.64	8.250	3.62	11.50	.91
2.000	.91	5.250	41.64	8.500	1.81	11.75	.91
2.250	.91	5.500	11.77	8.750	1.81	12.00	.91
2.500	5.43	5.750	11.77	9.000	1.81	12.25	.91
2.750	5.43	6.000	11.77	9.250	1.81		
3.000	5.43	6.250	11.77	9.500	.91		
3.250	5.43	6.500	6.34	9.750	.91		

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--------------------
| CALIB            |
| NASHYD    (0003) |   Area     (ha)=   1.52   Curve Number    (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .05

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	5.43	6.250	11.77	9.33	.91
.167	.00	3.250	5.43	6.333	6.34	9.42	.91
.250	.00	3.333	15.39	6.417	6.34	9.50	.91
.333	.91	3.417	15.39	6.500	6.34	9.58	.91
.417	.91	3.500	15.39	6.583	6.34	9.67	.91
.500	.91	3.583	15.39	6.667	6.34	9.75	.91
.583	.91	3.667	15.39	6.750	6.34	9.83	.91
.667	.91	3.750	15.39	6.833	6.34	9.92	.91
.750	.91	3.833	15.39	6.917	6.34	10.00	.91
.833	.91	3.917	15.39	7.000	6.34	10.08	.91
.917	.91	4.000	15.39	7.083	6.34	10.17	.91
1.000	.91	4.083	15.39	7.167	6.34	10.25	.91
1.083	.91	4.167	15.39	7.250	6.34	10.33	.91
1.167	.91	4.250	15.39	7.333	3.62	10.42	.91
1.250	.91	4.333	41.64	7.417	3.62	10.50	.91
1.333	.91	4.417	41.64	7.500	3.62	10.58	.91
1.417	.91	4.500	41.64	7.583	3.62	10.67	.91
1.500	.91	4.583	41.64	7.667	3.62	10.75	.91
1.583	.91	4.667	41.64	7.750	3.62	10.83	.91
1.667	.91	4.750	41.64	7.833	3.62	10.92	.91
1.750	.91	4.833	41.64	7.917	3.62	11.00	.91
1.833	.91	4.917	41.64	8.000	3.62	11.08	.91
1.917	.91	5.000	41.64	8.083	3.62	11.17	.91
2.000	.91	5.083	41.64	8.167	3.62	11.25	.91
2.083	.91	5.167	41.64	8.250	3.62	11.33	.91
2.167	.91	5.250	41.64	8.333	1.81	11.42	.91
2.250	.91	5.333	11.77	8.417	1.81	11.50	.91
2.333	5.43	5.417	11.77	8.500	1.81	11.58	.91
2.417	5.43	5.500	11.77	8.583	1.81	11.67	.91
2.500	5.43	5.583	11.77	8.667	1.81	11.75	.91
2.583	5.43	5.667	11.77	8.750	1.81	11.83	.91
2.667	5.43	5.750	11.77	8.833	1.81	11.92	.91
2.750	5.43	5.833	11.77	8.917	1.81	12.00	.91
2.833	5.43	5.917	11.77	9.000	1.81	12.08	.91
2.917	5.43	6.000	11.77	9.083	1.81	12.17	.91
3.000	5.43	6.083	11.77	9.167	1.81	12.25	.91

```
              3.083    5.43 | 6.167   11.77 | 9.250    1.81 |

     Unit Hyd Qpeak  (cms)=    1.161

     PEAK FLOW       (cms)=     .097 (i)
     TIME TO PEAK    (hrs)=    5.250
     RUNOFF VOLUME    (mm)=   37.453
     TOTAL RAINFALL   (mm)=   90.532
     RUNOFF COEFFICIENT   =     .414

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area     (ha)=   3.63   Curve Number    (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .06

     Unit Hyd Qpeak  (cms)=    2.311

     PEAK FLOW       (cms)=     .231 (i)
     TIME TO PEAK    (hrs)=    5.250
     RUNOFF VOLUME    (mm)=   36.883
     TOTAL RAINFALL   (mm)=   90.532
     RUNOFF COEFFICIENT   =     .407

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area     (ha)=   5.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     1.04          4.18
     Dep. Storage     (mm)=     1.00          1.50
     Average Slope     (%)=     1.00          2.00
     Length            (m)=   186.50         40.00
     Mannings n           =     .013          .250

     Max.Eff.Inten.(mm/hr)=    41.64         13.64
           over      (min)      5.00         25.00
     Storage Coeff.  (min)=    5.27 (ii)    20.93 (ii)
     Unit Hyd. Tpeak (min)=    5.00         25.00
     Unit Hyd. peak  (cms)=     .21           .05
                                                      *TOTALS*
     PEAK FLOW       (cms)=     .12           .12          .240 (iii)
     TIME TO PEAK    (hrs)=    5.25          5.42          5.25
     RUNOFF VOLUME    (mm)=   89.53         23.11         36.39
     TOTAL RAINFALL   (mm)=   90.53         90.53         90.53
     RUNOFF COEFFICIENT   =     .99           .26           .40

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  50.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0012) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (0003):      1.52     .097     5.25    37.45
      + ID2= 2 (0002):      3.63     .231     5.25    36.88
        ==========================================================
        ID = 3 (0012):      5.15     .328     5.25    37.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0015) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |     OUTFLOW     STORAGE   |  OUTFLOW     STORAGE
--------------------      (cms)      (ha.m.)   |   (cms)      (ha.m.)
                          .0000       .0000    |    .0960       .5250
                          .0070       .4250    |    .1390       .5800
                          .0640       .4300    |    .1920       .6150
                          .0730       .4650    |    .2540       .6510

                                 AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0001)       5.22       .24      5.25      36.39
     OUTFLOW: ID= 1 (0015)       5.22       .00     12.67      22.37

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.25
                TIME SHIFT OF PEAK FLOW          (min)=445.00
                MAXIMUM  STORAGE   USED        (ha.m.)=   .1820

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0014) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (0012):      5.15     .328     5.25    37.05
      + ID2= 2 (0015):      5.22     .003    12.67    22.37
        ==========================================================
        ID = 3 (0014):     10.37     .329     5.25    29.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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POND 18 - +25% RAINFALL INTENSITY

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                  ***** D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                           TIME: 8:09:35 PM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|   READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                 |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                 |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

```
-------------------
| MODIFY STORM    |    MODIFYING PARAMETERS
| CASE= 1         |    Multiplication Factor=  1.25
-------------------    Time shift  (min)    =   .00
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.250	.00	3.500	25.65	6.750	10.56	10.00	1.51
.500	1.51	3.750	25.65	7.000	10.56	10.25	1.51
.750	1.51	4.000	25.65	7.250	10.56	10.50	1.51
1.000	1.51	4.250	25.65	7.500	6.04	10.75	1.51
1.250	1.51	4.500	69.40	7.750	6.04	11.00	1.51
1.500	1.51	4.750	69.40	8.000	6.04	11.25	1.51
1.750	1.51	5.000	69.40	8.250	6.04	11.50	1.51
2.000	1.51	5.250	69.40	8.500	3.01	11.75	1.51
2.250	1.51	5.500	19.61	8.750	3.01	12.00	1.51
2.500	9.05	5.750	19.61	9.000	3.01	12.25	1.51
2.750	9.05	6.000	19.61	9.250	3.01		
3.000	9.05	6.250	19.61	9.500	1.51		
3.250	9.05	6.500	10.56	9.750	1.51		

```
------------------------------------------------------------------------------------------
------------------
| CALIB           |
| NASHYD   (0003) |   Area     (ha)=   1.52   Curve Number   (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=    .05

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	9.05	6.250	19.61	9.33	1.51
.167	.00	3.250	9.05	6.333	10.56	9.42	1.51
.250	.00	3.333	25.65	6.417	10.56	9.50	1.51
.333	1.51	3.417	25.65	6.500	10.56	9.58	1.51
.417	1.51	3.500	25.65	6.583	10.56	9.67	1.51
.500	1.51	3.583	25.65	6.667	10.56	9.75	1.51
.583	1.51	3.667	25.65	6.750	10.56	9.83	1.51
.667	1.51	3.750	25.65	6.833	10.56	9.92	1.51
.750	1.51	3.833	25.65	6.917	10.56	10.00	1.51
.833	1.51	3.917	25.65	7.000	10.56	10.08	1.51
.917	1.51	4.000	25.65	7.083	10.56	10.17	1.51
1.000	1.51	4.083	25.65	7.167	10.56	10.25	1.51
1.083	1.51	4.167	25.65	7.250	10.56	10.33	1.51
1.167	1.51	4.250	25.65	7.333	6.04	10.42	1.51
1.250	1.51	4.333	69.40	7.417	6.04	10.50	1.51
1.333	1.51	4.417	69.40	7.500	6.04	10.58	1.51
1.417	1.51	4.500	69.40	7.583	6.04	10.67	1.51
1.500	1.51	4.583	69.40	7.667	6.04	10.75	1.51
1.583	1.51	4.667	69.40	7.750	6.04	10.83	1.51
1.667	1.51	4.750	69.40	7.833	6.04	10.92	1.51
1.750	1.51	4.833	69.40	7.917	6.04	11.00	1.51
1.833	1.51	4.917	69.40	8.000	6.04	11.08	1.51
1.917	1.51	5.000	69.40	8.083	6.04	11.17	1.51
2.000	1.51	5.083	69.40	8.167	6.04	11.25	1.51
2.083	1.51	5.167	69.40	8.250	6.04	11.33	1.51
2.167	1.51	5.250	69.40	8.333	3.01	11.42	1.51
2.250	1.51	5.333	19.61	8.417	3.01	11.50	1.51
2.333	9.05	5.417	19.61	8.500	3.01	11.58	1.51
2.417	9.05	5.500	19.61	8.583	3.01	11.67	1.51
2.500	9.05	5.583	19.61	8.667	3.01	11.75	1.51
2.583	9.05	5.667	19.61	8.750	3.01	11.83	1.51
2.667	9.05	5.750	19.61	8.833	3.01	11.92	1.51
2.750	9.05	5.833	19.61	8.917	3.01	12.00	1.51
2.833	9.05	5.917	19.61	9.000	3.01	12.08	1.51
2.917	9.05	6.000	19.61	9.083	3.01	12.17	1.51
3.000	9.05	6.083	19.61	9.167	3.01	12.25	1.51

```
              3.083    9.05 | 6.167   19.61 | 9.250    3.01 |

     Unit Hyd Qpeak  (cms)=    1.161

     PEAK FLOW       (cms)=     .189 (i)
     TIME TO PEAK    (hrs)=    5.250
     RUNOFF VOLUME    (mm)=   77.552
     TOTAL RAINFALL   (mm)=  150.887
     RUNOFF COEFFICIENT   =     .514

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0002) |   Area     (ha)=   3.63   Curve Number    (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .06

     Unit Hyd Qpeak  (cms)=    2.311

     PEAK FLOW       (cms)=     .471 (i)
     TIME TO PEAK    (hrs)=    5.250
     RUNOFF VOLUME    (mm)=   79.211
     TOTAL RAINFALL   (mm)=  150.887
     RUNOFF COEFFICIENT   =     .525

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area     (ha)=   5.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     1.04          4.18
     Dep. Storage     (mm)=     1.00          1.50
     Average Slope     (%)=     1.00          2.00
     Length            (m)=   186.50         40.00
     Mannings n           =     .013          .250

     Max.Eff.Inten.(mm/hr)=    69.40         33.03
           over      (min)      5.00         20.00
     Storage Coeff.  (min)=    4.30 (ii)    15.29 (ii)
     Unit Hyd. Tpeak (min)=    5.00         20.00
     Unit Hyd. peak  (cms)=     .23           .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=     .20           .33          .528 (iii)
     TIME TO PEAK    (hrs)=    5.17          5.33         5.25
     RUNOFF VOLUME    (mm)=  149.89         55.32        74.23
     TOTAL RAINFALL   (mm)=  150.89        150.89       150.89
     RUNOFF COEFFICIENT   =     .99           .37          .49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  50.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0012) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):     1.52     .189     5.25    77.55
       + ID2= 2 (0002):     3.63     .471     5.25    79.21
         ================================================
         ID = 3 (0012):     5.15     .660     5.25    78.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0015) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000      .0000    |   .0960      .5250
                          .0070      .4250    |   .1390      .5800
                          .0640      .4300    |   .1920      .6150
                          .0730      .4650    |   .2540      .6510

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0001)      5.22       .53      5.25     74.23
     OUTFLOW: ID= 1 (0015)      5.22       .01     12.58     45.64

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.16
                TIME SHIFT OF PEAK FLOW          (min)=440.00
                MAXIMUM  STORAGE   USED        (ha.m.)=   .3716

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0014) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):     5.15     .660     5.25    78.72
       + ID2= 2 (0015):     5.22     .006    12.58    45.64
         ================================================
         ID = 3 (0014):    10.37     .663     5.25    62.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
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```

POND 18 – CN AMC I

```
 V    V   I    SSSSS  U   U    A    L
 V    V   I    SS     U   U   A A   L
  V  V    I     SS    U   U  AAAAA  L
  V  V    I      SS   U   U  A   A  L
   VV     I    SSSSS  UUUUU  A   A  LLLLL

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M M M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
Output filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
Summary filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011 TIME: 8:00:53 PM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 1 **
****

READ STORM	Filename: S:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master Plan\Calcs\Hydrologic Models\Existing LSRCA Files\
Ptotal=120.71 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.25	.00	3.50	20.52	6.75	8.45	10.00	1.21
.50	1.21	3.75	20.52	7.00	8.45	10.25	1.21
.75	1.21	4.00	20.52	7.25	8.45	10.50	1.21
1.00	1.21	4.25	20.52	7.50	4.83	10.75	1.21
1.25	1.21	4.50	55.52	7.75	4.83	11.00	1.21
1.50	1.21	4.75	55.52	8.00	4.83	11.25	1.21
1.75	1.21	5.00	55.52	8.25	4.83	11.50	1.21
2.00	1.21	5.25	55.52	8.50	2.41	11.75	1.21
2.25	1.21	5.50	15.69	8.75	2.41	12.00	1.21
2.50	7.24	5.75	15.69	9.00	2.41	12.25	1.21
2.75	7.24	6.00	15.69	9.25	2.41		
3.00	7.24	6.25	15.69	9.50	1.21		
3.25	7.24	6.50	8.45	9.75	1.21		

CALIB					
NASHYD (0003)	Area (ha)=	1.52	Curve Number (CN)=	63.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.05			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.00	3.167	7.24	6.250	15.69	9.33	1.21
.167	.00	3.250	7.24	6.333	8.45	9.42	1.21
.250	.00	3.333	20.52	6.417	8.45	9.50	1.21
.333	1.21	3.417	20.52	6.500	8.45	9.58	1.21
.417	1.21	3.500	20.52	6.583	8.45	9.67	1.21
.500	1.21	3.583	20.52	6.667	8.45	9.75	1.21
.583	1.21	3.667	20.52	6.750	8.45	9.83	1.21
.667	1.21	3.750	20.52	6.833	8.45	9.92	1.21
.750	1.21	3.833	20.52	6.917	8.45	10.00	1.21
.833	1.21	3.917	20.52	7.000	8.45	10.08	1.21
.917	1.21	4.000	20.52	7.083	8.45	10.17	1.21
1.000	1.21	4.083	20.52	7.167	8.45	10.25	1.21
1.083	1.21	4.167	20.52	7.250	8.45	10.33	1.21
1.167	1.21	4.250	20.52	7.333	4.83	10.42	1.21
1.250	1.21	4.333	55.52	7.417	4.83	10.50	1.21
1.333	1.21	4.417	55.52	7.500	4.83	10.58	1.21
1.417	1.21	4.500	55.52	7.583	4.83	10.67	1.21
1.500	1.21	4.583	55.52	7.667	4.83	10.75	1.21
1.583	1.21	4.667	55.52	7.750	4.83	10.83	1.21
1.667	1.21	4.750	55.52	7.833	4.83	10.92	1.21
1.750	1.21	4.833	55.52	7.917	4.83	11.00	1.21
1.833	1.21	4.917	55.52	8.000	4.83	11.08	1.21
1.917	1.21	5.000	55.52	8.083	4.83	11.17	1.21
2.000	1.21	5.083	55.52	8.167	4.83	11.25	1.21
2.083	1.21	5.167	55.52	8.250	4.83	11.33	1.21
2.167	1.21	5.250	55.52	8.333	2.41	11.42	1.21
2.250	1.21	5.333	15.69	8.417	2.41	11.50	1.21
2.333	7.24	5.417	15.69	8.500	2.41	11.58	1.21
2.417	7.24	5.500	15.69	8.583	2.41	11.67	1.21
2.500	7.24	5.583	15.69	8.667	2.41	11.75	1.21
2.583	7.24	5.667	15.69	8.750	2.41	11.83	1.21
2.667	7.24	5.750	15.69	8.833	2.41	11.92	1.21
2.750	7.24	5.833	15.69	8.917	2.41	12.00	1.21
2.833	7.24	5.917	15.69	9.000	2.41	12.08	1.21
2.917	7.24	6.000	15.69	9.083	2.41	12.17	1.21
3.000	7.24	6.083	15.69	9.167	2.41	12.25	1.21
3.083	7.24	6.167	15.69	9.250	2.41		

Unit Hyd Qpeak (cms)= 1.161

PEAK FLOW (cms)= .102 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 38.565
TOTAL RAINFALL (mm)= 120.710
RUNOFF COEFFICIENT = .319

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0002)	Area (ha)=	3.63	Curve Number (CN)=	56.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.06			

Unit Hyd Qpeak (cms)= 2.311

PEAK FLOW (cms)= .231 (i)

```
     TIME TO PEAK     (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  36.439
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT   =    .302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0001) |   Area     (ha)=   5.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                              IMPERVIOUS     PERVIOUS (i)
     Surface Area      (ha)=       1.04          4.18
     Dep. Storage      (mm)=       1.00          1.50
     Average Slope      (%)=       1.00          2.00
     Length             (m)=     186.50         40.00
     Mannings n            =       .013          .250

     Max.Eff.Inten.(mm/hr)=      55.52         11.76
               over (min)          5.00         25.00
     Storage Coeff.  (min)=       4.70 (ii)    21.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00         25.00
     Unit Hyd. peak  (cms)=        .22           .05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .16           .11          .262 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.42         5.25
     RUNOFF VOLUME    (mm)=     119.71         19.96        39.91
     TOTAL RAINFALL   (mm)=     120.71        120.71       120.71
     RUNOFF COEFFICIENT   =        .99           .17          .33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* = 30.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0012) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)      (cms)     (hrs)      (mm)
         ID1= 1 (0003):      1.52      .102      5.25     38.56
       + ID2= 2 (0002):      3.63      .231      5.25     36.44
         ==========================================================
         ID = 3 (0012):      5.15      .332      5.25     37.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0015) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          .0000      .0000    |    .0960      .5250
                          .0070      .4250    |    .1390      .5800
                          .0640      .4300    |    .1920      .6150
                          .0730      .4650    |    .2540      .6510

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0001)    5.22       .26      5.25      39.91
     OUTFLOW: ID= 1 (0015)    5.22       .00     12.58      24.54

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.26
                    TIME SHIFT OF PEAK FLOW          (min)=440.00
                    MAXIMUM  STORAGE  USED        (ha.m.)=  .1996

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--------------------
| ADD HYD   (0014) |
|   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
--------------------          (ha)      (cms)     (hrs)      (mm)
         ID1= 1 (0012):      5.15      .332      5.25     37.07
       + ID2= 2 (0015):      5.22      .003     12.58     24.54
         ==========================================================
         ID = 3 (0014):     10.37      .334      5.25     30.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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POND 18 – CN AMC III

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M M M  O   O
       OOO     T      T    H   H    Y    M   M   OOO

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                    ***** D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files\Visual OTTHYMO 2.3.2\voin.dat
  Output  filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas
  Summary filename: s:\2010 Projects\D-EE (E10)\WR\W10-487 East Gwillimbury SWM Master
Plan\Calcs\Hydrologic Models\Sensitivity Analysis\Bas

DATE: 3/21/2011                           TIME: 7:45:37 PM

USER:


COMMENTS: _____________________________________________________

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


--------------------
|    READ STORM    |    Filename: S:\2010 Projects\D-EE (E10)\
|                  |              WR\W10-487 East Gwillimbury SWM Master Plan\
|                  |              Calcs\Hydrologic Models\Existing LSRCA Files\
| Ptotal=120.71 mm |    Comments: 100yr/12hr
--------------------
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                 .25      .00 |  3.50    20.52 |  6.75     8.45 | 10.00     1.21
                 .50     1.21 |  3.75    20.52 |  7.00     8.45 | 10.25     1.21
                 .75     1.21 |  4.00    20.52 |  7.25     8.45 | 10.50     1.21
                1.00     1.21 |  4.25    20.52 |  7.50     4.83 | 10.75     1.21
                1.25     1.21 |  4.50    55.52 |  7.75     4.83 | 11.00     1.21
                1.50     1.21 |  4.75    55.52 |  8.00     4.83 | 11.25     1.21
                1.75     1.21 |  5.00    55.52 |  8.25     4.83 | 11.50     1.21
                2.00     1.21 |  5.25    55.52 |  8.50     2.41 | 11.75     1.21
                2.25     1.21 |  5.50    15.69 |  8.75     2.41 | 12.00     1.21
                2.50     7.24 |  5.75    15.69 |  9.00     2.41 | 12.25     1.21
                2.75     7.24 |  6.00    15.69 |  9.25     2.41 |
                3.00     7.24 |  6.25    15.69 |  9.50     1.21 |
                3.25     7.24 |  6.50     8.45 |  9.75     1.21 |

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--------------------
| CALIB            |
| NASHYD   (0003)  |   Area     (ha)=   1.52   Curve Number    (CN)= 91.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .05

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME     RAIN |  TIME     RAIN |  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr |   hrs    mm/hr
                .083      .00 | 3.167     7.24 | 6.250    15.69 | 9.33     1.21
                .167      .00 | 3.250     7.24 | 6.333     8.45 | 9.42     1.21
                .250      .00 | 3.333    20.52 | 6.417     8.45 | 9.50     1.21
                .333     1.21 | 3.417    20.52 | 6.500     8.45 | 9.58     1.21
                .417     1.21 | 3.500    20.52 | 6.583     8.45 | 9.67     1.21
                .500     1.21 | 3.583    20.52 | 6.667     8.45 | 9.75     1.21
                .583     1.21 | 3.667    20.52 | 6.750     8.45 | 9.83     1.21
                .667     1.21 | 3.750    20.52 | 6.833     8.45 | 9.92     1.21
                .750     1.21 | 3.833    20.52 | 6.917     8.45 | 10.00    1.21
                .833     1.21 | 3.917    20.52 | 7.000     8.45 | 10.08    1.21
                .917     1.21 | 4.000    20.52 | 7.083     8.45 | 10.17    1.21
               1.000     1.21 | 4.083    20.52 | 7.167     8.45 | 10.25    1.21
               1.083     1.21 | 4.167    20.52 | 7.250     8.45 | 10.33    1.21
               1.167     1.21 | 4.250    20.52 | 7.333     4.83 | 10.42    1.21
               1.250     1.21 | 4.333    55.52 | 7.417     4.83 | 10.50    1.21
               1.333     1.21 | 4.417    55.52 | 7.500     4.83 | 10.58    1.21
               1.417     1.21 | 4.500    55.52 | 7.583     4.83 | 10.67    1.21
               1.500     1.21 | 4.583    55.52 | 7.667     4.83 | 10.75    1.21
               1.583     1.21 | 4.667    55.52 | 7.750     4.83 | 10.83    1.21
               1.667     1.21 | 4.750    55.52 | 7.833     4.83 | 10.92    1.21
               1.750     1.21 | 4.833    55.52 | 7.917     4.83 | 11.00    1.21
               1.833     1.21 | 4.917    55.52 | 8.000     4.83 | 11.08    1.21
               1.917     1.21 | 5.000    55.52 | 8.083     4.83 | 11.17    1.21
               2.000     1.21 | 5.083    55.52 | 8.167     4.83 | 11.25    1.21
               2.083     1.21 | 5.167    55.52 | 8.250     4.83 | 11.33    1.21
               2.167     1.21 | 5.250    55.52 | 8.333     2.41 | 11.42    1.21
               2.250     1.21 | 5.333    15.69 | 8.417     2.41 | 11.50    1.21
               2.333     7.24 | 5.417    15.69 | 8.500     2.41 | 11.58    1.21
               2.417     7.24 | 5.500    15.69 | 8.583     2.41 | 11.67    1.21
               2.500     7.24 | 5.583    15.69 | 8.667     2.41 | 11.75    1.21
               2.583     7.24 | 5.667    15.69 | 8.750     2.41 | 11.83    1.21
               2.667     7.24 | 5.750    15.69 | 8.833     2.41 | 11.92    1.21
               2.750     7.24 | 5.833    15.69 | 8.917     2.41 | 12.00    1.21
               2.833     7.24 | 5.917    15.69 | 9.000     2.41 | 12.08    1.21
               2.917     7.24 | 6.000    15.69 | 9.083     2.41 | 12.17    1.21
               3.000     7.24 | 6.083    15.69 | 9.167     2.41 | 12.25    1.21
               3.083     7.24 | 6.167    15.69 | 9.250     2.41 |

    Unit Hyd Qpeak  (cms)=   1.161

    PEAK FLOW       (cms)=    .168 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  72.536
    TOTAL RAINFALL   (mm)= 120.710
    RUNOFF COEFFICIENT   =    .601

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (0002)  |   Area     (ha)=   3.63   Curve Number    (CN)= 88.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .06

    Unit Hyd Qpeak  (cms)=   2.311

    PEAK FLOW       (cms)=    .434 (i)
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     TIME TO PEAK     (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  76.414
     TOTAL RAINFALL   (mm)= 120.710
     RUNOFF COEFFICIENT    =    .633

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area     (ha)=   5.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=       1.04          4.18
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     186.50         40.00
     Mannings n           =       .013          .250

     Max.Eff.Inten.(mm/hr)=     55.52         36.50
               over (min)          5.00         20.00
     Storage Coeff.  (min)=      4.70 (ii)    15.26 (ii)
     Unit Hyd. Tpeak (min)=      5.00         20.00
     Unit Hyd. peak  (cms)=       .22           .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .16           .37          .534 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=    119.71         62.31        73.79
     TOTAL RAINFALL   (mm)=    120.71        120.71       120.71
     RUNOFF COEFFICIENT    =       .99           .52          .61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  70.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0012) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0003):      1.52     .168     5.25    72.54
       + ID2= 2 (0002):      3.63     .434     5.25    76.41
         ==========================================================
         ID = 3 (0012):      5.15     .602     5.25    75.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0015) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           .0000      .0000    |    .0960      .5250
                           .0070      .4250    |    .1390      .5800
                           .0640      .4300    |    .1920      .6150
                           .0730      .4650    |    .2540      .6510

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0001)     5.22       .53      5.25     73.79
     OUTFLOW: ID= 1 (0015)     5.22       .01     12.58     45.36

                          PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.14
                          TIME SHIFT OF PEAK FLOW          (min)=440.00
                          MAXIMUM  STORAGE  USED        (ha.m.)=   .3694

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--------------------
| ADD HYD   (0014) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
         ID1= 1 (0012):      5.15     .602     5.25    75.27
       + ID2= 2 (0015):      5.22     .006    12.58    45.36
         ==========================================================
         ID = 3 (0014):     10.37     .605     5.25    60.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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APPENDIX L
Notice Of Commencement

Town of East Gwillimbury

TOWN OF EAST GWILLIMBURY
CLASS ENVIRONMENTAL ASSESSMENT
STORMWATER MANAGEMENT MASTER PLAN
NOTICE OF STUDY COMMENCEMENT

Further to the objectives identified in the Lake Simcoe Protection Plan (June 2009), the Town of East Gwillimbury has retained a consultant to develop a Stormwater Management Master Plan to define all anticipated works necessary to maintain, expand and improve the existing storm drainage system (including ponds) while protecting the valued natural resources both within and beyond Town limits. This Class Environmental Assessment (EA) Master Plan is intended to improve the management of stormwater for both existing and planned development which is based on changes in land use as outlined in the Consolidated Official Plan 2031 for the Town of East Gwillimbury (June 2010). Cole Engineering Group Ltd. will be working closely with the Town of East Gwillimbury and the Lake Simcoe Region Conservation Authority to establish recommendations to address these improvements.

A key component of the study will be consultation with interested stakeholders (public, landowners and regulatory agencies). Public consultation will involve one (1) Public Information Centre (PIC) and a Public Education Campaign. These sessions will be designed to obtain input from the public to assist informing the decision making process and will provide updates as the study progresses.

The first PIC is anticipated to be held in February 2011. The purpose of this meeting will be to provide interested parties with an opportunity to review and discuss issues related to the study and the alternative design solutions. Details regarding the future consultation events will be advertised as the study progresses. In addition, information on the study will be posted on the Town of East Gwillimbury's website and can be found under the 'Our Town News' section at http://www.eastgwillimbury.ca.

The study is currently planned as a 'Master Plan' project in compliance with the Municipal Engineers Association document *"Municipal Class Environmental Assessment,"* (October 2000, amended 2007).

We are interested in hearing any comments or input that you may have about this study. Comments and information regarding the study are being collected to assist the Town of East Gwillimbury in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation.

If you require further information, would like to be added to the mailing list, or if you have specific comments related to this study, please email your comments to EastGwillimburySWMMasterPlan@coleengineering.ca or contact either of the following:

Christopher Kalimootoo, BA. P.Eng.
Director of Engineering and
Environmental Services
Community Programs & Infrastructure
Town of East Gwillimbury
19000 Leslie Street
Sharon, ON L0G 1V0
Tel: (905) 478-4282 Ext. 3815

Edward Graham, M.A.Sc., P.Eng.
Project Manager

Cole Engineering Group Ltd.
Consultant
70 Valleywood Drive
Markham, ON L3R 4T5
Tel: (905) 940-6161

This Notice was first issued on December 20, 2010.

APPENDIX M
Notice Of Public Information Centre

Town of East Gwillimbury

TOWN OF EAST GWILLIMBURY
CLASS ENVIRONMENTAL ASSESSMENT
STORMWATER MANAGEMENT MASTER PLAN
NOTICE OF PUBLIC INFORMATION CENTRE

The Town of East Gwillimbury has initiated a Class Environmental Assessment (Class EA) Master Plan to define all anticipated works necessary to maintain, expand and improve the existing storm drainage system (including ponds) while protecting the valued natural resources both within and beyond Town limits. The objective of the study is to improve the management of stormwater for both existing and planned development which is based on changes in land use as outlined in the Consolidated Official Plan 2031 for the Town of East Gwillimbury (June 2010) while meeting all requirements as set out in the Lake Simcoe Protection Plan (June 2009).

A key component of the study will be consultation with interested stakeholders (public, landowners and regulatory agencies). The Public Information Centre (PIC) will provide interested parties with an opportunity to review the work completed to date, discuss issues related to the project, and review potential alternative solutions. A PIC is scheduled for:

Date: Thursday, March 3, 2011
Location: Town of East Gwillimbury Town Office
Holland Landing Room
19000 Leslie St.
Sharon, ON L0G 1V0
Time: 4:00 p.m. to 7:00 p.m.

The study will be conducted as a 'Master Plan' project in compliance with the Municipal Engineers Association document *"Municipal Class Environmental Assessment,"* (October 2000, amended 2007) which will address Phases 1 and 2 of the Class EA Process. We are interested in hearing any comments or input that you may have about this study. Comments and information regarding the study are being collected to assist the Town of East Gwillimbury in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation.

If you require further information, or if you have specific comments related to this study, please contact either of the following:

Christopher Kalimootoo, BA. P.Eng.
Director of Engineering and
Environmental Services
Community Programs & Infrastructure
Town of East Gwillimbury
19000 Leslie Street
Sharon, ON L0G 1V0
Tel: (905) 478-4282 Ext. 3815

Edward Graham, M.A.Sc., P.Eng.
Project Manager

Cole Engineering Group Ltd.
Consultant
70 Valleywood Drive
Markham, ON L3R 4T5
Tel: (905) 940-6161

APPENDIX N
Public Information Centre Boards

Town of East Gwillimbury
Stormwater Management Master Plan
Municipal Class EA

Public Information Centre

19000 Leslie Street, Sharon ON L0G 1V0

Town of East Gwillimbury Town Offices

Holland Landing Room

March 3, 2011

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Town of East Gwillimbury

Welcome to the East Gwillimbury Stormwater Management Master Plan Public Information Centre

19000 Leslie Street, Sharon ON L0G 1V0
Town of East Gwillimbury Town Offices
Holland Landing Room
March 3, 2011

- Please sign in on the sheet provided, then feel free to walk around and view the displays.
- If you have any questions, our representatives will be pleased to discuss the project with you.
- Comment sheets are provided for those who wish to provide comments in writing. Please either place your completed sheets in the Comment Box, email to EastGwillimburySWMMasterPlan@ColeEngineering.ca, or mail/fax them to one of the identified Project Team Members (see below) by **March 17, 2011.**
- Thank-you for your involvement in this project.
- For additional information, please contact one of the following Team Members:

Christopher Kalimootoo, BA., P.Eng.
Director of Engineering and Environmental Services
Town of East Gwillimbury
19000 Leslie Street,
Sharon, ON L0G 1V0
Phone: 905-478-4282 Ext. 3815
Fax: 905-478-2808
Email: ckalimootoo@eastgwillimbury.ca

Geoff Masotti, P.Eng.
Project Engineer

Cole Engineering Group Ltd.
70 Valleywood Drive
Markham, ON L3R 4T5
Phone: 905-940-6161 Ext. 254
Fax: 905-940-2064
E-mail: gmasotti@coleengineering.ca

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Town of East Gwillimbury

Purpose of the Public Information Centre

The purpose of this Public Information Centre (PIC) is to introduce you to this project, inform you of progress to date and obtain your comments.

The major elements presented today are:

- Study Overview & Background;
- Problem / Opportunity Statement
- Overview of the Municipal Class Environmental Assessment Process;
- Alternative Solutions Being Considered; and
- Next Steps.

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Study Overview

Problem

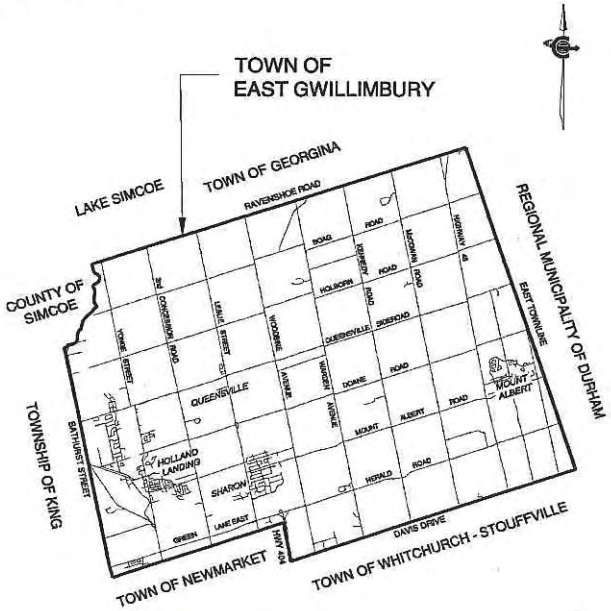
The Town of East Gwillimbury has retained Cole Engineering to develop a Stormwater Management Master plan in accordance to *Section 4.5-SA* of the *Lake Simcoe Protection Plan (June 2009).* The plan will define all anticipated works necessary to maintain, expand and improve the existing storm drainage system.

Opportunity

An opportunity exists to improve stormwater management within the Town of East Gwillimbury by implementing a drainage strategy. While implementing drainage improvements, there will be the opportunity to mitigate ongoing erosion and sedimentation, phosphorus loadings and changes in water balance.

This study is following the Master Plan requirements of the Municipal Class EA (2007) planning process.

Key Plan



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Background

- A Stormwater Management (SWM) Master Plan is to define all anticipated works necessary to maintain, expand and improve the existing storm drainage system (including ponds) while protecting the valued natural resources both within and beyond Town limits.

- The anticipated growth of the Town as outlined in the Town of East Gwillimbury Consolidated Official Plan 2031 (June 2010), provides the framework necessary for the development of the SWM Master Plan.

- The study area is part of four (4) subwatersheds:
  1. West Holland River Subwatershed;
  2. East Holland River Subwatershed;
  3. Maskinonge River Subwatershed; and
  4. Black River Subwatershed.

- High phosphorus levels in Lake Simcoe is a current issue, thus efforts will be made to mitigate phosphorus loadings generated from existing and planned development.

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Overview of the Municipal Class Environmental Assessment Process

- The *Municipal Class Environmental Assessment (2007)* (Class EA) process, which is approved under the *Environmental Assessment Act*, enables the planning of municipal infrastructure projects in accordance with a proven procedure for protecting the environment.

- The study is being undertaken in accordance with the first two Phases of the Class EA process for a **Master Plan** project.

- The Master Plan Class EA process includes public and review agency consultation, an evaluation of alternatives, and an assessment of the effects on the environment.

- There is an opportunity at any time during the Class EA process for public input, including this Public Information Centre (PIC).

- Upon completion of the Master Plan Class EA, a Project File Report will be available for public review.

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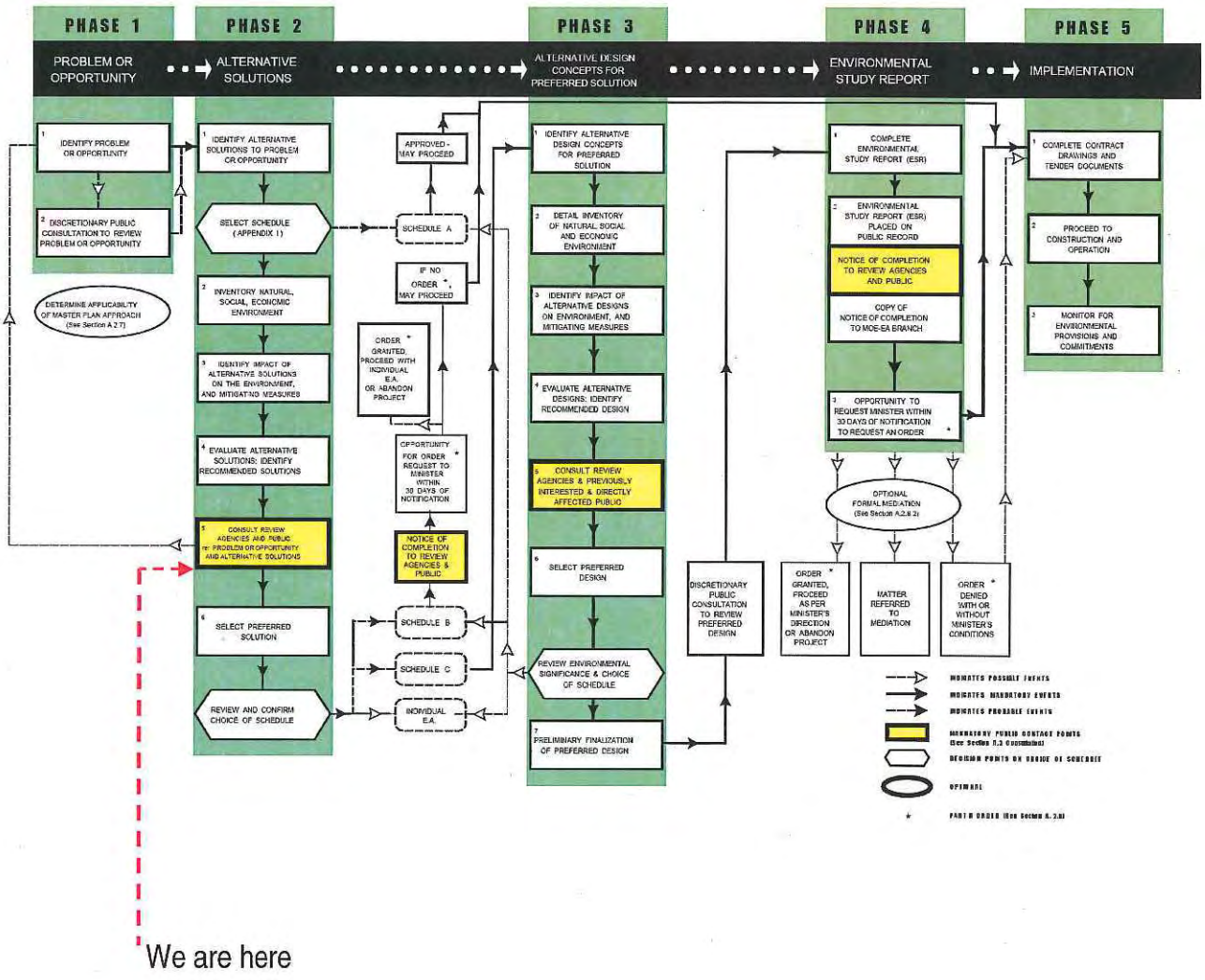
Overview of the Municipal Class Environmental Assessment Process



We are here

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Alternative Stormwater Management Strategies

1. Do Nothing

- Existing stormwater management works are left in place for rural and urban lands.
- The Town continues to grow and expected flooding and erosion issues may arise.

2. Traditional Stormwater Management Strategy

- This alternative is the implementation of conventional stormwater management in proposed development or redevelopment areas.
- Stormwater management works would consist of stormwater management ponds for quality, quantity and erosion control as per the Ministry of Environment (MOE) guidelines.

3. Traditional SWM with BMP Implementation Strategy

- This alternative is consistent with the Traditional Stormwater Management Strategy as it will apply to proposed development and redevelopment areas.
- Best Management Practices of source controls, conveyance controls and end of pipe measures will be implemented for all proposed areas of development.
- Alternative LIDs (Low Impact Development technologies) would also be considered where applicable.

4. Traditional SWM with Urban Retrofits Strategy

- This alternative is consistent with the Traditional Stormwater Management Strategy as it will apply to proposed development and redevelopment areas.
- In addition, a variety of source, conveyance and end of pipe retrofit measures will be implemented in existing urban areas.

5. Traditional Stormwater Management with Rural Retrofits Strategy

- This alternative is consistent with the Traditional Stormwater Management Strategy as it will apply to proposed development and redevelopment areas.
- In addition, a variety of source, conveyance, and end of pipe measures will be implemented in exisiting rural areas.

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Alternative Solutions: Source Controls

Roof Downspout Disconnection

- Involves directing flow from roof downspouts to a pervious area that drains away from the building.
- Will prevent stormwater from directly entering the storm sewer system or flowing across an impervious surface, such as a driveway that drains into a storm sewer.

Bioretention

- Bioretention are landscaping features that temporarily stores, treats, and infiltrates runoff.
- Primary component is a filter bed composed of a mixture of sand and organic material. Other components include mulch ground cover and plants adapted to the conditions of stormwater practice.
- Designed to capture small storm events.

Green Roofs (i.e. Roof Gardens)

- Consist of a thin layer of vegetation and growing medium on top of a conventional flat or sloped roof.
- Improve energy efficiency, water quality, water balance, and peak flow control.
- Excess rainfall enters underdrain and overflow points and is conveyed in the building drainage system.
- Stored water is evapotranspirated by the plants and evaporates or slowly drains.

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Alternative Solutions: Source Controls

Soakaway Pits, Infiltration Trenches

- Soakaway pits and infiltration trenches are rectangular or circular excavations with geotextile fabric, filled with clean granular stone.
- They will receive runoff from a perforated pipe inlet and allow it to infiltrate into the native soil.
- Typically service individual lots and receive only roof and walkway runoff.

Permeable Pavement

- Allows stormwater to drain through the pavement and into a stone reservoir where is infiltrates into underlying native soil or temporarily detained.
- Can be used for low traffic roads, parking lots, driveways, pedestrian walkways. Ideal for sites with limited space for surface stormwater BMPs.

Rainwater Harvesting

- The process of intercepting, conveying and storing rainfall for future use.
- Potable water can be used in rural and urban areas to irrigate landscaped areas and for other uses.
- Rainwater is typically collected from roof drains into rain barrels or containment units.

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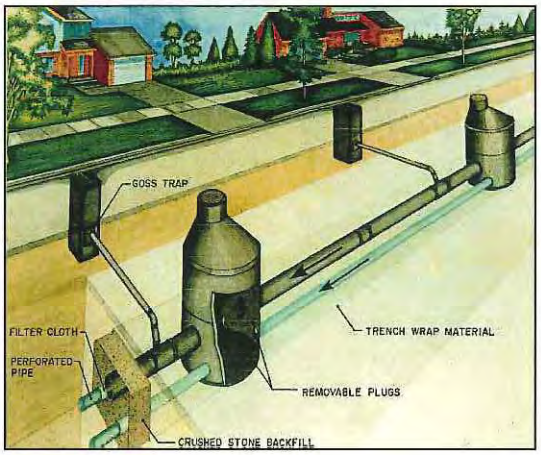
Alternative Solutions: Conveyance Controls

Grassed Swales

- Vegetated open channels designed to convey, treat and attenuate stormwater runoff.
- Check dams and vegetation in the swale slows the water to allow sedimentation, filtration through the root zone, evapotranspiration, and infiltration into the underlying native soil.



Perforated Pipe Systems

- Long infiltration trenches or linear soakaway pits that are designed for both conveyance and infiltration of stormwater runoff.
- Composed of perforated pipes lined with geotextiles to allow infiltration.
- Perforated pipe systems can be used in place of conventional storm sewer pipes where topography, and water table depth conditions are suitable.

Vegetated Filter Strips

- Gently sloped, densely vegetated areas that treat runoff as sheet flow from adjacent impervious areas.
- Function by slowing runoff velocity and filtering out suspended sediment and pollutants, while providing some infiltration.
- Vegetation may be compromised of a variety of trees, shrubs and native plants.

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Alternative Solutions: End of Pipe Measures

Stormwater Management Ponds (Wet Ponds)

- Less land intensive than wetland systems and normally reliable in operation.
- Can efficiently provide for water quality, erosion, and quantity control.
- Can be designed with extensive landscaping and associated recreational amenities.

Dry Ponds

- Dry ponds have no permanent pool of water and rely on retention time for contaminant removal.
- Designed for erosion control, flood control and the removal of stormwater contaminants.

Constructed Wetlands

- Suitable for providing storage needed for erosion control and phosphorus removal but limited in flood control.
- Normally more land intensive than wet ponds due to shallow depth.

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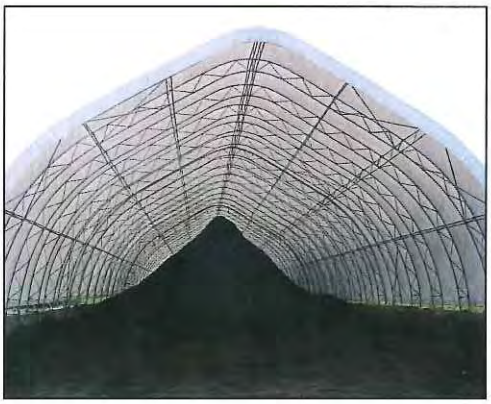
Alternative Solutions: Rural Measures

Restoration Measures

- Includes the restoration or enhancement of existing habitats.
- Stream restoration programs help develop the implementation of this alternative.
- Aquatic and terrestrial habitat enhancement.



Structural Measures

- Designed to reduce the loss of topsoil containing contaminants and their deposition into the lake and watershed.
- Examples include proper manure storage, milkhouse waste management, private septic systems, bypass channels and bottom draw structures for online ponds.

Non-Structural Measures

- Best Management Practices in rural areas which do not require structures.
- Examples include livestock fencing, buffer strips, conservation tillage and nutrient management.

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Town of East Gwillimbury

The Next Steps . . .

- Comments received from this PIC will be considered along with those received from review agencies and landowners in order to identify the preferred Alternative Solution(s).

- The study team will identify alternative design concepts associated with the preferred solution and evaluate those concepts while considering the anticipated environmental effects.

- A Notice of Completion will be mailed to the contact list, advertised, and the project file will be available for viewing at the Town Hall.

- Further comments can be provided after the PIC or when the Notice of Completion is published.

Thank you for your participation!

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Town of East Gwillimbury

APPENDIX O

Public Information Centre Sign-In Sheet And Comment Form

REGISTRATION SHEET

Public Information Centre – Town of East Gwillimbury
Class Environmental Assessment and Stormwater Management Master Plan

March 3, 2011 – Holland Landing Room – 19000 Leslie Street Sharon

Name (Please Print)	Address / E-mail	Phone Number
1. GEOFF MASOTTI	gmasotti@coleengineering.ca	905-940-6161
2. JOHN EATON	jeaton@eastgwillimbury	
3. Dale Pegg	dale.pegg@rogers.com	905 478-4128
4. Don Sinclair		
5. Virginia Hutchison		
6. Java Roy-Dilemente		
7. Marlene Dietz		
8.		
9.		
10.		

COMMENT FORM

Public Information Centre – Town of East Gwillimbury
Class Environmental Assessment and Stormwater Management Master Plan

March 3, 2011 - Holland Landing Room - 19000 Leslie Street Sharon

We are interested in hearing any comments you may have associated with this project. Thank-you for clearly writing your comments in the space provided below. If you require additional space, please continue your comments on the back of this sheet.

Comments and information regarding this project are being collected to assist the Regional Municipality of York in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Privacy Act. With the exception of personal information, all comments will become part of the public record.

Please submit your written comments before leaving the PIC. If you require more time to comment, please email EastGwillimburySWMMasterPlan@ColeEngineering.ca, or you can mail/fax in the comment sheet by Monday March 17, 2011 to:

Christopher Kalimootoo, BA. P.Eng.
Director of Engineering and Environmental Services
Community Programs & Infrastructure
Town of East Gwillimbury
19000 Leslie Street
Sharon, ON L0G 1V0
Tel: (905) 478-4282 Ext. 3815

Geoff Masotti., P.Eng.
Project Engineer
Cole Engineering Group Ltd.
Consultant
70 Valleywood Drive
Markham, ON L3R 4T5
Tel: (905) 940-6161 Ext. 254

PLEASE CLEARLY PRINT YOUR NAME AND CONTACT INFORMATION BELOW:

First Name:		Street:	
Last Name:		City/Town:	
Telephone:		Postal Code:	
Fax:		E-mail:	

Town of East Gwillimbury

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APPENDIX P
Indian And Northern Affairs Canada Letter

Affaires indiennes et du Nord Canada
Indian and Northern Affairs Canada

www.ainc.gc.ca
www.inac.gc.ca

Votre référence - Your file

Notre référence - Our file

March 14, 2011

Edward Graham
Project Manager
Cole Engineering
70 Valleywood Drive
Markham, Ontario L3R 4T5

Dear Mr. Graham,

Re: Town of East Gwillimbury, Class Environmental Assessment Storm water Management Master Plan - Notice of Public Information Centre

I am writing in response to your letter of February 22, 2011 addressed to Josée Beauregard inquiring about any claims that may affect the subject property. I regret that we were unable to respond earlier. Thank you for your invitation to the Public Information Centre, held on March 3, 2011. Unfortunately, we were unable to attend; however, the following information regarding active litigation may be useful to you as it could affect the lands that you are concerned with.

We can inform you that our inventory includes active litigation in the vicinity of this property. They are, *Alderville Indian Band, Beausoleil Indian Band, Chippewas of Georgina Island Indian Band, Chippewas of Rama Indian Band, Curve Lake Indian Band, Hiawatha Indian Band, Mississaugas of Scugog Indian Band v. HTMQ and Ontario (Third Party), Federal Court of Canada, filed in Montreal, Court file reference # T-195-92;* and

Moose Deer Point First Nation, Chief Edward Williams suing on his own behalf and on behalf of the members of Moose Deer Point First Nation v. Her Majesty the Queen in Right of Ontario, Superior Court of Justice File #01-CV-220612CM.

I am unable to comment with respect to the possible effect of these claims as the cases have not yet been adjudicated and any statement regarding the outcome of the litigation would be speculative at this point. It is recommended that you consult legal counsel as to the effect these actions could have on the lands you are concerned with.

If you are interested in further details about these claims, copies of the pleadings can be obtained from the Court for a fee. Please contact the appropriate Court Registry Office and make reference to the court file numbers listed above.

We cannot make any comments regarding claims filed under other departmental policies. For information on any claims you should also contact Don Boswell of the Specific Claims Branch at (819) 953-1940 to inquire about any Specific Claims. To inquire about any current Comprehensive Claims, please contact Nicole Cheechoo of Treaty and Aboriginal Government Central Operations at (819) 997-3499.

If you have any further questions please do not hesitate to contact me at (819)994-1947. Also, please note that all future requests of this nature should no longer be addressed to Josée Beauregard. Instead, could you kindly modify your distribution list to send these requests to the following destination:

Marc-André Millaire, Ontario Team
Indian and Northern Affairs
LITIGATION MANAGEMENT AND RESOLUTION BRANCH
25 Eddy Street
Gatineau, Quebec
K1A 0H4

Sincerely,

for Marc-André Millaire
Litigation Team Leader
Eastern Litigation Directorate
Litigation Management and Resolution Branch

APPENDIX Q

Lake Simcoe Regional Conservation Authority Meeting Minutes

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Meeting Minutes

PROGRESS MEETING #:	LSRCA Meeting #1	DATE:	January 14th, 2011
		TIME:	10:00 AM
PROJECT NAME:	Town of East Gwillimbury Stormwater Management Master Plan	PROJECT #:	W10-487
LOCATION:	LSRCA Offices 120 Bayview Parkway, Newmarket		
PURPOSE:	Discuss East Gwillimbury SWM Master Plan		

PRESENT:
Tom Hogenbirk (TH), LSRCA
Geoff Masotti (GM), Cole Engineering
Alan Manlucu (AM), Cole Engineering

REGRETS:

ITEM	DESCRIPTION	ACTION BY
1.	**Review of Sections in the LSPP** • Reviewed each section of SWM Master Plan Guidelines Matrix with respect to the LSPP Document • Existing GIS Layers/Models/Data required from LSRCA • TH to provide GIS and Models by request with Agreement Form • Contact for information or clarifications regarding the SWM Master Plan is Tom Hogenbirk, LSRCA	
2.	**Specific Sections Required to be Addressed** Phosphorus • If > 750 ha, model required • Refer to Report on Phosphorus Loads to Lake Simcoe 2004-2007 for pre-development loading rates • Refer to Humber River Watershed phosphorus study regarding urban phosphorus loading rates Climate Change • Address based on SWM Facility improvements for changes in weather (i.e. droughts or floods) and if retrofit opportunities exist • Vegetation within SWM Facility to be improved based on climate change • Based on frequency of flooding, what are the impacts to existing SWM Facilities and infrastructure? What improvements need to be made? • Refer to Dave Lemkey (Dave L.?) from LSRCA for retrofit strategy (2007) Erosion Analysis • Erodibility Index Analysis of reaches within EG and analysis to meet Index • Possible survey requried with assistance from fluvial	

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

ITEM	DESCRIPTION	ACTION BY
3.	Alternatives • If proposing BMPs, may require by-law or implementation of permanent BMPs • Abide by LSPP as well as EA Process with respect to alternatives and public consultation	
4.	Review • Circulation to LSRCA, but ultimate approval by Town required • Final Project File to be organized by headings outlined in Section 4.5 of LSPP (SWM Master Plan Guidelilnes Matrix) with Alternatives based on EA Process	

Next Meeting: TBD
Minutes Recorded By: Alan Manlucu
Distribution: Town of East Gwillimbury

APPENDIX R
Ministry Of Environment Letter

Ministry of the Environment

Central Region
Technical Support Section

5775 Yonge Street, 8th Floor
North York, OntarioM2M 4J1

Tel.: (416) 326-6700
Fax: (416) 325-6347

Ministère de l'Environnment

Région du Centre
Section d'appui technique

5775, rue Yonge, 8ième étage
North York, Ontario M2M 4J1

Tél. : (416) 326-6700
Téléc. : (416) 325-6347

March 8, 2011

File: EA02-03-04

Christopher Kalimootoo, P.Eng
Community Programs and Infrastructure
Town of East Gwillimbury
19000 Leslie Street
Sharon, ON L0G 1V0

RE: TSS Comments:
Stormwater Management Master Plan
Town of East Gwillimbury
Class Environmental Assessment
Response to Notice of Commencement

Dear Mr. Kallimootoo:

This letter is our response to the Notice of Study Commencement for the above noted project. This response acknowledges that the Town of East Gwillimbury has indicated that its study is following the approved environmental planning process under the *Municipal Engineers Association Municipal Class Environmental Assessment* (Class EA).

Based on the information submitted, we have identified the following issues of concern with respect to the proposed undertaking:

- Ecosystem Protection and Restoration
- Surface Water
- Groundwater
- Air Quality
- Servicing and Facilities
- Contaminated Soils
- Mitigation and Monitoring
- Planning and Policy
- Class EA Process
- First Nations Consultation

We are providing the following general comments to assist you and your project team members in effectively addressing these issues:

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The Project File/ESR should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.

- All natural heritage features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. Our records confirm that the following sensitive environmental features are located within or adjacent to the Study Area:

  - Areas of Natural and Scientific Interest (ANSIs)
  - Environmentally Sensitive Areas (ESAs)

- Rare Species of flora or fauna
- Watercourses
- Wetlands
- Woodlots

We recommend consulting with the Ministry of Natural Resources (MNR), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional study will be necessary to preserve and protect these sensitive features.

Surface Water

- The Project File/ESR must include a sufficient level of information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the Study Area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking. The MOE Guideline B-6, *Evaluating Construction Activities Impacting on Water Resources* should be used to plan and construct this project.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. MOE's *Stormwater Management Planning and Design Manual* (2003) should be referenced in the Project File/ESR and utilized when designing stormwater control methods. We recommend that a Stormwater Management Plan should be prepared as part of the Class EA process that includes:

    - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
    - Watershed information, drainage conditions, and other relevant background information
    - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
    - Information on maintenance and monitoring commitments

- Ontario Regulation 60/08 under the Ontario Water Resources Act (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. The proposed WWTP is listed in Table 1 of the regulation. The EA Document should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the Project File/ESR.

- If the potential construction or decommissioning of water wells is identified as an issue, the Project File/ESR should refer to Ontario Regulation 903, Wells, under the *Ontario Water Resources Act*.

- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological

processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.

- Any potential approval requirements for groundwater taking or discharge should be identified in the Project File/ESR. In particular, a Permit to Take Water (PTTW) under the *Ontario Water Resources Act* will be required for any water takings that exceed 50,000 litres per day. A PTTW application must be accompanied by an assessment of potential effects as noted above, and may require a higher level of detail than what is provided in the Project File/ESR. Please note that when significant long-term water taking is proposed, the maximum rate identified in the Project File/ESR must not be exceeded in any subsequent PTTW applications. For more information on the application and approval process, we suggest you refer to the MOE *Permit to Take Water Manual* (April 2005).

Air Quality

- An air quality or odour impact assessment may be required for this project to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment should be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization, a quantification of air quality impacts by determining emission rates and conducting dispersion modelling, and an assessment of effects. This assessment should compare to all available standards for any contaminants of concern. We recommend that you contact this office during the scoping process to confirm the appropriate level of assessment.

Dust and Noise

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the Study Area are not adversely affected during construction activities. If dust suppressants are proposed to be used, we recommend the use of non-chloride based compounds to protect water quality.

- The Project File/ESR should consider the potential impacts of increased noise levels during the operation of the undertaking. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Servicing and Facilities

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have a Certificate of Approval before it can operate lawfully. Please consult with the Environmental Assessment and Approvals Branch to determine whether a new or amended Certificate of Approval will be required for any proposed infrastructure.

- We recommend referring to MOE's "D-Series" guidelines – *Land Use Compatibility* to ensure that all applicable Ministry procedures are followed in planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Contaminated Soils

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are

contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act (EPA)* and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. We recommend contacting the MOE York Durham District Office in Ajax for further consultation if contaminated sites are present.

- The location of any underground storage tanks should be included in the Project File/ESR. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The MOE Spills Action Centre must be contacted in such an event.

- Any current or historical waste disposal sites should be identified in the Project File/ESR. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the *Environmental Protection Act* may be required for land uses on former disposal sites.

- The Project File/ESR should identify any underground transmission lines in the Study Area. The owners should be consulted to avoid impacts to this infrastructure, including potential spills.

Mitigation and Monitoring

- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- All waste generated during construction must be disposed of in accordance with MOE requirements.

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the Project File/ESR and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly. The proponent's construction and post-construction monitoring plans should be documented in the Project File/ESR.

Planning and Policy

- The *Lake Simcoe Protection Plan* (LSPP), *2009*, contains policies to protect, improve or restore the elements that contribute to the ecological health of the Lake Simcoe Watershed. Since part of the Study Area is within the Lake Simcoe Watershed, applicable policies should be referenced in the Project File/ESR for this proposed project, and the Town of East Gwillimbury should demonstrate how the project is consistent with these policies.

- The *Oak Ridges Moraine Conservation Plan, 2001,* contains policies that protect the Moraine's ecological and hydrological features and functions. Since the Study Area is within the Oak Ridges Moraine planning area, the proponent should consider and document how the project adheres to the relevant sections of the *Oak Ridges Moraine Conservation Plan*, including section 41, which contains policies for Transportation, infrastructure and utilities. A description of measures that prevent and minimize potential impacts should also be included. You may wish to consider consulting with the Ministry of Municipal Affairs & Housing in this matter.

- The *Greenbelt Plan* contains policies that protect the Greenbelt's agricultural land base and the ecological features and functions occurring on this landscape. Since the Study Area is within the Greenbelt planning area, the Project File/ESR should demonstrate how the project adheres

to the relevant sections of the *Greenbelt Plan*, including Section 4.2.1 - General Infrastructure Policies. A description of measures that prevent and minimize potential impacts should also be included. You may wish to consider consulting with the Ministry of Municipal Affairs & Housing in this matter.

- The 2005 *Provincial Policy Statement* contains policies that protect Ontario's Natural Heritage. Applicable policies should be referenced in the Project File/ESR, and the proponent should demonstrate how this proposed project is consistent with these policies. You may wish to consider consulting with the Ministry of Municipal Affairs & Housing in this matter.

- The *Places to Grow Plan* contains policies which guide decisions on a range of issues such as infrastructure planning and land-use planning to ensure that stronger and more prosperous communities are built in the Greater Golden Horseshoe. The Project File/ESR should demonstrate how this project adheres to the relevant policies of the *Places to Grow Plan*, including Section 3, which contain policies for Infrastructure to Support Growth.

Class EA Process

- There are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. The Project File/ESR should clearly indicate the selected approach for conducting the plan, in particular by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the *Environmental Assessment Act*, although the plan itself would not be.

- The Project File/ESR should provide clear and complete documentation of the planning process in order to allow traceability of decision-making. It must also demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all public consultation efforts undertaken during the planning process. Additionally, it should identify all concerns that were raised and how they have been addressed throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. The Project File/ESR should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments) such that all potential impacts can be identified and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the Project File/ESR.

- Please include in the Project File/ESR a list of all subsequent permits or other approvals that may be required for the implementation of the preferred alternative, including Permits to Take Water, Certificates of Approval or other ministerial approvals, approval under the *Canadian Environmental Assessment Act* (CEAA), and conservation authority permits.

- Please note that MOE guidelines and other information related to the issues noted above are available at www.ene.gov.on.ca under the publications link. We encourage the proponent to review all the available guides and to reference any relevant information in the Project File/ESR.

First Nations Consultation

- Please note that as part of the required stakeholder and agency consultation, proponents are advised to contact the Ministry of Aboriginal Affairs and the Department of Indian and Northern

Affairs to determine potentially affected Aboriginal peoples in the project area. Please refer to the website http://www.ene.gov.on.ca/en/eaab/aboriginal-resources.php for a list of appropriate government contacts.

- Once identified, you are advised to provide notification directly to the Aboriginal peoples who may be affected by the project and provide them with an opportunity to participate in any planned public consultation sessions and comment on the project.

Thank you for the opportunity to comment on this project. Please ensure that Nisha Shirali, MOE Central Region **EA and Planning Coordinator**, is placed on the project mailing list. We recommend a draft copy of the Project File/ESR be circulated to this office prior to the filing of the final draft, allowing approximately 30-days review time for the ministry's technical reviewers to provide comments. Please also forward our office the Notice of Completion and Project File/ESR when completed. Should you or any members of your project team have any questions regarding the above, please contact me at (416) 326-3577.

Yours sincerely,

Nisha Shirali
Environmental Resource Planner and EA Coordinator
Air, Pesticides and Environmental Planning

c. Dave Fumerton, York Durham District Office, MOE
Central Region EA File
A & P File

APPENDIX S
Statement Of Limiting Conditions And Assumptions

Statement of Limiting Conditions and Assumptions

1. This Report/Study (the "Work") has been prepared at the request of, and for the exclusive use of, the Owner, and its affiliates (the "Intended Users"). No one other than the Intended Users has the right to use and rely on the Work without first obtaining the written authorization of Cole Engineering Group Ltd. (Cole Engineering) and its Owner.

2. Cole Engineering expressly excludes liability to any party except the Intended Users for any use of, and/or reliance upon, the Work.

3. Cole Engineering notes that the following assumptions were made in completing the Work:

   a) the land use description(s) supplied to us are correct;
   b) the surveys and data supplied to Cole Engineering by the Owner are accurate;
   c) market timing, approval delivery and secondary source information is within the control of Parties other than Cole Engineering; and
   d) there are no encroachments, leases, covenants, binding agreements, restrictions, pledges, charges, liens or special assessments outstanding, or encumbrances which would significantly affect the use or servicing.

   Investigations have not been carried out to verify these assumptions. Cole Engineering deems the sources of data and statistical information contained herein to be reliable, but we extend no guarantee of accuracy in these respects.

4. Cole Engineering accepts no responsibility for legal interpretations, questions of survey, opinion of title, hidden or inconspicuous conditions of the property, toxic wastes or contaminated materials, soil or sub-soil conditions, environmental, engineering or other factual and technical matters disclosed by the Owner, the Client, or any public agency, which by their nature, may change the outcome of the Work. Such factors, beyond the scope of this Work, could affect the findings, conclusions and opinions rendered in the Work. We have made disclosure of related potential problems that have come to our attention. Responsibility for diligence with respect to all matters of fact reported herein rests with the Intended Users.

5. Cole Engineering practices engineering in the general areas of infrastructure and transportation. It is not qualified to and is not providing legal or planning advice in this Work.

6. The legal description of the property and the area of the site were based upon surveys and data supplied to us by the Owner. The plans, photographs, and sketches contained in this report are included solely to aide in visualizing the location of the property, the configuration and boundaries of the site, and the relative position of the improvements on the said lands.

7. We have made investigations from secondary sources as documented in the Work, but we have not checked for compliance with by-laws, codes, agency and governmental regulations, etc., unless specifically noted in the Work.

8. Because conditions, including capacity, allocation, economic, social, and political factors change rapidly and, on occasion, without notice or warning, the findings of the Work expressed herein, are as of the date of the Work and cannot necessarily be relied upon as of any other date without subsequent advice from Cole Engineering.

9. The value of proposed improvements should be applied only with regard to the purpose and function of the Work, as outlined in the body of this Work. Any cost estimates set out in the Work are based on construction averages and subject to change.

10. Neither possession of the Work, nor a copy of it, carries the right of publication. All copyright in the Work is reserved to Cole Engineering. The Work shall not be disclosed, produced or reproduced, quoted from, or referred to, in whole or in part, or published in any manner, without the express written consent of Cole Engineering and the Owner.

11. The Work is only valid if it bears the professional engineer's seal and original signature of the author, and if considered in its entirety. Responsibility for unauthorized alteration to the Work is denied.